A study on Determinants of Dividend Policy of Indian Public & Private Sector Banks

Sunil Kumar

Assistant Professor, Faculty of Commerce and Management, SGT University, Gurugram

Sharad Mittal

Research Scholar, Faculty of Commerce and Management, SGT University, Gurugram

Aanchal Nigam

Assistant Professor, Faculty of Management, School of Management Sciences, Lucknow

ABSTRACT:

In this research study, the author compared the relationship between the dividend policy of Indian public and private sector banks from the shareholder's point of view. The shareholders are free to invest in any sector. There is no legal constraint on them to invest only in public sector banks. They are absolutely free to invest their money wherever they want. The author examined whether it is beneficial for the shareholders to invest either in public sector banks or in the private sector banks. This study analyzes 25 public sector and 11 private sector banks. So the total number of banks in the research study is 36. The analysis in the research study is performed on the data from the financial year 2002 – 2003 to financial year 2014 – 2015. In this research, the author has employed the data of the first difference, i.e. non-stationary data. For data analysis, the author used descriptive statistics, correlation and panel data regression methods. The evidence from this research shows that in private sector banks there is more relationship between the shareholder's wealth and the dividend policy than in the public sector banks. By considering the 4 independent variables used in the research study, the adjusted R^2 value of private sector banks is more than the public banks with respect to the dependent variable, which shows more relation between the shareholder's wealth and the dividend policy in private sector banks than the public sector banks.

Key words: *Dividend policy, Public Sector Banks and Private sector banks.*

1. INTRODUCTION:

Dividend policy is still one of the most important financial policy not only for the company, but also for the shareholders, consumers, employees, regulatory bodies and the Government. According to Ali, Khan, & Ramirez (1993), it is like a centre point of decision making process and rest of the financial policies rotate around it. What percentage of dividend should be declared for distribution among shareholders of the company? This question is based on an argument to the different companies. Specifically, all those factors which are affecting dividend distribution decision are a most important argument among the companies. To find out the correct answers for all those factors which affect the dividend distribution decision many academics and practitioners developed number of theories, in support of dividend decision which were based on empirical test. Therefore to provide clear and accurate guidance the academic literature has been very helpful on practical issues and for the same reason literature review sector is being carried out, which consists of valid and authentic

books and journals concerning past studies on dividend policy.

Dividend Policy

Dividend Policy is one of the most complex aspect in finance. Three decades ago, Black Fischer (1976) wrote, "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together". Brealey and Myers (2002) have enlisted dividend policy as one of the top ten puzzles in finance.

"Dividend policy is the determination of the proportion of profits paid out to shareholders – usually periodically" (Arnold, 2005). and it's the Board of Directors who set the dividend policy of the business (Brealey & Myers, 2003). It is also the part of the dividend policy of a corporation to decide whether to pay direct cash dividend to its shareholder and if so, then how much to pay and how often (i.e. monthly, quarterly, semi-annually or annually) to pay or increase the shareholder's wealth by purchasing the shares from the market i.e. by increasing the price of the shares in market (Canina, Advani, Greenman, & Palimeri, 2001). The common stock shareholder bears more risk than the bondholders as the bondholders receive fixed income irrespective of the operations and profits of the business and the common stockholder has no promise for any payments in future (Emery, Finnerty & Stowe, 2007). "Shareholder's wealth is the discounted value of after-tax cash flows paid out to the firm. After-tax, cash flows available for consumptions can be shown to be the same as the stream of dividends, paid to shareholders" (Copeland, Weston, & Shastri, 2005). It is because stock dividend distributions are good substitution of low cash dividends. It seems that firms want to keep going on good percentage of earnings and

satisfaction of shareholders, they issue stock dividends. In present scenario officials of firms strongly agree that stock dividends have a positive psychological impact on investors receiving them. Stock split is another feature of dividend policy. Practitioners have agreed that the purpose of stock split is the way to bring firm's share price into an "Optimal trading range." Specifically, small investors of small means are presumably penalized by high stock prices that deny them the economies of buying stock in round lots. Thus, stock split is the popular practice of developed capital market. Share repurchase is another form of dividend.

Theoretical Underpinnings

In this study net earnings (NE), net worth (NW), earning per share (EPS), dividend per share (DPS), book value per share (BVPS), market value per share (MVPS), earning ratio, dividend yield ratio (DYR) as independent variables, and dividend payout ratio is used as dependent variable. In this context a rich literature review is part of this chapter.

Firm's financial policy is positively related with dividend policy, because dividend policy is part of financial policy. If there is a slight change in dividend policy it will significantly change in financial policy of firms. Many studies of the literature and models in relation to dividend policy reveal a range of different thoughts in effort to explain why firms are performing such changes—why some firms are reducing dividend payment while others are omitting them. Previous studies, suggest many diversified potential answers. For this purpose, the statistical techniques of regression analysis, simulations, and prediction tests were used. The study concluded that net income seems to provide a better measure of dividend than either

cash flow or net income and depreciation included as separate variable in the model.

In order to find variables that closely associate (positive or negative) with dividend trend in firms, Smith and Watts (1992) found in their study that size of the firm has positive effect on dividend yield. Cash flow is another important determinant of dividend because it was related with net earnings, as per Mahapatra and Sahu (1993). Managers perceive current earnings as the most significant factor in determinant of dividend payment. It was the result of survey which was undertaken by Bhat and Pandey (1994). Another study by Tuli and Mittal (2001) used 101 Indian firms and found price earnings ratio is significantly influenced by variability of market price and dividend payout ratio. Gonzalez (2003) found in his research theoretical model that liquidity position of stock market is negatively correlated with dividend payment.

Many researchers also found that change in liabilities is positively associated with dividend payment but not significantly. Changes in total assets are also positively associated with dividend payment but significantly. It means that firms that are performing well and potentially growing are in the position of paying dividend. Corporate earning and losses have positive and negative relationship with dividend payment. Earning plays an important role to pay dividend. It is main determinant to pay dividend, while losses are responsible for reduction and omissions in dividend payment, as per Anglo et al. (2004).

Amidu and Abor (2006), analyzed in their research study; the deciding factors of dividend payout ratios of listed companies in Ghana. The explanations are performed during six-year period derived from the financial statements of

firms listed on the GSE. Ordinary Least Squares model is used to estimate the regression equation. Key findings of the study were that there is a positive relationship between dividend payout and profitability, cash flow, and tax. The results recommend that, profitable firms tend to pay high dividend. A good liquidity position increases a firm's capacity to pay dividend. The results also show negative relations between dividend payout and risk, institutional shareholding, growth and market-to-book value. Firms experiencing earning volatility find it difficult to pay dividend, such firms would therefore pay less or no dividend.

Muhammad (2012) in his work "28 impacts of Financial leverage on dividend policy" found in his study that increase in the earning per share reflect that the companies have a good amount for distribution as dividend among the shareholders. He tested empirically in his research paper that dividend per share is positively impacted by dividend yield. If one unit changes in dividend yields, it will positively impact by 2.69 units in the dividend per share. The conclusion of their study is that the high debt ratio is the reason of low profitability which leads to decrease the dividend per share. Dividend yield and earnings per share is positively associated with the dividend per share. Kumaresan and Sinthuja (2014), according to her study, there is a significant impact of dividend policy on shareholders' wealth. She found in her study that return on equity, dividend payout ratio, and dividend per share are positively correlated with shareholders wealth, But, retention ratio is negatively correlated. Sajid (2012) examined in his study "The Relationship between Dividend Policy and Shareholder's Wealth"the shareholder's wealth as dependent variable which is explained by market price per share while explanatory variable dividend policy

is measured by dividend per share. They used in their study few more explanatory variables like Lagged Price earnings ratio, Retained Earnings and Lagged Market Value of equity. They found that the difference in average market value (AMV) comparative to book value of equity (BVE) is extremely significant between those companies which are dividend paying and non-paying companies. Retained earnings have insignificant influence on market value of shares. There is significant influence of dividend policy on wealth of shareholder's, as far as the dividend paying companies are concerned. Lagged Price earnings ratio did not appear to have any significant influence on dependent variable, whereas lagged market value of equity has a significant impact on market price per share.

2. RESEARCH OBJECTIVES:

- To find the differences of the dividend policies of Indian public and private sector banks.

- To compare the attractiveness of the dividend policies of the Indian Public Sector and Private Sector banks among the shareholders.

3. RESEARCH HYPOTHESES:

The hypothesis for this research study is to find-

Ho = There is a difference between the dividend policies of Indian Public Sector and Private Sector banks.

4.RESEARCH METHODOLOGY

Descriptive research design and panel data regression is employed in the research. The primary aim of this study is to investigate the impact of EPS, BVPS, MVPS & DYR on DPR

of Indian Public & Private sector banks and our study is to examine the implications, i.e., distribution of cash dividend will decrease the cash in hand position of the company while stock dividend distribution to stockholders will increase the valuation of the shares. The dividend policies can be checked for any significant differences between the public sector banks and private sector banks.

Our study focuses exclusively on 25 Indian public sector banks and 11 private sector banks. The data has been collected from companies' annual reports. All banks data was available for a 13 years' period, covering the accounting period 2002 – 2003 to 2014 – 2015. Each individual (i) is observed in all time periods (t). This is a so-called balanced panel.

Explanatory variables

The efficiency ratios, namely **EPS**, **BVPS**, **MVPS** and **DYR** have been computed, using the formulas as follows:

- **Earnings per share (EPS) = (Profits after tax – Preference dividend)/Number of shares outstanding**

- **Dividend payout ratio (DPR) = Dividend per share/Earnings per share**

- **Return on Assets = (Net Income + Interest Expense, Net of Tax)/ Average Total Assets**

Control variables

In order to account for firm's size and the other variables that may influence dividend so we use ln size (the natural logarithm of size), Net Worth, Return OnAsset and Earning Ratioare included as control variables in the regressions.

Regression Analysis

To investigate the impact of EPS on dividend, the model used for the regressions analysis is expressed in the general form as given in *equation 1* and the variable *EPS* will be replaced in turn by the other explanatory variables: BVPS; MVPS and DYR.

$$DPR_{it} = \beta_0 + \beta_1 NW_{it} + \beta_2 ROA_{it} + \beta_3 LNSIZE_{it} + \beta_4 ER_{it} + \beta_5 EPS_{it} + u_{it}$$

$$DPR = f (NW, ROA, LNSIZE, ER, EPS) \quad \textbf{\textit{Equation (1)}}$$

[Model 1]

$$DPR_{it} = \beta_0 + \beta_1 NW_{it} + \beta_2 ROA_{it} + \beta_3 LNSIZE_{it} + \beta_4 ER_{it} + \beta_5 BVPS_{it} + u_{it}$$

[Model 2]

$$DPR_{it} = \beta_0 + \beta_1 NW_{it} + \beta_2 ROA_{it} + \beta_3 LNSIZE_{it} + \beta_4 ER_{it} + \beta_5 MVPS_{it} + u_{it}$$

[Model 3]

$$DPR_{it} = \beta_0 + \beta_1 NW_{it} + \beta_2 ROA_{it} + \beta_3 LNSIZE_{it} + \beta_4 ER_{it} + \beta_5 DYR_{it} + u_{it}$$

[Model 4]

The model specifies above is estimated using the regression-based framework (Fixed Effects and Pooled OLS). Our model differs, first by using DPR as a comprehensive measure of dividend and the model includes NW, ROA, SIZE and ER as control variables. For processing of the data MS Excel, Gretl & R has been used at different places.

Correlation Analysis (Private Sector Banks)

Correlation matrix of all variables included in the analysis is presented in Table 1 which is calculated based on data of 468 observation sample. The table shows that dividend payout ratio is positively associated with Net worth, Bookvalue per share, Market value per share, and Return on Assets and dividend payout ratio is negatively associated with Earnings per share, Size, Retained earnings, and Dividend yield ratio. Consolidated result in Table 1 suggest that there is a low degree of positive correlation between Net worth and Earning per share, Book value per share, Dividend per share,

Table 1: Pearson Correlation (Private Sector Banks)

	NW	EPS	BVPS	DPR	ER	MVPS	DYR	lnsize	ROA
NW	1	0.100315	0.299588	0.038094	0.009497	0.220868	-0.06509	0.338197	0.193517
EPS		1	0.911954	-0.02709	0.059789	0.224359	-0.03555	-0.18357	0.941178
BVPS			1	-0.01112	0.067139	0.300281	-0.04285	-0.1255	0.955232
DPR				1	-0.03907	0.253135	-0.01194	0.122347	0.004042
ER					1	-0.19929	0.040262	-0.02624	0.060751
MVPS						1	-0.13397	0.360588	0.310633
DYR							1	-0.32344	-0.05048
lnsize								1	-0.13907
ROA									1

Table 2: Pearson Correlation (Public Sector Banks)

	NW	EPS	BVPS	DPR	ER	MVPS	DYR	lnsize	ROA
NW	1	0.189609	0.344321	0.183407	-0.23747	0.586722	-0.17409	0.640525	0.343531
EPS		1	0.941339	-0.02859	-0.14932	0.176202	0.226732	0.039346	0.941119
BVPS			1	0.068722	-0.20573	0.259932	0.158936	0.111518	0.99995
DPR				1	-0.80967	0.172074	-0.04906	-1.40E-05	0.06889
ER					1	-0.24795	-0.02289	-0.06151	-0.20438
MVPS						1	-0.26919	0.635649	0.259645
DYR							1	-0.56543	0.158248
lNSALE								1	0.11185
ROA									1

Table 2 shows the correlation of Indian Public sector banks. Result shows that low degree of correlation between Net worth and Earning per share is (0.1003), Net worth and Book value per share is (0.2995), Net worth and Earning retained is (0.0094), Net worth and Market value per share is (0.2208), Net worth and Dividend yield ratio is (-0.0650), Net worth and Size is (0.3381), Net worth and Return on assets is (0.1935), Earning per share and Earning retained is (0.0597), Earning per share and Market value per share is (0.2243), Earning per share and Dividend yield ratio is (-0.0355), Earning per share and Size is (0.3381), Earning per share and Return on assets is (0.1935), Book value per share and Earning retained is (0.0671), Book value per share and Market value per share is (0.3002), Book value per share and Dividend yield ratio is (-0.0428), Book value per share and Size is (-0.1255), Earning retained and Market value per share is (-0.1992), Earning retained and dividend yield ratio is (0.0402), Earning retained and Size is (-0.0262), Earning retained and Return on assets is (0.0607), Market value per share and Dividend yield ratio is (-0.1339), Market value per share and Size is (0.3605), Market value per share and Return on assets is (0.3106), Dividend yield ratio and Size is (-0.3234), Dividend yield ratio and Return on assets is (-0.0504), Size and Return on assets is (-0.1390).

Table 3: Pearson Correlation (Indian Banking Sector)								
	NW	EPS	BVPS	DPR	ER	MVPS	DYR	lnsize	ROA
NW	1	0.106349	0.290523	0.041926	-0.03153	0.358928	-0.05865	0.432896	0.203086
EPS		1	0.914232	-0.02471	0.033055	0.148799	-0.0261	-0.08683	0.94144
BVPS			1	-0.00703	0.03585	0.211587	-0.03433	-0.03959	0.958109
DPR				1	-0.06667	0.158328	-0.00977	0.082169	0.008177
ER					1	-0.14954	0.027265	-0.05747	0.027059
MVPS						1	-0.10158	0.463564	0.211724
DYR							1	-0.19698	-0.03946
lSIZE								1	-0.04204
ROA									1

The result suggest that there is a low degree of correlation between Net worth and Earning per share is (0.106), Net worth and Book value per share is (0.290), Net worth and Dividend payout ratio is (0.041), Net worth and Earning per share is (0.031), Net worth and Dividend yield ratio is (-0.058), Net worth and Return on assets is (0.203), Earning per share and Dividend payout ratio is (-0.024), Earning per share and Retained earnings is (0.033), Earning per share and Dividend yield ratio is (-0.026), Earning per share and Size is (-0.086), Book value per share and Dividend payout ratio is (-0.007), Book value per share and Retained earnings is (0.035), Book value per share and Size is (-0.039). Dividend payout ratio and Retained earnings is (-0.0666), Dividend payout ratio and Market value per share (0.1583), Dividend payout ratio and Dividend yield ratio is (-0.0097), Dividend payout ratio and Size is (0.0821), Dividend payout ratio and Return on assets is (0.0081)

However, care must be exercised while interpreting the Pearson Correlation coefficients because they cannot provide a reliable indicator of association in a manner which controls for additional explanatory variables. Examining simple bivariate correlation in a conventional matrix does not take account of each variable's correlation with *all* other explanatory variables. Our main analysis will be derived from appropriate multivariate models, estimated using fixed effects framework.

Regression Analysis

Table 4 gives the results of Indian Private Banking Sector (regressions 1 to 4), Indian Public Sector Banks (regression 5 to 8) and Indian Banking Sector (regressions 9 to 12).

A classical test for panel data is one of **Fixed Effects Model** (FEM) versus **Random Effects Model** (REM). In the REM, it is assumed that there is a single common intercept term, but that the intercepts for individual firms vary from this common intercept in a random manner. To determine which of these estimators are more appropriate to use, both a fixed effects and a random effects estimator was used to estimate the coefficients in models 1 to 12. The Hausman test, which is a test for the null hypothesis of no correlation, rejects this null hypothesis and so the decision is taken to employ a fixed effects framework.

The first part of Table 1 represents the results of Indian Private Banking Sector (regression 1 to 4), applying a fixed effects methodology, where the intercept term is allowed to vary

across firms except regression 1. It is immediately obvious from the R-squared values that the use of a firm specific intercept improves the explanatory power of these models. In Indian Banking Sector (Regression 9), the R-squared explain 55.88% of the variation in dividend payout of Indian Private sector Banks explanatory power increases to 89.80%.

While the coefficient of Earnings per share variable is negative in regression 1, it has the expected sign in the regression 5 and 9, but the coefficient is significantly different from zero. The coefficients of the other variables included in the model are significant, except for Net Worth and Size. The Banks dividend as measured by dividend payout ratio increases with firms' size, dividend efficiency. Indian Banks to the traditional theory of dividend, where a conservative policy is expected to sacrifice the dividend. But, however, the results are significantly different from zero (p-values ranges from 0.02 to 0.05). This is commonly observed that Indian private sector banks are more focused on dividend polices in comparison to Indian public sector banks.

In regression 2, 6 and 10, a highly significant relationship is found between Book Value Per Share and dividend payout (p-value = 0.02), and it is negatively associated, which implies that a decrease in the amount of dividend by 1, Rs. 1 is associated with a increase in dividend by 28%, 0.63% and 0.59% respectively. The coefficient for market value per share is positive in regression 3 and 11 but the negative correlation in regression 7 between dividend payout and the market value per share. In regression 3 and 7, are not significant relation is found between Market Value per Share and dividend payout. In regression 11, a significant relation is found between Market Value Per Share and dividend payout (p-value = 0.02), and it is positively associated, which implies that

the coefficient for market value per share is positive in regression 3 and 11 but there is negative correlation in regression 7 between dividend payout and the market value per share. In regression 8 and 12, no significant relation is found between dividend yield and dividend payout. In regression 4, a significant relation is found between dividend yield and dividend payout (p-value = 0.02),

It is interesting to note that the adjusted R^2 s of the Indian public sector banks regressions is lower than the R^2 s Indian private sector banks regressions. Thus, the regression model explains much higher proportion of the variations in dividend payout within private sector banks and public sector banks.

5. CONCLUSION

From the results of the research, it is clear that the dividend payout ratio of the private sector banks have more impact on shareholder's wealth than in the Indian public sector banks. So from the shareholder's point of view while investing in public sector banks, it is compulsory for the shareholders to observe the trends of the dividend payout ratio of public sector banks.

Therefore, the hypothesis has proved through this research study that there is a difference between the dividend policies of both Indian public and private banks. From the shareholder's point of view, it is important to consider the net margin in depth while investing in public sector banks because in public sector banks there is more regression between the shareholder's wealth and the net margin than in the Private sector banks. In the end, the multiple regression equation of public sector banks has more value of adjusted R^2 than the private sector banks. So by considering these four uncontrolled independent variables (Earning per share, Book value per share, Market value per

share and Dividend Yield Ratio) this multiple regression equation shows that there is more relationship between the dividend policy and the shareholder's wealth in public sector banks than the private sector banks.

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Table 4: Panel Data Regression of Indian Banking Sector

Fixed effect model table

Variable	Indian Private Sector Banks				Indian Public Sector Banks				Indian Banking Sector			
	1	2	3	4	5	6	7	8	9	10	11	12
CONSTANT	88.1308	90.728	90.7799	93.9111	14.614	26.471	17.6103	15.1035	18.7847	25.172	26.6855	22.7228
	(0.000***)	(0.000***)	(0.000***)	(0.000***)	(0.056*)	(0.000***)	(0.016**)	(0.061*)	(0.000***)	(0.000***)	(0.000***)	(0.000***)
NW	?0.0000314	0.0000098	0.00000814	0.0000021	?0.000077	?0.0000121	?0.0000187	?0.00006241	?0.0000643	?0.0000104	?0.0000153	?0.0000311
	-0.805	-0.432	-0.578	-0.161	(0.000***)	-0.653	-0.252	(0.000***)	(0.000***)	-0.96	-0.186	(0.045**)
ROA	0.00653	0.28117	?0.001309	?0.00106	0.003296	0.003925	0.00033	?0.00107	0.009126	0.0042517	?0.000409	?0.0006586
	(0.005***)	(0.027**)	-0.103	-0.158	-0.185	(0.079*)	-0.78	-0.146	(0.005***)	(0.044**)	-0.58	-0.244
SIZE	?0.09634	?0.133408	?0.16095	?02914	0.597369	0.09537	0.38201	0.61371	0.76369	0.526073	0.278295	0.672769
	-0.311	-0.163	-0.162	(0.024**)	(0.053*)	-0.773	-0.207	-0.058	(0.000***)	(0.000***)	(0.072*)	(0.000***)
ER	?0.81495	?0.840707	?0.83105	?0.83041	?0.095928	?0.10079	?0.08605	?0.10925	?0.20142	?0.212161	?0.169141	?0.224237
	(0.000***)	(.0000 ****)	(.0000 ****)	(.0000 ****)	(0.000***)	(.0000 ****)	(.0000 ****)	(.0000 ****)	(0.000 ****)	(.0000 ****)	(.0000 ****)	(.0000 ***)
EPS	?0.04739				?0.026302				?0.05717			
	(0.000***)				(0.056*)				(0.000***)			
BVPS		?0.282046				?0.006396				?0.0059812		
		(0.026**)				(0.000***)				(0.000***)		
MVPS			0.000298				?0.000476				0.0049142	
			-0.569				-0.931				(0.034**)	
DYR				?2.1194				0.009013				0.0173993
				(0.053**)				-0.928				-0.641
R²	0.898	0.8845	0.8761	0.88025	0.33	0.35	0.28	0.26	0.5588	0.5041	0.4215	0.4992