DOI : 10.18843/ijms/v5i4(5)/08
DOIURL :http://dx.doi.org/10.18843/ijms/v5i4(5)/08

Dividend Policy Determinants for Public Sector Banks in India: A Panel Data Approach

Nancy,

Research Scholar,
IKG Punjab Technical University,
Kapurthala, India.

Dr. Anu Sahi,

Assistant Professor (Sr. Scale),
Apeejay Institute of Management Technical
Campus, Jalandhar, India.

ABSTRACT

Public sector banks in India have always been regarded as the mainstay of the Indian economy. The dividend policy of these banks reflects the association of risk and return with regard to securities. This paper portrays the effort to develop an understanding with regard to the impact of various factors on the dividend policy of the Public Sector banks. For the purpose dividends disbursed by nineteen public sector banks have been analyzed with regard to eight factors for their influence on them. The factors considered in the study include Firm Size, Profitability, Market Capitalization, Return on Equity, P/B value ratio, Return on Assets (ROA), Firm Risk and Growth. The data for the study was collected for a period of fifteen years beginning from March 2003 to March 2017. The data used in the study was collected from Capitaline Plus Database and was analyzed using bi-variate, multi-variate and Panel Data Regression techniques. The results indicated that all factors considered in the study had an impact on the Dividend Policy further it was found that while Profitability and P/B value ratio had a significant positive impact, Risk had a significant negative impact on it.

Keywords: Dividend Policy, Determinants, Public Sector Banks, Panel data analysis, India.

INTRODUCTION:

Dividend policy attracted the attention of the financial analysts in the 50s decade of the last century. Lintner (1956), Gordon (1959) and Miller and Modigliani (1962) made significant contributions in this field by giving various theories in this area. However, inspite of some of the greatest contributions by significant financial analysts in this area, this area has always remained a debatable issue with regard to the influence of several factors and their impact over the determination of the dividend policy of industries in various sectors. The dividend policy of an organization has always remained an area of interest not only for the mangers of the organization but also for the shareholders of the organization as well as the creditors and investors of the organization. Even the academicians and researchers have also shown a lot of interest in an effort to explain how and on what basis an organization frames its dividend policy. The fact that the corporate decision with regard to the dividend policy has a huge influence over various other corporate decisions like investment, finance, shareholder's wealth and even the whole economy further gives a lot of importance to it *(Jabbouri Imad, 2016)*.

Indian Banking Sector:

The banking sector of any country plays a very crucial role in the financial health of a country. The Indian Banking system is the most dominating segment of the Indian financial sector *(Sharma and Sharma, 2014)*. It is an integral part of any economy and occupies a pivotal role in the functioning and development of an economy *(Bhosale J.P., 2016)*. The Indian banking system governed by the Reserve Bank of India comprises of Public Sector, Private Sector, Regional Rural, Urban Cooperative and Foreign Banks. The Public Sector banks in the

Indian banking system are one of the leading and the most significant component of the system. The below given table shows the importance of the Public Sector banks in the banking sector of the country:

Table 1: Banking Sector Assets (in US $ bn)

Financial Year	Public Sector	Private Sector	Foreign Banks
2013	1140	326	105
2014	1305	370	123
2015	1421	415	124
2016	1348	488	121
2017	1518	559	126

Source: IBEF Report July, 2018

This study hence primarily aims at developing an understanding with regard to the influence of various factors over the dividend policy of public sector banks in India.

LITERATURE REVIEW:

In order to develop a fair understanding and insight with regard to the various areas of the research topic some valuable research works carried out by various national and international researchers were analyzed. The various research efforts analyzed for the purpose were classified into three categories namely banking sector, financial institutions and non-banking sector, and their brief description is given as below:

Reviews on Banking Sector:

Sudhakar and Saroja (2010) in a study based on 20 banks listed on the Bombay Stock Exchange for a period of ten years from 1997-98 to 2006-07 analyzed factors that had an influence over the dividend payment pattern of these banks. It was found from the study that last year dividend was the most important positively influencing factor followed by current year depreciation and current year profit after tax. It was further established through the study that Return on Investment (ROI) followed by previous year debt payout and volume of sales had a positive influence over the dividend policy of banks however, it was usually when there had been a negligible decline in debt irrespective of trivial increase in dividend tax rate.

Zamir Hashim (2013) et.al. conducted an exploratory study using stepwise regression to analyze the impact of liquidity, size, leverage, agency cost, growth, profitability, last year dividend, ownership structure and risk over the dividend policy of banking sector in Pakistan. It was found that the last year dividend paid by the banks was an important variable in predicting the future dividend payment behavior of the banks, with regard to other variables the study found that profitability and organization structure were having a positive impact on dividend payout whereas liquidity was having a negative impact on the same. The remaining variables considered in the study were not found to have any significant impact.

Bassey (2014) analyzed the dividend disbursement of two Nigerian banks namely First Bank of Nigeria Plc. and United Bank of Africa (UBA) for a period from 1989 to 2000 by using the Ordinary Least Square (OLS) regression technique. The factors considered in the study included Earnings Per Share (EPS), Deposit Per Share (DPS), Liquidity Ratio (LR), Inflation Rate (IFR) and Lending Rate (LERT). It was found that current earnings per share alongwith dividend per share for the previous year and lending rate were significant factors that had an influence over the dividend determination of these banks. Both the banks considered in the study had a lower propensity to pay cash dividends and further it was established that excess liquidity and inflation rate did not had any influence over the amounts of dividends paid.

Khoury (2014) analyzed the influence of seven variables namely profitability, liquidity, leverage, firm size, growth, firm risk and dividend paid in the previous year on the dividend payout ratio of the considered Lebanese banks listed on Beirut Stock Exchange for a period from 2005 to 2011 through unbalanced panel estimation techniques alongwith linear regression. The study found that while firm size, risk and previous year's dividend had a positive influence over the dividend payment policy, opportunity growth and profitability were having a negative impact on the same. Also the study highlighted that Lebanese banks were usually paying less dividends as they were using the earnings to invest to grow and they considered stability of dividends as an important aspect in determining the dividend policy.

Olowe and Moyosore (2014) carried out a research over twenty banks in the Nigerian banking industry in a period from 2006 to 2008 to analyze the impact of profitability, liquidity, corporate tax, revenue growth, market

to book value ratio, loan deposit ratio, credit risk ratio, capital adequacy ratio, activity mix, size, cost income ratio, market power and debt to equity ratio over the dividend paid by these banks. The data collected was analyzed by using statistical tools that included alongwith mean, median, the maximum value and the minimum value and also standard deviation, skewness and kurtosis, along with three estimating models using standard dividend payout, further pooled regression technique was applied over the data. The study suggested that profitability, liquidity and size had a statistically positive impact whereas debt equity ratio, revenue growth and retained earnings had a statistically significant negative impact on the dividend policy of these banks. With regard to the bank specific variables the study pointed out that while coefficients of loan loss provision and loan deposit ratio had a statistically significant negative impact whereas activity mix had a statistically significant positive impact over the dividend payout while the impact of capital adequacy over dividend payout was inconclusive.
Devanadhen and Karthik (2015) used the fixed effects approach through panel regression to understand the impact of factors which included profitability liquidity, leverage, size, risk and growth opportunities over the dividend policy of 19 public and 10 private sector banks in the period from 2006-2007 to 2013-2014. It was found that while profitability and liquidity were having a negative effect on dividend payout whereas risk was having a positive effect on it. As far as leverage, size and growth opportunities were concerned they were found to be unrelated to the dividend payout for the considered banks in the considered span.
Misra Sangeeta D. (2015) carried out a research over 121 banks incorporated as public limited companies for a period of twelve years from 1999-2000 to 2010-2011 to understand the influence of factors that included bank specific factors (natural log of total assets, ratio of common equity to total assets, return on assets, provision with regard to loan loss to total asset ratio, deposit to total asset ratio) and macro-economic variables (growth rate in the real GDP, Real rate of interest dummy variable) over the dividend policy of these banks. Panel data approach was used along with regression models to analyze the data and it was found that return on assets and the growth rate of real GDP and deposits to total assets ratio were significant determinants of dividend payout ratios of the Indian banks. The study established that banks which had got low return on their assets had paid higher dividends as a percentage to their net profits seemingly in an attempt to hide their low performance levels. The results further indicated that the banks that had a higher deposit to total assets ratio had a lesser dividend payout ratio.

Reviews on Financial Institutions:
Badu (2013) in his study of eleven financial institutions that were listed on the Ghana Stock Exchange in a time period from 2005 to 2009 attempted to identify the role of variables that included Profitability, Liquidity, Leverage, Collateral Capacity, Growth and Age of firm over the dividend policies of these firms. The data collected was analyzed using panel data regression analysis and it was reported that age of firm and liquidity had a statistically significant and positive relationship with dividend policy for the considered companies the relationship of profitability and collateral capacity with dividend policy was insignificant.

Reviews on Non-Banking Sectors:
Baker and Powell (2000) using a survey instrument developed by Baker, Farrelly and Edelman (1985) and Farrelly, Baker and Edelman (1986) conducted a primary research to understand the influence of various factors over the dividend policies of firms listed on the NYSE. The sample consisted of 198 firms consisting of manufacturing (117), wholesale/retail (28) and utility sectors (53). The study reported that as far as the important are concerned with regard to the firm's dividend policy they included the level of current earnings alongwith the expected future earnings and pattern of past dividends. It further provided evidence for the fact that key determinants of dividend policy, namely level of current and future earnings being top rankled followed by pattern of continuity of pats dividends and concern about maintaining or increasing stock prices have remarkably remained stable over time. It also found that although the industry type had an influence over the importance placed over the determinants of dividend policy yet these differences diminished over time.
Gupta and Banga (2010) considered in their study 150 companies from 16 different sectors and examined the impact of fifteen variables which included Debt equity ratio, ratio of retained earnings to equity, current ratio, cash from operations, foreign institutional investors shareholding, promoter's shareholding, institutional shareholding, Net profit ratio, return on investment, ratio of profit before interest and tax to total assets, earning per share, market capitalization, annual sales growth, return on net worth and ratio of corporate tax to profit after tax for their impact on the dividend decisions of these companies in a period from 2001-2007 through factor analysis and multiple regression techniques. The study was able to effectively categorize the factors in

five broad heads namely leverage, liquidity, profitability, ownership structure and growth and conclude that while leverage was strongly negatively associated, liquidity was strongly positively associated with the dividend rates of the considered companies.

Kapoor et.al. (2010) by using a two-step multivariate procedure wherein multiple regression is applied over factors extracted through factor analysis analyzed key variables which included Profitability, Lagged dividend, Current ratio of firm, Debt equity ratio, Quick ratio of firm, Annual sales growth of firm, adjusted average closing stock price, cashflows of firm, retained profits of firm, capital expenditure or gross fixed assets , Nifty beta of firm, Market capitalization of firm, Price earnings ratio of firm, P/B value ratio of firm, Promoter holding of firm, Natural log of the total assets of firm, Interest coverage ratio of firm, RONW of the firm, ROE OF FIRM, Lagged Profit after tax and standard deviation of earnings per share for companies in the Indian Service Sector in a period from 2000 to 2008. The study suggested a positive relationship between earnings variability and long term solvency with dividend payout and a negative relationship of firm's size with the dividend payout.

Kapoor et.al. (2010) carried out an experimental analysis of fifteen FMCG companies in a period from 2000-2008 to study the impact of twenty variables on the dividend disbursed by them. The used two step multivariate procedure to analyze the data and found profitability as the primary determinant for dividend distribution in the FMCG sector, other factors that were also found to be important in this regard included lagged dividends, profit after tax and quality of cash flows. The study further earmarked that opportunities for growth and expansion, retained earnings and capital expenditure, liquidity and promoter's holdings bear a negatively significant relationship with dividend payout. The analysis highlighted that the FMCG sector in India had scored well with regard to stability and consistency in dividend payment and also that the dividend payout in this sector was increasing as the risks faced by the firms in this sector had increased.

Sarvanakumar (2011) in an empirical research by using Kendall's coefficient of concordance analyzed the impact of growth in sales, net profit, enhanced liquidity position, huge reserves, wind fall profit, tax reduction and concessions, raising funds from the capital market, non-business revenue, government regulations to pay high dividend, desire of shareholders to get dividend and other factors for 50 companies listed on the NSE in a period from 2004-05 to 2008-09. The study concluded that the most important factors found responsible for increasing rate of dividend was net profit followed by growth in sales, enhanced liquidity position and huge reserves. It was also found from the study that a decline in rate of dividend was observed when there was decline in net profit, poor liquidity position and inadequate reserves. The study helped to establish that sales, liquidity and reserve position alongwith net profit were having a significant impact on dividend payment decisions as compared to other factors considered in the study. The study also found that other factors considered like mergers and acquisitions and reconstruction and expansion, were also important with regard to impact on dividend decisions.

Kumar and Jha (2012) carried out an empirical analysis to understand the effect of Net profit after tax in the current period, Net profit after tax in the previous period, Total equity dividend in the previous period, Net profit after tax plus depreciation in the current period, depreciation charged in current period and change of sales in current period along the preceding two years on the dividend policy of ten IT companies listed at Bombay Stock Exchange (BSE) in a tenure from 2007 to 2011. The data was analyzed by using multiple regression analysis and it revealed that cash flow, net profit after tax and amount of depreciation have a significant impact over the dividend disbursed whereas lagged equity dividend, lagged net profit after tax and change in sales in the preceding two years have an insignificant impact over it.

Kamat and Kamat (2013) examined the determinants of dividend policy of companies in Indian Corporate sector. The data for the study was collected for non-government and non-financial public limited companies and was classified into two periods (from 1975-1992 as the pre reforms period and 1993-2010 as post reforms period). The data collected was analyzed using dynamic PDA using extended instrumental variable (IV) technique and to include other lag structures GMM-in-levels model, GMM-in-first differences and GMM-in-systems were alternatively estimated. The study found that while last year's dividends, lagged value of earning's ratio and the size of the firm were found to have a positive and statistically significant relationship and influence over the current dividend policy of the firm. Operating risk variable and corporate tax were found to be negatively related to the amount of dividend being paid. It was also highlighted in the study that because of rapid economic growth in the post reforms period the dividends were found to substitute for less opportunity for internal growth and the increased general likening to relatively retain the earnings of firm and finance for growth which was found to be unlikely w.r.t. the period before the reforms. It was further concluded from the study that bigger firms accrued larger profits and distributed higher levels of dividends however, firms having higher investment in inventory and R&D expenditures and fixed assets force them to distribute smaller portion of profits as dividends.

Almeida et.al. (2015) studied the dividend policies of twelve corporations listed on the Lisbon Stock Exchange for understanding the level of possible impact of various variables on them in a period from 1997 to 2011. Multiple regression was used to analyze the data and it was established that dividend policy stability, value in the market, previous dividend payout and business dimension have a positive influence over the amount of dividends disbursed whereas opportunities of growth and investment had a negative influence over it.

Velmurugan (2015) attempted to identify the impact of previous year dividend, depreciation, profit after tax, sales, previous year cash flow over the dividend policies of the companies in the Indian fertilizer industry. The study used the data in the period from 2004 to 2013 and analyzed the same using correlation at one percent and five percent level of significance. The study found that previous year dividend, current year depreciation, profit after tax, previous year cash flow and current year sales were having a significant impact over the dividend policies of the considered companies.

Gowri and Saravanan (2016) analyzed the dividend paid by twenty three companies in the Indian cement industry to understand the impact of various factors over it. The study period was of ten years i.e. from 2003-04 to 2012-13 and the factors considered in the study included earnings per share, dividend per share, age of the firm, size of the firm, growth of the firm, tangibility of the firm, debt equity ratio, operating profit ratio, net profit ratio, net profit to net worth ratio, dividend payout ratio and operating cost ratio. Structural Equation Modeling (SEM) and co-variance matrix were used to analyze the data collected and it was found that profitability of the company had a direct impact over the dividend paid by the company. The study further found that dividend payout by the companies had an inverse relationship with the firm’s risk and as far as other variables considered in the study are concerned it was found that they all were having a positive relationship with the dividend paid except for tangibility of the firm which was having a negative relationship to the dividend payout ratio.

Labhane and Mahakud (2016) analyzed the dividend paid by 240 NSE listed companies in the period from 1994-95 to 2012-13 (divided as 1994-95 to 2002-03 as post liberalization period and the period from 2003-04 to 2012-13 as period for second generation reforms) to understand the impact of various factors on the dividend paid by these companies. Panel data models were used to analyze the data collected and it was found that while the dividend payout ratio of larger and profitable firms was higher, it was low for the firms with high investment opportunity and high financial leverage. It also pointed out that in both the sub periods of the study the variables life cycle, size of the company, leverage ratio, profitability and liquidity had a significant impact on the dividend payout determination and more specifically the dividend yield variables that included leverage, business risk, size of the company and profitability had played a significant role. The study also remarked that the variables like debt to capital ratio, market to book ratio, tangibility of assets, business risk and dividend distribution tax were having a negative impact on the dividend payout ratio and dividend yield, the variables like life cycle, market capitalization, return on assets and liquidity were positively affecting them both. Overall the study concluded that size of the company, leverage ratio and profitability had a significant impact over the dividend policies of the companies considered.

Soondur et. al. (2016) analyzed the impact of Retained Earnings, Earnings Per Share, Net Income, Cash and Debt to equity over the dividend policies of thirty public listed companies, listed on the Stock exchange of Mauritius on their dividend disbursal practices. The study used multi regression models for the analysis of the data. The study reported that Retained earnings and Net income were significantly and negatively correlated to dividend policy. For the companies listed on the official markets the study found that Net Income was highly negatively correlated to Dividend Policy whereas in DEM, Earnings per share was highly positively correlated to dividend policy as far as the companies listed in Stock Exchange of Mauritius were concerned the study found that Cash and Debt to Equity do not have any significant influence in determining the dividend policy of these companies.

On the basis of the above literature reviewed certain key explanatory variables were identified to explain the dividend policy of the public sector banks in India. The factors identified included Firm Size, Profitability, Leverage, Market Capitalization, Return on Equity, P/B value ratio, Return on Assets, Firm Risk and Growth. A brief description of these factors considered in the study is given as below:

Firm Size:

The size of the firm plays a significant role in decisions regarding the dividend to be disbursed by the company. As the firms grow they get an easy access to financial markets and hence become less dependent upon internal sources to grow and hence they get into a better position to pay higher dividend (Zamir Hashim et. al., 2013). Firm Size has a positive impact on the dividend policy of an organization. *(Khoury, 2014)*. *Kamat and Kamat, 2013* and *Gowri and Saravanan, 2016* have also supported that Firm Size has a positive influence on the dividend policy of a firm.

Profitability:
It indicates to the level of profit that an organization has in a given frame of time. Profitability has a direct influence over the levels of dividend paid *(Gowri and Sarvanan, 2016).* Higher levels of profits made by an organization can either be directed towards dividends or towards future investments. Profitability has been found to be having a positive influence on the levels of dividends disbursed. *(Zamir Hashim et. al., 2013), (Olowe and Moyosore)*.

Market Capitalization:
It is an aggregate valuation of a company based on the current valuation of its shares and the total number of outstanding shares in the market. It is calculated as the product of total number of company's outstanding shares and the current value of the share. The studies conducted by *Labhane and Mahakud (2016) and Balaji and Kumar (2017)* have indicated a positive influence of Market Capitalization on the dividend policy of organizations considered in the respective studies.

Return on Equity:
It is a measure of an organization's profitability, through an assessment of the profit that has been generated by the organization from the money invested by the shareholders in the organization. It is calculated as the amount of net income returned as a percentage of the shareholder's equity. In a research effort by *Khan and Shamin (2017)* over certain organizations it was found that return on equity has a positive influence over the dividend payment behaviour of an organization.

P/B value ratio:
It is a financial ratio to make a comparison between an organization's current market value to its book value. A lower value of this ratio indicates that the stock prices of the organization are undervalued. Certain studies that have been carried out which included *Labhane and Mahakud (2016)* and *John and Muthusamy (2010)* to analyze its impact on the dividend policy found that it had a negative impact over the dividend policy.

Return on Assets:
It is a representative financial ratio that indicates the percentage of the profit of a company as compared to the overall resources of the organization. It is a representative of the efficiency of the management in utilizing the resources of an organization to generate profitability for it. In this regard the research efforts of *John and Muthusamy (2010)* found a significant negative relationship of Return on Assets with the dividend disbursal practices and this opinion has further been strengthened by the research of *Misra Sangeeta D. (2015)* but *Labhane and Mahakud (2016)* remarked a positive relationship between the two.

Firm Risk:
It refers to the risk involved in the perceived future earnings of an organization. Usually it is proxied by the Price to the Earnings ratio (P/E ratio) of an organization. Several studies which include *Khoury (2014), Devanadhen and Karthik (2015) and Agel (2016)* have been undertaken to understand the association of Firm Risk with the Dividend payment behaviour of various organizations and these have indicated the existence of positive relationship between them. Another study by *Maladjian and El Khoury (2014)* supported the existence of a positive as well as a significant relation between the two. However, *Gowri and Saravanan (2016)* found evidences for a negative relationship between Firm Risk with the Dividend payment behaviour of organizations.

Growth:
It has been considered as an important factor having a positive impact on the dividend payout by the organizations *Sarvanakumar (2011)*. Growth in bank assets has been reported to have a significant impact on dividend payouts by banks *Gupta and Walker (1975)*. *Balaji and Kumar (2017)* found its impact to be significant. However, *Khan and Ahmad (2017)* as well as *Kapoor et.al. (2010)* reported that the impact of growth on dividend payout was negative.

RESEARCH METHODOLOGY:

The study being conducted is empirical in nature and is based upon secondary data collected with regard to the dividend disbursed by 19 Indian Public sector banks (enlisted as Annexure I).

Objectives:
The study is an attempt to develop an understanding with regard to the impact of eight factors namely Firm Size, Profitability, Market Capitalization, Return on Equity, P/B value ratio, Return on Assets, Firm Risk and Growth on the dividend policies of the public sector banks considered in the study.

Hypothesis:
The following hypotheses have been developed to be tested in the study:
H1: There is no significant impact of Firm Size on the Dividends disbursed by Public Sector Banks.
H2: There is no significant impact of Profitability on the Dividends disbursed by Public Sector Banks.
H3: There is no significant impact of Market Capitalization on the Dividends disbursed by Public Sector Banks.
H4: There is no significant impact of Return on Assets on the Dividends disbursed by Public Sector Banks.
H5: There is no significant impact of P/B value ratio on the Dividends disbursed by Public Sector Banks.
H6: There is no significant impact of Return on Assets on the Dividends disbursed by Public Sector Banks.
H7: There is no significant impact of Risk on the Dividends disbursed by Public Sector Banks.
H8: There is no significant impact of Growth on the Dividends disbursed by Public Sector Banks.

Data Source:
The data for the study was collected from Capitaline Plus database for a period spanning fifteen years i.e. from March, 2003 to March, 2017.

Tool for Data Analysis:
The data collected was analyzed by using Bivariate and Multivariate Regression. Further, the data was analyzed by using Panel data regression method.

DATA ANALYSIS:

To develop an understanding with regard to the impact of the factors considered, over the dividend disbursal practices of the Public Sector banks considered in the study as a first step certain basic statistics have been calculated with regard to the factors considered and the dividends disbursed by the Public Sector Banks and depicted in Table 2.

Table 2: Descriptive Statistics

Parameters	Mean	Median	Std. Dev.	Min.	Max.
Dividend	54.12	30.00	45.83	0.00	415.00
Firm Size	11.83	11.87	0.81	0.00	14.81
Profitability	1203.12	759.58	1272.76	-6089.21	14127.94
Market Capitalization	8.34	8.64	1.20	0.00	12.36
Return on Equity	15.40	16.08	7.87	-25.34	41.03
P/B value ratio	0.91	0.86	0.38	0.00	2.70
Return on Assets	0.01	0.01	0.00	-0.01	0.02
Risk	6.95	6.48	3.62	0.00	33.84
Growth	14.51	12.37	10.51	-61.19	102.61

Source: Author's own construction

The Table 2 depicts that the average value of dividend paid by the Public Sector banks is 54.12 with a standard deviation of 45.83. As far as other factors are concerned the table depicts that while Firm Size has an average value of 11.83, Profitability is 1203.12, Leverage is 0.85, Market capitalization is 8.34, Return on Equity is 15.40, P/B value ratio is 0.91, Return on Assets is 0.01, Risk is 6.95 and Growth is 14.51.
The table also reveals on a comparison between the average values of factors considered and their Standard Deviation that difference between them was appropriate to be considered as non-volatile for almost all the

factors except for Profitability, Return on Equity, Risk and Growth wherein the difference between the two was not very high.

In an effort to develop an understanding with regard to the individual impact of the factors considered in the study over the dividends disbursed by the Public Sector banks considered in the study bivariate regression was applied over the data. The results obtained in this regard were tested using the t-test and the F test. Further, R^2 values were calculated with regard to each of the factor considered to explain the proportion of variance in the dependent variable with regard to each of the concerned independent variable. The results in this regard are depicted in table 3. The table depicts that all the eight factors considered in the study have a positive impact on the dividends disbursed by the banks. The table further indicates that the maximum impact on the dividends disbursed by the public sector banks is for Return on Assets as for a unit increase in it leads to a 3690.844 times increase in the dividends disbursed, it is followed by P/B value ratio (wherein the impact is 61.087 times) and Firm Size (wherein the impact is 27.233 times).

Table 3: Results of bivariate regressions for determinants of dividend payout

Independent Variable	Slope	t-stat (p-value)	F-stat (p-value)	R^2
Firm Size	27.233	8.987 (0.000)*	80.774 (0.000)*	0.222
Profitability	0.026	29.365 (0.000)*	862.330 (0.000)*	0.753
Market Capitalization	15.848	9.445 (0.000)*	89.204 (0.000)*	0.240
Return on Equity	1.007	2.484 (0.014)**	6.171 (0.014)**	0.021
P/B value ratio	61.087	7.989 (0.000)*	63.323 (0.000)*	0.184
Return on Assets	3690.844	5.116 (0.000)*	26.175 (0.000)*	0.085
Risk	3.024	4.029 (0.000)*	16.231 (0.000)*	0.054
Growth	1.036	3.615 (0.000)*	13.070 (0.000)*	0.044

*Significant values at 1% level of significance. ** Significant values at 5% level of significance.
Source: Author's own construction

The table further depicts that the minimum impact was for the factors Profitability followed by Return on Equity and Risk. The t-test and F-test applied over these values indicated that all the values obtained were found to be significant for both the tests at 1% level of significance. Thus indicating that the factors considered in the study have a significant influence over the dependent variable i.e. the dividend paid.

The R^2 values calculated depicting the proportion of variance explained by each of the factors considered in the study highlights that the Profitability (75.3%) explains the maximum variance in the dividends disbursed followed by Market Capitalization (24%) and Firm Size (22.2%).

In order to develop an understanding with regard to the joint influence of the factors considered in the study over the dividends disbursed by the public sector banks multivariate pooled regression was applied. The regression model fitted for the purpose is stated as below:

$DIV_{it} = C + \gamma_1(\text{Firm Size})_{it} + \gamma_2(\text{Profitability})_{it} + \gamma_3(\text{Market Capitalization})_{it} + \gamma_4(\text{Return on Equity})_{it} + \gamma_5(\text{P/B value ratio})_{it} + \gamma_6(\text{Return on Assets})_{it} + \gamma_7(\text{Risk})_{it} + \gamma_8(\text{Growth})_{it} + \mathcal{E}_{it}$

where, C is the intercept, γ represents the slope associated with all the eight independent variables considered in the study, i represents the cross-sectional unit and t is the time period. $\mathcal{E}$ represents the error term.

The results obtained in this regard are depicted in Table 4. The results indicate that out of the eight factors considered in the study six factors were having a positive relationship with the Dividends being disbursed i.e. an increase in these factors affected an increase in the dividends to be paid.

Table 4: Results of multivariate pooled regression model for determinants of dividend payout

Independent Variable	Slope	t-stat (p-value)	F-stat (p-value)	R^2
C	-8.164	-0.307 (0.759)	146.714 (0.000)*	0.810
Firm Size	1.136	0.543 (0.651)		
Profitability	0.025	21.887 (0.000)*		
Market Capitalization	3.555	2.363 (0.019)**		
Return on Equity	-1.355	-3.346 (0.001)*		
P/B value ratio	23.603	3.885 (0.000)*		
Return on Assets	654.129	0.872 (0.384)		
Risk	-2.606	-5.922 (0.000)*		
Growth	0.148	1.053 (0.293)		

*Significant values at 1% level of significance. ** Significant values at 5% level of significance.
Source: Author's own construction

The maximum impact over the dividends to be disbursed was for Return on Assets (654.129), followed by P/B value ratio (23.603) and Market Capitalization (3.555). Out of the six factors having a positive relationship with dividend paid the value obtained with regard to two factors namely Profitability and P/B value ratio was found to be significant at 1% level of significance whereas the value obtained with regard to Market Capitalization was significant ay 5% level of significance.
The results thus indicate that hypothesis H2, H5 and H3 are rejected. As far as the remaining two factors are concerned i.e. Return on Equity and Risk are concerned both were found to have a negative impact on the dividends to be paid and the values obtained in this regard for both were found to be statistically significant at 1% level of significance. Thus indicating that the hypothesis H4 and H7 are rejected.
To further establish the impact of the factors considered in the study over the dividends to be paid Panel data analysis was done. To decide in the panel data analysis between the applicability of Fixed effects model and random effect model F-test and Hausman test were applied. The results of the tests are depicted in Table 5.
As far as the results for F-test and Hausman tests are concerned at 1% level of significance it was found that p value of both the tests was significant thereby suggesting that the application of Fixed effect model was valid and the application of Random effect model was rejected.

Table 5: Selection of model to examine determinants of dividend payout (public sector banks)

Dependent Variable	Fixed Effect Model		Random Effect Model	
	F-test	P-value	Hausman test	P-value
Dividend Payout	13.083	0.000*	31.419	0.000*

*Significant values at 1% level of significance.
Source: Author's own construction

The results of fixed effect regression model thereby applied have been reported in Table 6. The results indicated that Return on Assets had the maximum negative influence over the dividends paid by Public sector banks followed by Risk and Firm Size. To establish the level of significance with regard to the level of influence of these factors t-test was applied. The results obtained indicated that the values with regard to Return on Assets and Risk were significant at 1% level of significance. Table 6 further illustrated that P/B value ratio had the maximum positive influence on the dividends paid followed by Return on Equity, Market Capitalization, Growth and Profitability The t-test results applied on them directed that while the values with regard to P/B value ratio and Profitability were significant at 1% level of significance the value of Return on Equity was significant at 5% level of significance.
The results thus suggested that Retrun on Assets, Risk, P/B value ratio, Profitability and Return on Equity have a significant role as determinants with regard to the dividends disbursed by the Public sector banks. Hence, indicating that the hypothesis H6, H7, H5, H2 and H4 are rejected.

Table 6: Multivariate fixed effect regression model for determinants of dividend payout

Independent Variable	Slope	t-stat (p-value)	F-stat (p-value)	R^2
C	27.624	1.1255 (0.211)	89.773 (0.000)*	0.900
Firm Size	-0.275	-0.131 (0.896)		
Profitability	0.026	20.598 (0.000)*		
Market Capitalization	0.480	0.364 (0.716)		
Return on Equity	0.790	2.146 (0.033)**		
P/B value ratio	21.676	4.347 (0.000)*		
Return on Assets	-4274.962	-5.590 (0.000)*		
Risk	-2.055	-5.923 (0.000)*		
Growth	0.321	2.926 (0.004)**		

*Significant values at 1% level of significance. ** Significant values at 5% level of significance.
Source: Author's own construction

CONCLUSION:

The study examined eight factors for their influence on the dividends paid by nineteen Public sector banks in a period from March 2003 to March 2017. It was found that all the eight factors considered in the study had a significant influence over the dividends paid by the banks considered. Further the study found that with regard to the individual influence of these factors on the dividends paid by the banks it was found that Profitability and P/B value ratio both had a significant positive relation whereas Risk had a significant negative relationship with the dividends paid by these banks. The study effectively provided evidence that P/B value ratio and Market Capitalization had a high positive impact over the Dividends paid by the Public sector banks.

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ANNEXURE I

List of Public Sector Banks considered in the Study

S.No.	Name of the Bank	S.No.	Name of the Bank
1.	Allahabad Bank	11.	IDBI Bank
2.	Andhra Bank	12.	Indian Bank
3.	Bank of Baroda	13.	Oriental Bank
4.	Bank of India	14.	Punjab National Bank
5.	Bank of Maharashtra	15.	State Bank of India
6.	Canara Bank	16.	Syndicate Bank
7.	Central Bank	17.	UCO Bank
8.	Corporation Bank	18.	Union Bank (I)
9.	Dena Bank	19.	Vijaya Bank
10.	I O B		
