
Dividend Policy and the Profitability of Selected Quoted Manufacturing Firms in Nigeria: An Empirical Analysis

Henry Waleru Akani, Yellowe Sweneme

Department of Banking and Finance, Faculty of Management Science, Rivers State, University of Science and Technology Nkpolu, Port Harcourt, Rivers State, Nigeria

Email address:

henryakani@yahoo.com (H. W. Akani), yellowesweneme@gmail.com (S. Yellowe)

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Abstract: This paper examined the impact of dividend policy on the profitability of selected quoted manufacturing firms in Nigeria from 1981 – 2014. The objective was to investigate the existing relationship between dividend policy and profitability of the selected quoted manufacturing firms in Nigeria. Time series data were computed from financial statement of the selected quoted manufacturing firms and stock exchange factbook. Return on Investment (ROI) and Net Profit Margin (NPM) were modeled as our dependent variables while Dividend Payout Ratio (DPR), Retention Ratio (RR), Dividend Yield (DY) and Earnings per Share (EPS) were proxied as our independent variables. Multiple regressions with the aid of Statistical Package for Social Sciences Research (SPSS) were used as data analyses techniques. Multi co-linearity, co-linearity, Durbin Watson, F-statistics and regression coefficient were used to determine the dynamic relationship between the variables. Findings revealed that all the independent variables have positive relationship with the dependent variables except dividend yield. The study recommends that operational efficiency of Nigerian financial market should be deepened and management should strengthen its effort for effective dividend policy that will increase the profitability of the quoted manufacturing firms Nigeria.

Keywords: Dividend Policy, Profitability, Quoted Manufacturing Firms, Return on Investment and Net Profit Margin

1. Introduction

The conventional thought that dividend policy is relevant and matters on the performance of the firm can be traced to Graham and Dodd (1934) who were proponents of traditionalist schools of thought, later to Lintner (1956) and to Gordon (1960) while Miller and Modigliani (1961) argued that dividend policy is irrelevant under certain assumptions. Dividend policy decision is a finance management function that determines the proportion of company's profit that can be distributed to the shareholders as return on investment and proportion that will be retained for the company's reinvestment (Agrawal and Jararaman, 2004). It is one of the most important financial decisions that corporate managers encounter (Amidu, 2007). Dividend policy is a micro prudential determinant of firms' profitability, firms adopt dividend policy that will facilitate the achievement of the organizational goals such as maximization of shareholders

wealth. Like investment and capital structure decision, dividend policy influences the value and cost capital in the firm (Azhagaiah, 2008).

Profitability is the operational phenomenon of every profit making organization and constitutes the short and long-run management planning and operating strategies. It is a qualitative measure of input-output relationship of management and management efficiency in maximizing investor Return on Investment, Return on Assets, Return on Capital Employed and Earnings per share. Firms' profitability can be appraised at the macro and micro level (Aburime, 2008). At the macro-level firms profit is a critical function of management, composition of assets, capital structure, ownership structure and dividend policy (Farsioet al, 2004).

In the corporate firms, the performance of the dividend function requires a critical examination of the twin effect on the corporate profitability and the value of the firm. Optimal dividend policy requires that management allocate payout

ratio that will guarantee the maximization of shareholders wealth through the vehicle of increase market value of the firm and its shares (Ezirim, 2005). Companies with high dividend payout occasioned by high earnings records are priced high on the Nigerian capital market. Dividend policy is the function of dividend payout ratio, ownership structure, capital market operations, inflation and the legal framework (Lie, 2005). It can be residual policy, stable or predictable policy, low regular plus extra policy or constant payout policy (Nissim et al, 2001).

However, the agency theory noted that management can invest shareholder's fund for personal interest rather than maximizing shareholders wealth. The Nigerian business has over the years undergone various structural, institutional and policy reforms with the objective achieving profitable firms that will enhance return on investment and impact on the economy, for instance the deregulation of the economy in the last quarter of 1986. Furthermore, there are also the challenges of macroeconomic variables such as monetary policy shocks which can affect negatively the performance of the corporate firms that also affect the dividend policy. For instance macroeconomic and monetary policy shocks of the 1980s, 1990s and 2000s affected negatively the performance of corporate organizations which also affects the dividend policy (Adesola, 2004).

The relationship between dividend policy and performance of firms has long been one of the most controversial issues among scholars in corporate finance. Despite numerous empirical researches, the controversy between dividend policy and performance of the firm remain unresolved (Azhagaiah, 2008) (Eriki and Okafor, 2002) (Kioko, 2006) (Luke, 2011). Some of the findings deepened the controversy and cannot be used in policy making. To Gordon (1960) dividend policy is relevant and has effect on the firm value while Miller and Modigliani (1961) posited that dividend policy is irrelevant with the assumption of perfect market. The question is "Can market be that perfect that will make dividend policy irrelevant?" most of the empirical findings have been in favor of the dividend policy relevance hypotheses as postulated by Gordon.

However, most of these findings and the underlying theories are based on the operational efficiency of the capital market and the business environment of the developed country as opposed to the capital market operations and the business environment of emerging countries like Nigeria which is characterized by lack of transparency and poor corporate governance. This makes it difficult for researchers to determine the relationship between dividend policy and the profitability of quoted firms. The management board of Nigerian firms mortgage shareholders interest for personal interest. For instance the case of Economic and Financial Crime Commission (EFCC) Vs the Managing Director of the defected Oceanic bank where the plaintiff pleaded guilty of ₦191 Billion Naira, an amount greater than five times capital base of the bank. The dearth of such research makes this study imperative. The macroeconomic reforms over the years

have the objective of repositioning the Nigerian business environment to attract investors and maximize shareholders wealth. It is therefore necessary to examine the effect of dividend policy on the profitability of the quoted firms through the dividend policy channel.

Again, there has been attempts to establish a valued and acceptable relationship between dividend policy and profitability of quoted firms but the result has been inconclusive and difficult for policy application (Adelegan, 2001, Black, 2001, Hakansson, 2006, Petit, 2004). While some reported positive, others reported negative (Rozeff, 2005, Harkavy, 2005). In Nigeria, most studies have focused on the relationship between dividend policy and share price of the firm (Amihud, 2004, Adesola, 2004) without considering the profitability. Therefore this paper intends to examine dividend policy and profitability performance of select quoted Nigeria firms.

2. Literature Review

2.1. Dividend Policy Models: Walter's Model Analysis

Walter argues that the choice of dividend policies almost always affect the value of the firm. In his model, theoretical evidence shows the importance of the relationship between the firm's rate of return, r , and its cost of capital, k , in determining the dividend policy that will maximize the wealth of shareholders can be mathematically expressed as;

$$P = \frac{DIV}{k} + \frac{r(EPS - DIV) / k}{k} \quad (1)$$

Where;

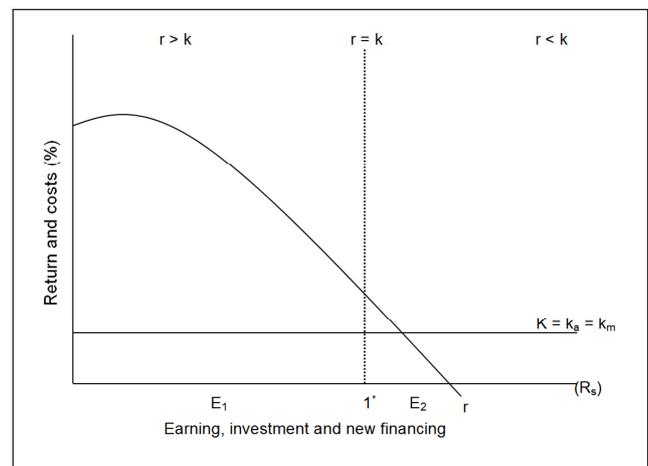
P=Market Price per Share

DIV=Dividend per Share

EPS=Earnings per Share

r =Firm's rate of Return (average)

k =Firm's cost of Capital or Capitalization Rate



SOURCE: ADAPTED FROM GORDON'S MODEL

Figure 1. Equation for Cost of Capital.

$$P = \frac{DIV + (r / k)(EPS - DIV) / k}{k} \tag{2}$$

Myron Gordon develops one very popular model explicitly related with market value of the firm to dividend policy can be stated as;

$$P_0 = \frac{DIV_1}{(1+k)} + \frac{DIV_2}{(1+k)^2} + \dots + \frac{DIV_{\infty}}{(1+k)^{\infty}} = \sum_{t=1}^{\infty} \frac{DIV_t}{(1+k)^t} \tag{3}$$

$$P_0 = \frac{DIV(1+g)}{(1+k)} + \frac{DIV(1+g)^2}{(1+k)^2} + \frac{DIV(1+g)^3}{(1+k)^3} + \dots + \frac{DIV(1+g)^{\infty}}{(1+k)^{\infty}} = \sum_{t=1}^{\infty} \frac{DIV(1+g)^t}{(1+k)^t} \tag{4}$$

From Equation (4):

$$P_0 = \frac{rA}{r} \quad (b=0) \tag{9}$$

$$P_0 = \frac{DIV_1}{k-g} \tag{5}$$

From Equation 5:

$$P_0 = \frac{EPS_1(1-b)}{k-br} \tag{6}$$

The equation above explicitly shows the relationship of expected earnings per share, EPS_1 , dividend policy as reflected by retention ration, β , internal profitability, r , and the all-equity firm's cost of capital, k , in the determination of the value of the share. Equation (6) is particularly useful for studying the effects of dividend policy on the value of the share.

$$P_0 = \frac{EPS_1(1-b)}{k-br} = \frac{rA(1-b)}{k-br} \tag{7}$$

(Since $EPS = rA$, $A =$ assets per share)
If $r = k$, then

$$P_0 = \frac{EPS_1(1-b)}{k-br} = \frac{rA(1-b)}{k-br} = \frac{EPS}{k} = \frac{rA}{r} = A \tag{8}$$

If $r < k$ then $r/k < 1$ and from Equation (9) it follows that P_0 is smaller than the firm's investment per share in assets, A . It can be shown that if the value of b increases, the value of the share continuously falls.

2.2. The Bird-in-the-Hand Theory Cum Argument

Gordon and Lintner (1963) concluded that investors prefer current dividends to capital gains. They argue that current dividends are certain and resolve uncertainty in the investors mind about the future. Because investors are risk averse preferring current to future dividends, near dividends are, therefore, discounted at a lower rate in comparison to future dividends. Because of this, equity costs reduce with high payout ratios. The stock price increases as shareholders get more dividends in cash as they view the stock as attractive, thus, lowering the cost of capital while increasing the value of common stock.

According to Gordon's model, dividend policy is irrelevant where $r = k$, when all other assumptions are held valid. But when the simplifying assumptions are modified to conform more closely to reality, Gordon concludes that dividend policy does affect the value of a share even when $r = k$.

$$P_0 = \frac{DIV_1}{(1+k_1)} + \frac{DIV_2}{(1+k_2)^2} + \frac{DIV_3}{(1+k_3)^3} + \dots + \frac{DIV_n}{(1+k_n)^n} = \sum_{t=1}^{\infty} \frac{DIV_t}{(1+k_t)^t} \tag{10}$$

$$P_b = \frac{DIV_0(1+g)^1}{(1+k_1)^1} + \frac{DIV_0(1+g)^2}{(1+k_2)^2} + \dots + \frac{DIV_0(1+g)^n}{(1+k_n)^n} = \sum_{t=1}^{\infty} \frac{DIV_t}{(1+k_t)^t} \tag{11}$$

$$P_b = \frac{DIV_0(1+g)}{(1+k_1)^1} + \frac{DIV_0(1+g)^2}{(1+k_2)^2} + \dots + \frac{DIV_0(1+g)^n}{(1+k_n)^n} = \frac{DIV_1(1+g)^n}{k^t - g} = \frac{(1-b)EPS}{k^t - br} \tag{12}$$

2.3. The Miller-Modigliani (MM) Hypothesis

According to Miller and Modigliani (MM), under a perfect market situation, the dividend policy of a firm is irrelevant, as it does not affect the value of the firm.

$$r = \frac{\text{Dividends} + \text{Capital gains (or loss)}}{\text{Share Price}}$$

$$r = \frac{DIV + (P_1 + P_0)^n}{P_0} \quad (13)$$

$$r = \frac{DIV_1 + (P_1 + P_0)}{P_0} \quad (14)$$

$$P_0 = \frac{DIV_1 + P_1}{(1 + r)} = \frac{DIV_1 + P_1}{(1 + k)} \quad (15)$$

$$V = nP_0 = \frac{n(DIV_1 + P_1)^n}{(1 + k)} \quad (16)$$

If the firm sells m number of new shares at time 1 at a price of P_1 , value of the firm at time 0 will be:

$$nP_0 = \frac{n(DIV_1 + P_1) + mP_1 - mP_1}{(1 + k)} \quad (17)$$

$$= \frac{nDIV_1 + nP_1 + mP_1 - mP_1}{(1 + k)} \quad (18)$$

$$= \frac{nDIV_1 + (n + m) P_1 - mP_1}{(1 + k)} \quad (19)$$

MM's valuation Equation (18) allows for the issue of new shares, unlike Walter's and Gordon's models.

$$mP_1 = I_1 - (X_1 - nDIV_1) = I_1 - X_1 + nDIV_1 \quad (20)$$

By substituting Equation (19) into Equation (18), MM showed that the value of the firm is unaffected by its dividend policy, thus:

$$= nP_0 = \frac{nDIV_1 + (n + m) P_1 + mP_1}{(1 + k)} \quad (21)$$

$$= \frac{nDIV_1 + (n + m) P_1 - (I_1 - X_1 + nDIV_1)}{(1 + k)} \quad (22)$$

$$= \frac{(n + m) P_1 + P_1 - I_1 + X_1}{(1 + k)} \quad (23)$$

The price of the share at the end of the current fiscal year is determined as follows:

$$P_0 = \frac{DIV_1 + P_1}{(1 + k)} \quad (24)$$

$$P_1 = P_0 (1 + k) - DIV_1 \quad (25)$$

The value of P_1 when dividend is not paid is:

2.4. Dividend Irrelevance Proposition: Modigliani & Miller Approach (1961)

In 1961, two noble laureates, Merton Miller and Franco Modigliani (M&M) showed that under certain simplifying assumptions, a firm's dividend policy does not affect its value. The basic premise of their argument is that firm value is determined by choosing optimal investments. The net payout is the difference between earnings and investments, and simply a residual. Because the net payout comprises dividends and share repurchases, a firm can adjust its dividends to any level with an offsetting change in share outstanding. From the perspective of investors, dividends policy is irrelevant, because any desired stream of payments can be replicated by appropriate purchases and sales of equity. Thus, investors will not pay a premium for any particular dividend policy.

M&M concluded that given firm's optimal investment policy, the firm's choice of dividend policy has no impact on shareholders wealth. In other words, all dividend policies are equivalent. The most important insight of Miller and Modigliani's analysis is that it identifies the situations in which dividend policy can affect the firm value. It could matter, not because dividends are "safer" than capital gains, as was traditionally argued, but because one of the assumptions underlying the result is violated. The propositions rest on the following four assumptions:

- Information is costless and available to everyone equally.
- No distorting taxes exist
- Flotation and transportation costs are non-existent
- Non contracting or agency cost exists

2.5. Relevance of Dividend Policy: Gordon's Model

Relevance of dividend policy based on Uncertainty of future dividends (Gordon, 1962) suggested a valuation models relating the market value of the stock with dividend policy. Gordon studied dividend policy and market price of the shares and proposed that the dividend policy of firms affects the market value of stocks even in the perfect capital market. He stated that investors may prefer present dividend instead of future capital gains because the future situation is uncertain even if in perfect capital market. Indeed, he explained that many investors may prefer dividend in hand in order to avoid risk related to future capital gain. He also proposed that there is a direct relationship between dividend policy and market value of share even if the internal rate of return and the required rate of return will be the same. In (Gordon, 1962)'s constant growth model, the share price of firm is subordinate of discounted flow of future dividends. (Diamond, 2005) selected 255 US based firms as a sample and studied the association of firm's value with dividends and retained earnings reported that there is only weak evidence that investors prefer dividends to future capital gain. His

findings also showed a negative association between growth of company and preference of dividend.

2.6. Dividend Policy and Agency Problems

The level of dividend payments is in part determined by shareholders preference as implemented by their management representatives. However, the impact of dividend payments is borne by a variety of claim holders, including debt holders, managers, and supplier. The agency relationship exists between

- The shareholders versus debt holders conflict, and
 - The shareholder versus management conflict
- Shareholders are the sole receipts of dividends, prefer to have large dividend payments, all else being equal; conversely, creditors prefer to restrict dividend payments to maximize the firms resources that are available to repay their claims. The empirical evidence discussed is consistent with the view that dividends transfer assets from the corporate pool to the exclusive ownership of the shareholders, which negatively affects the safety of claims of debt holders.

In terms of shareholder- manager relationships, all things being equal, managers, whose compensation (pecuniary and otherwise) is tied to firm profitability and size, are interested in low dividend payout levels. A low dividend payout maximizes the size of the assets under management control, maximizes management flexibility in choosing investments, and reduces the need to turn to capital markets to finance investments. Shareholders desiring managerial the need to turn to capital markets to finance investments.

Shareholders, desiring managerial efficiency in investment decisions, prefer to leave little discretionary cash in management's hands and to force managers to turn to capital markets to fund investments. These markets provide monitoring services that discipline managers. Accordingly, shareholders can use dividend policy to encourage managers to look after their owner's best interests, higher payouts ratios and monitoring by the capital markets and therefore provide more managerial discipline.

2.7. Disposition Theory and Tax Differential Theory

Shefrin et al. (1985) predicted that because investors dislike incurring losses much more than they enjoy making gains, they will gamble in the domain of losses. Investors are thus reluctant to sell their shares because they will experience regret if the stock subsequently rises in price. They hold onto stocks that have lost value (relative to the reference point of their purchase) and will be eager to sell stocks that have risen in value. A second argument was that although many investors are willing to consume out of dividend income, they are to "dip into capital" to do so. Dividend and sales of stock are not perfect substitutes for these investors. For behavioral reasons, then, certain investors prefer dividends to retention of earnings. Tax Differential Theory states that investors would prefer not to receive dividends now to avoid paying immediate taxes.

They would prefer investing them in the corporation which would result in a future capital gain on the stock price as the value of the stock increases. Litzemberger et al. (1979) argue that investors have to pay taxes on dividends received and capital gains realized. Capital gain tax rate is lower than ordinary income tax rate and capital gain tax is payable when the gain is realized. Hence, from the taxation viewpoint, investors should prefer capital gains to dividends. The value of a firm with a low payout ratio should, therefore, be higher than the one with a higher payout ratio. Due to this, Litzemberger (1979) argued that MM's assumption that taxes do not exist is far from reality. In this theory, it is assumed that taxes on cash dividends are higher than those on capital gains.

2.8. Capital Needs Theory

This research adopts the capital needs theory for situating this study, the capital needs theory holds that companies that have some growth opportunities seek financing opportunities from either retention of the earnings of the company or from the capital market (core, 2001). They achieve this by retaining the profit earned on their investment (increasing retention ratio) or by issuing more shares in the form of bonus shares to raise capital for the business.

Therefore, such financing or capital needs help to influence the dividend decision of the companies (banks) in order to obtain corporate capital as cost effective as possible. This theory perhaps, explains the reason for the variation in the retention ratio and dividend payout ratios of companies. This informs the management of companies on what quantum of their earnings that should be retained as capital and what proportion of the earnings that should be paid out as dividend. The capital needs theory also guide the financial manager as to what percentage of the dividend that should be paid in cash and the portion that should be paid in the form of bonus issue, the bonus issue will help to meet the capital needs of the firms without external borrowing. All these dividend decision when properly taken in line with the capital needs of the firm are expected to influence the financial performance of the firms through the window of the provision of adequate capital for the companies (banks).

2.9. Information Content or Signaling Theory

Stephen Ross, (1977) observed that there is a strong association between dividend payment and share prices. The theory states that investors regard dividends as signals of managements forecast of earnings. If, for instance, investors expect a company's Dividend to increase by 5%, then the stock price generally will not change significantly on the day the dividend increase is announced. If however, investors expect an increase of 10% but the company actually increases the dividend by 20%, this generally would be accompanied by an increase in stock price. Conversely, a less than expected dividend increase, or a reduction, generally would result in a price decline. It is

well known that firms are usually reluctant to reduce dividends and, therefore, managers do not raise dividends unless they anticipate higher or at least stable earnings in the future to sustain higher dividends. This, therefore, means that a larger than expected dividend increase is taken by investors as a signal that the firm's management forecast improved earnings in the future, where as a dividend reduction signals a forecast of poor earnings. Thus, it can be argued that investors' reaction to changes in dividend payments do not show that investors prefer dividends to retained earnings; rather, the stock price changes simply indicate that important information is contained in the dividend announcements.

2.10. Empirical Review

Baskin (2005) used a different method and examined the association between dividend policy and stock price volatility rather than returns. He added some control variables for examining the association between share price volatility and dividend yield. These control variables are earning volatility, firm's size, debt and growth. These control variables do not only have clear effect on stock price volatility but they also affect dividend yield. For instance, the earning volatility has effect on share price volatility and it affects the optimal dividend policy for corporations. Moreover, with assumption that the operating risk is constant, the level of debt might have positive effect on dividend yield. Size of firm would be expected that affect share price volatility as well. That is, the share price of large firms is more stable than those of small firms as the large firm tend to be more diversified. Furthermore, small firms have limited public information and this issue can lead to irrationally react of their investors.

Amidu and Abor (2006) conducted a study on the determinants of dividend policy by using panel data of 20 firms listed in Ghana Stock Exchange. Dividend payout ratio was taken as dependent variable. They proved that dividend payout was mostly dependent on the net earnings of the firms also those firms with high liquidity pay high dividends. The association of dividend payout with risk is negative in nature.

Rashid and Rehman (2008) conducted a study in Bangladesh. They took 104 non financial firms for a period of 1999 to 2006. They found a positive but non-significant relationship between dividend yield and stock price volatility in the capital market of Dhaka Stock Exchange. They also found that there is no considerable relation between declaration of earnings and the stock prices as seen in the developed capital markets. The insignificant relationship between stock price volatility and dividend policy may be due to inefficient capital market of Bangladesh or due to majority of shares held by dominant shareholders also working in the company board.

Nazir et al (2010) on the non-financial firms listed in Pakistan's capital market. The data of 73 firms was analyzed for a six year period from 2003 to 2008. After using panel data and applying regression analysis, they also found a

negative and significant relationship between both measures of dividend policy and stock price fluctuations

Adelegan (2001) studied of the impact of growth prospect, leverage and firm size on dividend behaviour of corporate firms in Nigeria between 1984 and 1999 observed that the conventional Lintner's model does not perform quite creditably in explaining the dividend behaviour of corporate firms for the period under review. Supports that factors that mainly influenced the dividend policy quoted firms are after tax earnings, economic policy changes.

Adesola (2004) examined dividend policy behaviour in Nigeria using Lintner's model as modified by Brittan between 1996–2000 appears to agree with Oyejide and Nyong's view that there is substantial and unequivocal support for the Lintner's model.

Agrawal and Jayaraman (2004) observed that Dividend payments and leverage Policy are substitute mechanism for controlling the agency cost of free cash flow hence, improves performance. If a firm's Policy is to pay dividend each year end to shareholders, the level of activity in the organization will increase to obtain more income and have excess retained earnings to meet the standard set.

Velnampy (2006) examined the financial position of the companies and the relationship between financial position and profitability with the sample of 25 public quoted companies in Sri Lanka by using the Altman Original Bankruptcy Forecasting Model. His findings suggest that, out of 25 companies only 4 companies are in the condition of going to bankrupt in the near future. He also found that, earning/total assets ratio, market value of total equity/book value of debt ratio and sales/total assets in times are the most significant ratios in determining the financial position of the quoted companies.

Amidu (2007) noted that dividend Policy affects firm performance especially the profitability measured by their return on assets. The results showed a positive and significant relationship between return on assets, return on equity, growth in sales and dividend Policy. This showed that when a firm has a Policy to pay dividends, its profitability is influenced. The results also showed a statistically significant relationship between profitability and dividend payout ratio.

Zakaria and Tan (2007) also stressed the fact that firms influences the future earnings and future dividends potential. Nissim & Ziv (2001) showed that dividend increases were directly related to future increases in earnings in each of the two years after the dividend change Likewise, Zeckhauser & Pound (1990) in a related study found out that there is no significant difference among dividend payouts with or without large block shareholders.

Grullon, et. al (2002) analyzed the reaction between dividend policy changes and a firm's dividend risk and growth. Their main goal was to relate dividend policy changes with a firm's lifecycle. They found evidence that dividend increases suggest that firms are in a transition between the growth and the maturity phase, since in the latter, investments opportunities start to reduce as well as the

level of required resources, thus allowing higher cash flow, which could be used for dividend payments. Supporting their work on the capital asset pricing model, they concluded that firms that increase dividends had a significant decrease in systematic risk while firms in which dividends decreased, incurred a significant increase in risk.

Njoroge (2001) conducted a study on the relationship between dividend policies and growth in assets, return on assets and return on equity at the Nairobi Stock Exchange found that both Return on Equity and return on assets are positively related to the payout ratio and that growth in assets is not significant in determining the level of dividends.

Bitok (2004) studied the effect of dividend policy on the value of the firms quoted at the NSE. According to the study, dividend policy is relevant thus implying that an optimal dividend policy exists. However, the relationships between dividend policy and the value for the firms quoted at the NSE is weak implying there are other factors (investment and financing) other than dividend policy that affect the value for the time.

Tiriongo (2004), in the study on dividend policy practices in the companies listed at the NSE, argued that there was a general declining trend of dividend payment pattern attributed to numbers of factors, such as, dwindling company profits and economic performance that were associated with Financial liberalization.

Wandeto (2005) conducted an empirical investigation of the relationship between dividend changes and earnings and found, using a simple regression model, that there was a strong positive relationship between dividends per share and earnings per share with correlation coefficient of 25.3% and concluded that dividend change is most sensitive to earnings.

Muindi (2006) studied the relationship between earning per share and dividend per share of equities for companies listed at the NSE. The findings of the study reveal that there is a significant relationship between earnings per share and

dividend per share.

Muchiri (2006) studied the determinants of dividend payout among the listed companies in Kenya and concluded that the most important factor in dividend policy was the company's current and future profitability. Other factors considered important were the cash flow position of the company, the immediate financial needs and the availability of profitable investments.

Kioko (2006) analyzed the relationship between dividend changes and future profitability of companies quoted at the NSE and established that at least in the year of dividend change, there exist a relationship between dividend changes & future profitability.

However, for the first and second after dividend change, an insignificant relationship was observed. It is observed that significant proportion of the studies carried out on dividend policy and the performance of quoted firms looked at dividend and share price or market value of the firm. But in this paper we look at dividend policy and the profitability of quoted manufacturing firms such as return on investment and net profit margin as a function of dividend policy.

3. Research Methods

The research design used in this study is the quasi-experimental design that is used to test time series relationship. The data is sourced from stock exchange factbook and the time frame covers 1981-2014. Fifteen (15) quoted manufacturing firms were selected among the population. The annual time series data of the firms were aggregated to form the variables. Following the connectivity between dividend policy decision and the profitability this connectivity though not very direct, may be through the window of increase capital, perception and the value of the firm via increased in profitability. Multiple regressions as formulated and the social sciences statistical package (SPSS) are used as data analysis techniques.

Model Specification

$$ROI = f(DPR, RR, DY, EPS) \quad (26)$$

$$\text{Model 1: } ROI = \alpha_0 + \beta_1 DPR + \beta_2 RR + \beta_3 DY + \beta_4 EPS + \epsilon_i \quad (27)$$

$$NPM = f(DPR, RR, DY, EPS) \quad (28)$$

$$\text{Model 2: } NPM = \alpha_0 + \beta_1 DPR + \beta_2 RR + \beta_3 DY + \beta_4 EPS + \epsilon_i \quad (29)$$

Where:

ROI=Return on Investment

NPM=Net Profit Margin

DPR=Dividend Payout Ratio

RR=Retention Ratio

DY=Dividend Yield

EPS=Earnings per Share

4. Results and Discussion

Presentation of Data

Table 1. Annual time series data: 1981-2014.

Year	ROI	NPM/PAT	DPR	RR	DY	EPS
1981	186.81	195.98	15.40	20.45	35.09	114.19
1982	207.57	214.61	61.60	36.43	19.84	215.98
1983	223.35	232.73	30.90	21.30	30.81	214.39
1984	242.49	249.88	23.18	21.60	30.15	327.73
1985	267.03	242.48	36.00	20.32	17.91	318.55
1986	253.01	298.83	48.00	20.30	24.76	207.63
1987	309.75	310.31	46.10	20.95	12.26	219.99
1988	329.54	326.29	49.80	20.43	92.13	159.35
1989	319.73	343.62	62.70	21.60	61.45	172.66
1990	360.10	363.19	37.20	21.15	6.93	194.79
1991	366.34	384.52	35.90	24.20	8.03	169.20
1992	375.05	378.89	85.42	22.40	9.69	646.51
1993	411.52	386.19	195.75	21.33	10.71	460.03
1994	421.73	402.42	181.05	28.50	12.11	419.57
1995	428.82	395.46	3.96	55.26	13.36	72.70
1996	413.90	418.14	13.56	31.24	12.02	73.76
1997	440.94	401.25	2.44	38.14	10.01	50.79
1998	437.11	410.54	3.29	42.30	9.68	29.48
1999	469.00	1432.26	4.13	52.22	6.21	38.91
2000	469.70	394.10	5.26	517.77	3.60	40.49
2001	482.76	401.73	3.72	97.94	4.24	48.24
2002	518.13	1802.10	4.71	127.59	3.33	33.82
2003	557.92	388.52	4.91	96.62	3.37	30.03
2004	532.23	373.93	5.19	208.15	3.66	10.17
2005	568.07	361.53	4.50	268.80	3.72	10.20
2006	5332.46	428.68	6.40	255.49	4.15	13.17
2007	735.56	401.60	8.35	378.99	3.89	23.59
2008	662.41	417.00	5.28	176.42	7.64	2.90
2009	641.64	378.34	5.37	119.46	5.03	50.18
2010	718.91	431.98	4.74	80.49	4.80	50.18
2011	759.88	454.92	6.06	81.67	4.48	24.33
2012	758.81	444.94	6.89	71.66	3.70	23.18
2013	845.01	78.22	30.40	19.60	5.87	124.52
2014	869.00	512.89	42.10	21.01	7.44	128.11

Source: Stock Exchange Factbook various Issue

Key note:

ROI=Return on Investment

NPM/PAT=Net Profit Margin/Profit after Tax

DPR=Dividend Payout Ratio

RR=Retention Ratio

DY=Dividend Yield

EPS=Earnings per Share

Test of Colinearity and Autocorrelation of the Variables

Table 2. Tolerance and Variance inflation factor (VIF).

MODEL I	TOLERANCE	VIF
Model 1: $ROI = \beta_0 + \beta_1 DPR + \beta_2 RR + \beta_3 DY + \beta_4 EPS + \epsilon_i$		
EPS = Earnings Per Share	.280962	3.560
DY = Dividend Yield	.312100	3.204
RR = Retention Ratio	.086670	11.538
DPR = Dividend Payout Ratio	.064650	15.468

Source: SPSS print out 20.0

Table 2 shows a tolerance of above 0.1 inverse to the rule of the thumb which is contrary to the rule for testing multicollinearity on tolerance while only two variables of the variance inflation factor (VIFs) which are dividend payout ratio and retention ratio satisfies the threshold of being above 0.5 and less than 10 earnings per share and dividend yield are unable to satisfy the threshold of above 0.5 with a weak value of 3.56 and 3.20 below 10.0.

Table 3. Colinearity Diagnostic and Durbin Watson Test.

MODEL I	Eigen val	Cond index	Variance Constant	Properties			
				E	D	C	B
1	3.57147	1	0.02081	0.01398	0.011	0.00313	0.00313
2	3.57147	2.034	0.26907	0.00988	0.1704	0.00331	0
3	0.38732	-3.037	0.66667	0.00114	0.17181	0.02686	0.61262
4	0.15409	4.814	0.0015	0.97373	0.23542	0.01897	.02862.
5	0.02359	12.304	0.04196	0.00127	0.41137	0.94748	0.95563
Durbin Watson Test				.38823 (Model I)			
Durbin Watson Test				.40537 (Model II)			

E = Dividend Payout Ratio

D = Retention Ratio

C = Dividend Yield

B = Earnings per Share

Source: SPSS (20.0)

The table above illustrated a colinearity and autocorrelation; the results found that the Eigen values that correspond with the highest condition index and variance constants are less than 0.5 rule of the thumb. The Durbin Watson statistics of .38823 and .40537 shows the absence of multicollinearity, portraying a significant relationship between the dependent and the independent variables in the model.

Effect of Dividend Policy on the Return on Investment

Table 4. Multiple Regression Results.

Model I	E	C	D	B
Variables	DPR	RR	DY	EPS
B	.005955	.017253	-1.24689	.042551
SEB	.24167	.29017	763959	.014047
Beta (β)	.055728	.042508	3.265119	.071481
Corel	-.577869	.790858	.339243	.823978
Partial Corr	.049226	-.118085	-.310314	.518164
T. test	.246	-.595	-1.632	3.029
Sig.t	.8074	.5575	.1152	.0056

Constant (α) = 99165.651442, t-test = 26.404, Sig.t = .0000

Source: SPSS Printout (20.0)

The table above shows the relationship between the dependent and the independent variables in the study. The result shows a correlation coefficient of 0.57 between dividend payout ratio and Return on Investment of the quoted companies. This means that the relationship between Dividend Payout Ratio and Return on Investment is positive and insignificant. The relationship between Retention Ratio and Return on Investment is positive and significant with a positive correlation coefficient of 0.79 which is 79.08%.

However, the relationship between Dividend Yield and Return on Investment is positive but weak, the correlation coefficient of 0.34 and 0.82 shows that the relationship between Dividend Yield is weak while the relationship between Earnings Per Share is very strong the regression intercept is positive with the value of 99.65 signifying the positive effect of the independent variables on the dependent variables.

Effect of Dividend Policy on Net Profit Margin

Table 5. Multiple Regression Results.

Model II	E	C	D	B
Variables	DPR	RR	DY	EPS
B	2.05274	.053824	-6.73141	.064114
SEB	.030283	.0363360	9.57293	.017602
Beta (β)	.062574	.128709	1.298441	.100365
Corre	-.735152	.934467	.494571	.955168
Partial	.000356	.077657	-.036889	.191086
T. test	0.07	1.480	-703	3.642
Sig.t	.9946	.1513	.4884	.0012

Constant (α) = 11529.99471, t-test = 24.514, Sig.t = .0000

SPSS Printout (20.0)

The regression result presented in the above table shows that dividend payout ratio, retention ratio, and earnings per share are positively related to the Net Profit Margin of the selected manufacturing firms while Dividend Yield is negatively related to the dependent variable, this is evidence by the negative coefficient of -0.74 as parameter for independent variable. The t-test shows that Earnings per Share is statistically significant while other independent variables are statistically not significant at 5% level of significance.

Table 6. Model Summary Result.

Summary Table	Model I	Model II
Multiple R	.85271	.96499
R Square (R^2)	.72711	.93120
Adjusted R square	.68345	.92019
F-Ratio	16.65310	84.58960
Sig f (5%)	.0000	.0000

Source: SPSS (20.0) Output

The estimated models revealed multiple R of .85271 in model one and .964699 in model two; this signifies the positive and strong relationship between the dependent and the independent variables. The R^2 and the adjusted R^2 of .72711 and .68345 for model one and .93120 and .92019 for model two signifies that 72.711% and 68.345% variation in Return on Investment of the companies can be explained by the independent variables in the model while 93.120% and 92.019% variation Net Profit Margin can be explained by the

independent variables in the model. The f-ratio shows that the models have overall significance in explaining changes to the dependent variable.

Summary of Major Findings

This study examined Dividend Policy and the profitability of selected quoted manufacturing firms. From the forgoing, the analysis, the following were found;

1. The findings of the result from model one found that there is positive correlation between dividend payout ratio, retention ratio, and dividend yield, earnings per share and return on investment. This is evidence by the R^2 , the adjusted R^2 and the f-statistics.
2. The T-statistics shows that earnings per share are positively related to return on investment while other variables in the model are statistically not significant. The insignificant effect of the variables can be traced to management such as the conflict between management and the shareholders that led to the agency theory.
3. The f-statistics of 16.53 at the significance of 0.000 shows the overall significant of the independent variables in inducing changes on the dependent variable.
4. From the rule of thumb, the computed t-value of 3.30 is greater than the critical t-value of 2.08; this means that dividend payout ratio has significant relationship with return on investment while other variables are not significant leading to the rejection of alternate hypotheses. Model II has net profit margin of the firms as the function of dividend payout ratio, retention ratio, dividend yield and earnings per share.
5. The models findings show that dividend payout ratio, retention ratio and dividend yield have positive relationship with net profit margin while earnings per share have negative effect. The correlation coefficients 2.05274DPR, 0.53824RR, -6.73141DY and .064114EPS
6. The T-statistics shows that earnings per share are significant which led to the rejection of null hypotheses while other variables in the model are statistically not significant in accepting the null hypothesis.
7. The f-statistics of 84.58960 at 0.000 indicate the overall significant of the independent variables in the model in affecting changes on the dependent variable. The positive coefficient of α_0 as the regression line indicates the positive effect of the independent variables on the dependent variable at constant.

5. Conclusion and Recommendations

5.1. Conclusion

Based on the findings, the following conclusions were drawn

1. Dividend payout ratio has positive effect on the return on investment and net profit margin of the selected manufacturing firms. This finding confirms the a-priori expectation of the result.

2. Retention ratio has positive effect on return on investment and net profit margin. The finding is in support of the Gordon's relevant theory as opposed in Miller and Modigliani irrelevant theory.
3. Dividend yield has negative effect on return on investment and net profit margin. This finding is contrary to empirical result and expectation of the result in this study. This is in line with the irrelevant theory of Miller and Modigliani as opposed the relevant theory of Gordons.
4. Earnings per share have positive effect return on investment and net profit margin of the quoted manufacturing firms.

5.2. Recommendations

1. Reform in the financial system: The study recommend that there should be further reforms in the financial system to enhance the operational efficiency of the financial market to determine the profitability of quoted firms via the dividend policy channel.
2. Management Efficiency: The study recommends that the management of the quoted firms should be efficient and effective to achieve increase profitability of the quoted manufacturing firms.
3. Consistency in Dividend policy: There should be consistent dividend policy that will maximize shareholders wealth without mortgaging the profitability objectives of the firms.

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