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RESEARCH ARTICLE

IMPACT OF DIVIDEND AND EARNINGS ON STOCK PRICE.

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Abstract

The study assessed the effects of dividend and earnings on stock price behaviour in Indian banking sector. Banking sector-specific study on the subject remains underrepresented in spite of the importance of the sector in the nation's financial system. The sample period spans from 2008 to 2018 and comprises of annual stock prices, dividend and earnings per share of 20 banking companies. The pooled least square model, fixed effect model, random effect model and Hausman test were employed. The study found that Dividend per share and Earning per share have a significant positive effect on the stock prices It implied that regular dividend payment is a significant factor that enhances shareholders wealth in banking firms. Based on the findings of the study, bank management should be favorably dispose to payment of dividend to the shareholders because of its impact on the maximization of wealth which is the most important objective of the firm.

Introduction:-

Variable Study
Independent Variables:
Earnings per Share

$$\text{EPS} = \frac{\text{Net Income-Preference Dividend}}{\text{No. of Outstanding Equity Shares}}$$

Higher earnings per share are always better than a lower ratio because this means the company is more profitable and the company has more profits to distribute to its shareholders. A higher EPS means that a company is profitable enough to pay out more money to its shareholders. Investors typically compare the EPS of two companies within the same industry to get a sense of how the company is performing relative to its peers. Establishing trends in EPS growth gives a better idea of how profitable a company has been in the past and may be in the future. A company with a steadily increasing EPS is considered to be a more reliable investment than one who's EPS is on the decline or varies substantially. Some companies reinvest their profits to grow the business. However, investors still look to EPS decide whether the company is profitable or not. However EPS does not influence the investor's decision drastically as there are many other factors which also influence whether an investor should invest in any company or not.

Dividend per Share

$$\text{DPS} = \frac{\text{Total Dividends Paid}}{\text{Shares Outstanding}}$$

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The part of income of the company which is distributed to the shareholders of the company is known as Dividend. When this dividend income is divided by total number of shares we get Dividend per share. Many investors enjoy receiving dividends and view them as a regular source of income. Therefore, these investors are more attracted to dividend-paying companies. Paying a dividend to shareholders may be a signaling method by the company. Dividend payments are typically associated with a strong company with positive expectations about its future earnings. This makes the stock more attractive and may increase the market value of the company's stock. However declining dividend does not always mean that the company is not financially stable. It implies that the company may be investing its earnings in a more profitable venture which could help company grow in future and thus increasing the shareholder's wealth.

Dependent Variable
Stock Return

$$SR = \left(\frac{P_1 - P_0}{P_0}\right)_x 100$$

Where P_1=Price at the end of the year

P_0= Price at the beginning of the year

A share price is the price of a single share of a number of saleable stocks of a company, derivative or other financial asset. In layman's terms, the stock price is the highest amount someone is willing to pay for the stock**,** or the lowest amount that it can be bought for. Stock prices change every day by market forces. By this we mean that share prices change because of supply and demand. When a stock price falls then the company must sell more shares of stock to raise the same amount of proceeds. If the stock price falls too much then the company may need to borrow money to raise funds to expand their business. This is because they see a link between a company's earnings and its share price.

Review of Literature

Akhtar,Sohail and Haroon(2017) investigated relationship between stock prices and macro economic variables in Pakistan.Monthly data was collected from January 2001 to May 2012.Johansen Cointegration test, Vector error correction model was used to study association among variables.Exports,Exchange rate and money supply showed a positive relationship with stock prices while inflation and discount rate negatively affect share prices.

Priyanka Aggarwal and Najia Saqib(2017) studied the impact of changes in selected macro-economic variables on Indian stock market. The data was collected from 2001-2016 on monthly basis.To estimate this relationship Multivariate regression model computed on standard linear square method have been used. Based on regression it was found that index is affected by US GDP, S and P index, Gold prices, Indian Whole sale price index, Fiscal deficit and Exchange Rate.

Silvio John Camilleri(2018) Investigate the relationship between the share price volatility of Mediterranean banks and their dividend policies. They used dividend payout and dividend yield and regressed these ratios with other variables and it was concluded that dividend is one of the factors which affect the stock prices.

Pradhan & Dahal(2018) examined the factors which affect the share price of Nepalese commercial bank. The multiple regression models were used to test impact of company specific and macro-economic variables on share price of banks. The data of 14 banks was selected. The variable firm size and GDP was found to be the most important factor which affected the share prices which means larger the firm size, higher would be the EPS.

Research Method:-

Data Collection

Secondary data were employed in this study. They were obtained from Bombay Stock Exchange and Bank's annual financial statements. Data used in the study include annual stock prices being the dependent variable and dividend per share (DPS) and the earnings per share (EPS). The data covered a period of Ten years (2002-2018) subject to the availability of data. Twenty banks were selected, which includes Ten Public sector Banks and Ten Public Sector Banks on the basis of market Capitalization during the sample period were selected for the study. They include State Bank of India, Bank Of Baroda, Punjab National Bank, Canara Bank, Bank Of India, Central Bank of India, Indian Bank, IDBI bank, Union Bank of India, Oriental Bank Of Commerce, HDFC Bank Ltd, ICICI Bank Ltd, Kotak Mahindra Bank Ltd, Axis Bank Ltd, Indusind Bank Ltd, Yes Bank Ltd, Federal Bank Ltd, City Bank Ltd, DCB Bank Ltd, Karur Vysya Bank Ltd.

Model Specification and Estimation Technique

The Panel data regression technique was used to estimate the effect of dividend payment on share price behaviour of banks. Three different estimations, namely pooled least square, fixed effect and the random effect were carried out. Hausman test was carried out to determine the best estimation. The statistical significance of the estimated parameter and models were determined using F-statistics and T-statistics. The current study used share prices as dependent and dividend and earnings per share as explanatory variables. The models employed in this study were presented as follows:

Pooled Least Square (PLS) Method

Pooled data is a mixture of time series data and cross-section data

$(SR_{it}) = \alpha_{i_t} + \beta_1(EPS_{it}) + \beta_2 (DPS_{it})$

Fixed Effect Model (FEM)

Panel data regression is considered to be superior to pure time series or cross section. A fixed effect model is estimated so as to take the peculiarity of every bank into consideration because pooled OLS failed to distinguish between various banks in the model. As in the pooled OLS, FEM also assumes that slope coefficients do not vary across banks but intercept differs across individuals. The major assumption, therefore, is that while the intercepts are cross-sectional variant, they are time invariant, which informed the inclusion of subscript i in equation 3

$(SR_{it}) = \alpha_{i_t} + \beta_1(EPS_{it}) + \beta_2 (DPS_{it})$

Random Effect Model (REM)

An alternative approach; random effects regression model is applicable where the variables of interest are constant for each firm and such variables cannot be included. REM assumes that since the individual banks are pooled from larger population, they tend to have the same mean. Thus such omitted variables, captured by αi in FEM can be divided into mean α and variation from mean i (Gujarati, 2013). i is added to the existing error term (£it) to form μi.

$(SR_{it}) = \alpha_{i_t} + \beta_1(EPS_{it}) + \beta_2 (DPS_{it})$

Results and Findings:-

Descriptive Analysis

Table1:-Descriptive Statistics

	SR	**EPS**	**DPS**
Mean	7.333023	17.04075	1.6656
Median	6.548604	12.04	1.435
Maximum	163.8572	86.64	6.64
Minimum	-150.584	0	0
Std. Dev.	47.31003	16.5871	1.455738
Skewness	0.24296	1.415456	0.950468
Kurtosis	4.103788	4.895625	3.700969
Jarque-Bera	12.12056	96.72878	34.20765
Probability	0.002334	0	0
Sum	1466.605	3408.15	333.12
Sum Sq. Dev.	445409.5	54751.24	421.7157

The results of the descriptive analyses of data employed in the study were presented in table 1. SR, EPS and DPS averaged 7.33, 17.04 and 1.6 and varied from a minimum of -150.58 ,0 and 0 to a maximum of 163.85,86.64 and 6.64 respectively. DPS has the lowest mean and EPS has the highest mean value. DPS has the lowest standard deviation of 1.45 while SR has the highest standard deviation value of 47.31. From the table SR, EPS and DPS have positive skewness or long left tail. SR, EPS and DPS have Kurtosis greater than three (3), hence they are peaked or leptokurtic. The table also shows that all the variables do not follow normal distribution as probability value of Jarque-Bera test statistic lower than 5%.

Collinearity

Table 2:-Pearson Correlation Matrix

	SR	EPS	DPS
SR	1		

EPS	0.102923	1	
DYR	-0.23411	0.329206	1

The correlation between regressors, using the Pearson Matrix is presented in table 2. The table 2 indicates that the correlations between all the independent variables are positive. The correlation between EPS and DPS is 0.329206 which means that the multicollinearity which could be a potential problem which does not exist as the correlation between two independent variables is less than 70%.

Model Estimation Results

Table3:-Pooled Least Square Result

Dependent Variable: SR				
Method: Panel Least Squares				
Sample: 2009 2018				
Periods included: 10				
Cross-sections included: 20				
Total panel (balanced) observations: 200				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.79103	5.356846	2.574468	0.0108
EPS	0.575779	0.205167	2.806397	0.0055
DPS	-9.768082	2.337728	-4.178450	0.0000
R-squared	0.091142	Mean dependent var		7.333023
Adjusted R-squared	0.081915	S.D. dependent var		47.31003
S.E. of regression	45.33093	Akaike info criterion		10.48074
Sum squared resid	404814.0	Schwarz criterion		10.53022
Log likelihood	-1045.074	Hannan-Quinn criter.		10.50076
F-statistic	9.877775	Durbin-Watson stat		2.368088
Prob(F-statistic)	0.000082			

While analyzing the Table 3 of Pooled OLS regression it was concluded that both variables affect the stock returns as p-value is less than 0.05.

Model is fit although the R-Squared is 9% and its P-value is less than 0.05% and value of F-statistic= 9.877.It means that variables EPS and DPS explain 9% of the changes in Stock returns (SR). The value of Durbin Watson Statistics comes out to be 2.36.

Table 4:-Fixed Effect Result

Dependent Variable: SR				
Method: Panel Least Squares				
Sample: 2009 2018				
Periods included: 10				
Cross-sections included: 20				
Total panel (balanced) observations: 200				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.650580	6.206888	1.393706	0.1651
EPS	1.253602	0.288462	4.345808	0.0000
DPS	-13.61664	2.884456	-4.720695	0.0000
	Effects Specification			

Cross-section fixed (dummy variables)				
R-squared	0.184966	Mean dependent var		7.333023
Adjusted R-squared	0.088810	S.D. dependent var		47.31003
S.E. of regression	45.16039	Akaike info criterion		10.56178
Sum squared resid	363024.0	Schwarz criterion		10.92460
Log likelihood	-1034.178	Hannan-Quinn criter.		10.70861
F-statistic	1.923607	Durbin-Watson stat		2.431656
Prob(F-statistic)	0.011898			

While analyzing the Table 4 of Fixed Effect Method it was concluded that both variables affect the stock returns as p-value is less than 0.05.

Model is fit although the R-Squared is 18% and its P-value is less than 0.05% and value of F-statistic= 1.92.It means that variables EPS and DPS explain 18% of the changes in Stock Returns (SR). The value of Durbin Watson Statistics comes out to be 2.43.

Table5:-Random Effect Result

Dependent Variable: SR				
Method: Panel EGLS (Period random effects)				
Sample: 2009 2018				
Periods included: 10				
Cross-sections included: 20				
Total panel (balanced) observations: 200				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.024703	12.09786	0.745975	0.4566
EPS	0.242576	0.118707	2.043486	0.0423
DPS	-3.497457	1.688991	-2.070738	0.0397
	Effects Specification			
			S.D.	Rho
Period random			36.75178	0.6763
Idiosyncratic random			25.42780	0.3237
	Weighted Statistics			
R-squared	0.030632	Mean dependent var		1.121146
Adjusted R-squared	0.020791	S.D. dependent var		25.81623
S.E. of regression	25.54645	Sum squared resid		128566.4
F-statistic	3.112628	Durbin-Watson stat		2.015772
Prob(F-statistic)	0.046679			
	Unweighted Statistics			
R-squared	0.055107	Mean dependent var		7.333023
Sum squared resid	420864.5	Durbin-Watson stat		2.498936

While analyzing the Table 5 of Random Effect regression it was concluded that both variables affect the stock returns as p-value is less than 0.05.

Model is fit although the R-Squared is 3% and its P-value is less than 0.05% and value of F-statistic= 3.112.It means that variables EPS and DPS explain 3% of the changes in Stock Returns (SR). The value of Durbin Watson Statistics comes out to be 2.49.

Table 6:-Hausman Test

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test period random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random		3.842844	2	0.1464
Period random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
EPS	0.232710	0.242576	0.000026	0.0537
DYR	-3.248569	-3.497457	0.046068	0.2462

The study proceeds to Hausman test in order to determine which of the random effects, pooled OLS and fixed effect gives the best estimation. The outcome of the test is presented in table 6. It can be seen from the table that p-value of Chi-Square Statistic is 0.1464 which is greater than 5%. Therefore the study concludes that the assumptions for the random effects estimation are not violated and the random effect estimation is the most efficient to use in this case.

Conclusion:-

The study assessed the effect of dividend and earnings on stock price behaviour in Indian Banking Sector. The findings of the study reveal that dividend per share has a significant negative effect on the stock prices of commercial banks. This implies that bank's stock prices decrease in the market with dividend payment policy. While increasing EPS has a positive impact which means that as EPS increases, Stock Prices also increases.

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