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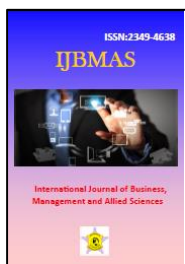
### Identify the determinants of Dividend Pay-out Ratio of FMCG Sector in India- A case study

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#### ABSTRACT

The dividend policy is traditionally one of the most contradictory aspects of the activity which always caused much dispute among shareholders. Investors acquire shares in many respects for the sake of receipt of dividends that is payments from profit according to their share in the capital of the company. The dividend is not paid if a company is in such a condition of bankruptcy. We have chosen to determine of Dividend Pay-out ratio and the relationship between the dividend payout ratio and current ratio, free cash flow, growth, leverage, ROCE, EPS, risk, size, tax, age. The result of the Hausman test shows that the **Random effects model** should be appropriate for the data analysis. The result of regression analysis using the Random effects model to examine the effect of the Independent variables such as Current Ratio (CR), Size (SIZE), Earning Per Share (EPS), Free Cash Flows (FCF) and Dividend Distribution Tax (DDT) on the Dependent variable of Dividend Payout Ratio (DPR) of FMCG sector of India listed in the stock exchange of India. I have decided to limit the research to these nine factors since we came to the conclusion that the determinants of dividend pay-out ratio are CR, SIZE, EPS, FCF and DDT.

From the regression analysis it identified that the important factors of the dividend pay-out ratio are Current Ratio (CR), Earning Per Share (EPS), Free Cash Flows (FCF) and Dividend Distribution Tax (DDT). The factors FCF and DDT have positive impact, on the other hand CR, and EPS have negative impact on dividend pay-out ratio of FMCG Sector listed in the Stock Exchanges of India.

**Keywords:** Dividend policy, Investor, Bankruptcy, Pay-out Ratio, Regression analysis Independent variable

#### 1. Introduction

Dividend policy is the important financial decision of the Board of Directors regarding the number of residual earnings that should be distributed to the shareholders of the company (Gibson

2009)<sup>1</sup>. Usually, the management of the company follows in making dividend payout decisions or, in other words, the size and pattern of cash distribution named as dividend distribution over time to shareholders (Lease et al 2000)<sup>2</sup>. This decision is considered one of the vital financing decisions because the profit of the company is an important source of financing available to the firm. Dividend payout policies play an important role in financial decision making of Indian companies. Parallel with other decisions, management should consider dividend policy decisions because if companies decide to pay more dividends, it retains fewer funds for investment purpose, and the company may be forced to revert to capital markets to gain funds (Baker & Powel 2000)<sup>3</sup>. In developed economies, the decision regarding dividend is taken carefully, whether paying dividends or keep as retain earnings for the benefit of both investors and management of the companies (Glen et al.1995)<sup>4</sup>.

The dividend policy is traditionally one of the most contradictory aspects of the activity which always caused much dispute among shareholders. Investors acquire shares in many respects for the sake of receipt of dividends that is payments from profit according to their share in the capital of the company. The dividend is not paid if a company is in such a condition of bankruptcy. Dividends are paid half-yearly quarterly or annually by the decisions of the Board of the company. Dividend payout decision is a policy of a company which engaged in a distribution of company's net profit and achievement of optimization of a ratio of interest of owners and requirements of a company for the development of it. Thus, it is a necessity to maximize the cumulative income of shareholders and to leave necessary means for investment and financing of the current activity.

We have chosen to determine the relationship between the dividend payout ratio and current ratio, free cash flow, growth, leverage, ROCE, EPS, risk, size, tax, age. We have decided to limit the research to these nine factors since we came to the conclusion that the factors mentioned above are the most important for the firm's dividend policy. Finally, when we discuss dividends we will always refer to cash dividends since it is usually the most common type of dividend and when investors exclude all other kinds of dividends and other forms of distribution of profit to shareholders, such as stock repurchases.

The study is limited to only 15 companies from the sector ( FMCG sector ) and the data is limited to 10 years during 2007-08 to 2016-17. Therefore, the trend of only a few numbers of industries, which would not be sufficient, totally, to generalize the inferences to the whole of a country, India.

FMCG (First Moving Consumable Goods) sector is the 4th largest sector in the Indian economy. The growth of first moving consumable goods (FMCG) in India is estimated to reach US\$ 1.1 trillion by 2020 from US\$ 672 billion in 2016, with modern trade expected to grow at 20%-25% per annum, which shows a significant revenues growth in FMCG companies in India. In 2016-17, revenue of the FMCG sector have reached US\$ 49 billion and it is expected that this sector will grow at 9-9.5% in FY18. It is expected that the total consumption expenditure touched nearly US\$ 3,600 billion by 2020 from US\$ 1,469 billion in 2015. It is expecting that the direct selling sector in India is expected to reach Rs. 159.3 billion (US\$ 2.5 billion) by 2021<sup>5</sup>.

<sup>1</sup> Gibson C. (2009). *Financial Reporting & Analysis:Using Financial Accounting Information*, International Student.

<sup>2</sup> Lease, R. C., et al. (2000), *Dividend Policy: Its Impact on Firm Value*, Oxford University Press.

<sup>3</sup> Baker, H. K., & Powell, G. E. (2000). *Determinants of Corporate Dividend Policy: A Survey of NYSE Firms*. *Financial Practice and Education*, Vol. 10, No. 1, pp. 29–40.

<sup>4</sup>Glen, Jack D., YannisKarmokolias, Robert R. Miller, and Sanjay Shah (1995), *Dividend Policy and Behavior in Emerging Markets*, Discussion Paper No. 26, (International Financial Corporation).

<sup>5</sup> <https://www.investopedia.com/walkthrough/corporate-finance/.../dividends/policy.aspx> surfed on 6.7.2018.

## 2. Review of the Literature

**De Angelo and Stulz (2006):** They examined the effect of capital structure by using the ratio of retained earnings to total equity or to total assets of a firm as a proxy for a firm's lifecycle stage.

They find that a mix of earned and contributed capital has more impact than profitability, growth, firm size, leverage and cash balances on dividend payouts.

**Li & Twite (2009)** had studied on dividend forms and market reaction to different dividend announcements and the probability of dividend payout in the Chinese capital market. They use a sample of 5153 firm-year dividend announcements by listed Chinese Companies from 2003 to 2007. They found that the firms with which have higher profit, higher cash holding, lower leverage, strong governance, shareholders protection and subsequent equity offerings are more likely to pay cash dividends. Firms with a high level of retained earnings and high investment in fixed assets are more likely to pay stock dividends. Paying stock dividends to experience a positive market reaction and increased followings which support the signaling theory of dividend.

**Zameer et al (2013)** examined the influence of selected variables on the dividend policy of foreign and domestic banks listed at various stock exchanges of Pakistan. The factors which are considered for analysis includes profitability, firm size, leverage, growth and liquidity, agency cost, past dividend, risk, and ownership structure of the banks. Only four factors are found to have a significant impact on dividend policy of the bank., The independent variables Past dividend, Profitability, and Ownership structure have a positive relationship with dividend payout whereas another variable liquidity has a negative relationship with a dividend payout of the Pakistani listed banking sector. The other factors in the study are found be insignificant and these have no impact on dividend decision.

**Jozwlak (2014)** conduct a research work among the companies listed in the Warsaw Stock Exchange of Poland regarding the factors which influence the dividend policy of nonfinancial companies listed. Profitability, leverage, size, liquidity, and risk are the factors which considered as the independent variable for the study. He found from his study that leverage and profitability have a negative impact on dividend payout. He concluded that the companies making high-profit pay low dividend to the shareholders and increase the retain capital for future investment. The Firms with high leverage pay a low dividend because the company has to pay high interest to the debenture holders.

**Robert King'wara (2015)** conducted a study to examine the effect of determinants on payout ratios in companies listed on the Nairobi Security Exchange for the period of 2008-2012. 30 companies took as the sample for the study and for the data analysis the researcher applied. Tobit Regression model He considered six independent variables to examine their impact on the dividend payout ratio. The multiple regression analysis was used for his study. The independent variables are the ratio of retained earnings to total assets, growth opportunities, firm size, debt ratio or leverage and market to book value ratio. The study observed that retain earnings to total assets ratio, market to book value ratio have a positive impact on dividend payout ratio but the debt ratios, growth rate, and firm size have a negative impact on dividend payout ratio.

## 3. Research Gap

Previous empirical studies have focused mainly on developed economies. Many studies have focused on this subject, but no one studied the lag effect of business characteristics such as Current Ratio (CR), Debt to total Assets (DA), Size (SIZE) Growth (GROW), Earnings Per Share (EPS), Return on Capital Employed (ROCE) Free Cash Flows (FCF), Dividend Distribution Tax (DDT) and Age (AGE) on the Dividend Payout Ratio (DPR) by focusing FMCG Sector from emerging markets perspective in India, listed in the stock exchange of India.

## 4. Objective of the study

The major objectives of the study are as under:

i) To determine the most important factors of dividend payout Ratio of FMCG Sector listed in the Stock Exchanges of India.

ii) To investigate the effects of the determinants of dividend on dividend payout ratio of FMCG Sector listed in the Stock Exchanges of India.

### 5. Significant of the Study

The study is significant in shade light on how company manager decides on the dividend payout ratio and what should be considered before they take any decision. The sound dividend policy is very much important since a high and regular dividend payout ratio decided by the management of the company would create a benchmark for doing well and therefore more dividends can be distributed to the shareholders while maintaining the health of the company.

### 6. Research Methodology

The data used for the study are secondary in nature. The research is mainly based on the official data collected from [www. moneycontrol.com](http://www.moneycontrol.com) and annual reports of select companies in the FMCG sector.

#### Statistical Tools

- i. No. of Observations:- There are 150 observations of 15 listed
- ii. Time period:-over a period of 10 years during 2007-08 to 2016-17.
- iii. Variables are calculated through *EXCEL*
- iv. The nature of the research data is *Static Panel Data analysis through Stata 12.00*

#### Steps for the Analysis

i) For testing the Colinearity - VIF test.

ii) For testing the Normality - Shapiro-Wilk test.

iii) In order to choose between FEM and REM, we conducted a Hausman test developed by Hausman in 1978. According to his theory, the null hypothesis is "There have no differences between the two models". If this hypothesis is rejected, we choose FEM instead of using REM.

#### Null hypotheses

Null hypothesis assumed that all the independent variables have no relationship with Dividend Payout Ratio (DPR) of the sector.

#### Against the null hypotheses:

The alternative hypothesis assumed that all the independent variables have a relationship with Dividend Payout Ratio (DPR) of the sector.

#### Multiple Regression model

The multiple regression model used in this research can be written as:

$$DPR_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \beta_6 ROCE_{it} + \beta_7 FCF_{it} + \beta_8 DDT_{it} + \beta_9 AGE_{it} + \epsilon_i$$

Where DPR it= Dividend Payout Ratio of firm i in period t

CR= Current Ratio

DA=Leverage

SIZE=Total assets

GROW=Growth

EPS=Earnings per Share

ROCE=Return on Capital Employed

FCF=Free Cash Flow

DDT=Dividend Distribution Tax

AGE=Maturity

$\epsilon_i$  = Standard Error

$\beta_x$  (x=0,1,2.....n)

**Table1. The definitions of the variables are summarized in the following table**

Name of Variables	Definition	Hypothesis	Impact
<b>Dependent Variable</b>			
Dividend Payout Ratio	DPR= Dividend Payout Per Share/Earning Per Share	Dividend Decision	-
<b>Independent Variables</b>			
Current Ratio	CR = Current assets / Current liabilities	Liquidity	Positive(+)
Debt to Total Assets	DA= Total Liabilities/ Total Assets	Leverage	Negative(-)
Earnings Per Share	EPS=Profit after Tax/Total outstanding Shares	Profitability	Positive(+)
Return On Capital Employed	ROCE= Net Earnings/ Capital Employed		Positive(+)
Free Cash Flow	FCF = Cash and Cash Equivalent/Total assets	Agency Cost	Positive(+)
Dividend Distribution Tax	DDT=Dividend tax/ Profit for the year	Tax Effect	Negative(-)
<b>Control Variables</b>			
Size	SIZE = Total Assets(Nature Log Value)	Size of the firm	Positive(+)
Firm Growth	GROW = Current Year Sale/ Last Year Sale	Firms' Growth	Positive(+)
Age	AGE= Current age, No, of year since the date of inception up to 2016-17( Natural Log Value)	Maturity	Positive(+)

#### Best-Fit Model

The study is introduced nine hypotheses of each of the independent variable. Hence, these variables can be seen as the factors constitute a general model to be tested in order to determine that they are the factors influence the dividend payout Ratio. To choose between the competing hypotheses in order to get the best-fit model, we will examine the variables by adding each into a regression model gradually.

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \epsilon_i \text{-----}(1)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \epsilon_i \text{-----}(2)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \epsilon_i \text{-----}(3)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \epsilon_i \text{-----}(4)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \epsilon_i \text{-----}(5)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \beta_6 ROCE_{it} + \epsilon_i \text{-----}(6)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \beta_6 ROCE_{it} + \beta_7 FCF_{it} + \epsilon_i \text{-----}(7)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \beta_6 ROCE_{it} + \beta_7 FCF_{it} + \beta_8 DDT_{it} + \epsilon_i \text{-----}(8)$$

$$DPR_{it} = \beta_0 + \beta_1 CR_{Sit} + \beta_2 DA_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 EPS_{it} + \beta_6 ROCE_{it} + \beta_7 FCF_{it} + \beta_8 DDT_{it} + \beta_9 AGE_{it} + \epsilon_i \text{---}(9)$$

**Table2. Result of the best-fit model**

Model-1	Coefficient	P-Value	Model-2	Coefficient	P-Value	Model-3	Coefficient	P-Value
CR	-4.55*	0.015	CR	-3.045	0.202	CR	-6.031**	0.002
			DA	10.47	0.316	SIZE	-3.477*	0.031
Prob>F=0.0147 R <sup>2</sup> =0.0396 Adj R <sup>2</sup> =0.0331			Prob>F=0.0311 R <sup>2</sup> =0.0461 Adj R <sup>2</sup> =0.0331			Prob>F=0.0052 R <sup>2</sup> =0.0697 Adj R <sup>2</sup> =0.057		
Model-4	Coefficient	P-Value	Model-5	Coefficient	P-Value	Model-6	Coefficient	P-Value
CR	-6.49**	0.001	CR	-5.985**	0.002	CR	-4.0418	0.040*
SIZE	-3.964*	0.016	SIZE	-3.92*	0.014	SIZE	-4.2407	0.006*
GROW	-13.088	0.169	EPS	0.077*	0.017	EPS	-0.0777	0.013*
						ROCE	0.1465	0.002**
Prob>F=0.0059 R <sup>2</sup> =0.0817 Adj R <sup>2</sup> =0.0628			Prob>F=0.001 R <sup>2</sup> =0.1056 Adj R <sup>2</sup> =0.0872			Prob>F=0.000 R <sup>2</sup> =0.1858 Adj R <sup>2</sup> =0.1516		
Model-7	Coefficient	P-Value	Model-8	Coefficient	P-Value	Model-9	Coefficient	P-Value
CR	-7.299**	0.001	CR	-5.801**	0.001	CR	-5.849**	0.001
SIZE	-2.550	0.100	SIZE	-2.7013***	0.061	SIZE	-2.744***	0.057
EPS	-0.084**	0.005	EPS	-0.0972**	0.000	EPS	-0.101**	0.001
ROCE	0.017	0.760	FCF	0.47156**	0.000	FCF	0.4677**	0.000
FCF	0.545**	0.000	DDT	0.6739**	0.000	DDT	0.6653**	0.000
						AGE	0.547	0.720
Prob>F=0.000 R <sup>2</sup> =0.2376 Adj R <sup>2</sup> =0.2111			Prob>F=0.000 R <sup>2</sup> =0.3176 Adj R <sup>2</sup> =0.2939			Prob>F=0.000 R <sup>2</sup> =0.3182 Adj R <sup>2</sup> =0.2896		

Sources: Authors' computation

Notes: t-statistics are in parentheses. \*, \*\* and \*\*\* denotes the insignificant,

Significance level at 5, 1 and 10 percent, respectively.

### Analysis the result

According to the OLS regression model dependent variable is (DPR) and independent variables are CR, DA SIZE, GROW, EPS, ROCE, FCF. DDT and AGE. The CR is in this model. Moreover, the equation's  $R^2$  is 3.96% and adjusted  $R^2$  is 3.31%, both are approximately 4 %.  **$R^2$  Represents the proportion of the variation in the dependent variable is explained by regression. Adding even a totally irrelevant independent variable can never reduce the value of R, and will probably increase it. In other words, higher  $R^2$  means better model. Somehow choosing the model with largest value of  $R^2$  is equivalent to choosing the model with the greatest number of independent variable, thus  $R^2$  is not helpful as a model selection aid, but it shows how well the independent variables to explain the dependent variable.**

In equation (1),  $R^2$  is 3.96, this indicates that the CR can explain about 4 percent of dividend payout ratio. According to the table coefficient of CR is (-4.55) and P-value is 0.015 i.e. <0.05. It shows that the CR has a negative relationship with the dividend payout ratio and statistically significant. So CR will be kept in the equation for better fit model.

To find out a better-fit model, the DA is added to the equation no. (2) And conducted regression analysis. Although it has a negative relationship with dividend payout ratio. The addition of DA does not improve the fit of the equation, where the coefficient of DA is 10.47 and the P-value is 0.316 i.e. >0.05 in the table. It has no relationship with the dividend payout ratio and statistically not significant. On the other hand after adding the DA in the equation, the relation of CR and DPR has been changed into no significant relationship. Thus, DA is omitted from the model.

For equation (3), The proportion of variations of the dependent variation is about 9.31 percent (0.0931), and  $R^2$  is little bit increased and it is about 7 (6.97) %, P-value is 0.031 i.e. <0.05, which means the SIZE can fit the model as well and it has a negative relationship with dividends payout ratio and statistically significant. The SIZE will be kept in the equation for better fit model.

To find out a better-fit model, the GROW is added to the equation no. (4) And conducted regression analysis. Although it has a negative relationship with dividend payout ratio. The addition of GROW does not improve the fit of the equation, where the coefficient of GROW is 13.088 and the P-value is 0.169 i.e. >0.05 in the table. It has no relationship with the dividend payout ratio and statistically not significant. Thus, GROW is omitted from the model.

In equation (5), EPS is added to the model and according to the correlation with DPR and coefficient; it has a negative and statically significant with dividend payout ratio. As seen from above table,  $R^2$  for equation (5) is also approximately 0.1056, P- value is 0.017 i.e. <0.05. Hence, it will be kept for better-fit model.

In equation (6), ROCE is added. The addition of ROCE improve the fit of the equation. The proportion of variations of the dependent variable which is explained by equation (6) , $R^2$  is 0.1858, P-value is 0.002 i.e. < 0.05, This means 19 percent of the dependent variable (DPR) can be explained by equation (6).ROCE has a positive relation with DPR and statically significant with dividend payout ratio at 5% confidence level.

In equation (7), FCF is added to the model and according to the correlation with DPR and coefficient. As seen from above table,  $R^2$  for equation (7) is also approximately 24 and P- Value is 0.000, i.e. < 0.01. ; FCF has a positive relationship and statically significant with dividend payout ratio. Hence, it will be kept for better-fit model. On the other hand ROCE become irrelevant (P-value become 0.76 i.e.>0.05. It indicate that ROCE became insignificant in the equation (7). Thus, ROCE is omitted from the model.

To find out a better-fit model, the DDT is added to the equation (8) and conducted regression analysis. Although it has a negative relationship with dividend payout ratio. The addition of DDT, improve the fit of the equation, where the coefficient of DDT is 0.6739, the R<sup>2</sup> is 29.39 percent and the P-value is 0.000 i. e, <0.05 in the table. It has a Positive relationship with the dividend payout ratio and also statistically significant. It improves the fit of the equation.

Finally, AGE is added to the equation. Although it has a positive relationship with dividend payout ratio. The addition of AGE does not improve the fit of the equation, where the coefficient of AGE is 0.547 and the P-value is 0.720 i.e, >0.05 in the table. It has no relationship with the dividend payout ratio and statistically not significant. Thus, AGE is omitted from the model.

Best fit-model for the data analysis regarding the relationship between Independent variables such as Current Ratio (CR), Size (SIZE), Earnings Per Share (EPS), Free Cash Flows (FCF) , Dividend Distribution Tax (DDT) and Dividend Payout Ratio(DPR), the dependent variable is as follows:-

$$DPR_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 SIZE_{it} + \beta_3 EPS_{it} + \beta_4 FCF_{it} + \beta_5 DDT_{it} + e_i \text{-----}(10)$$

### Descriptive Statistics

The descriptive statistics show the mean, standard deviations, minimum and maximum value of all variables and variance of the sample companies.

**Table 3 : Summarized Table of Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
DPR	150	40.7643	14.67935	12.797	76.67
CR	150	1.533647	.6414673	.474	3.687
SIZE	150	7.615211	.7818927	5.984868	9.599066
EPS	150	29.95049	36.52503	2.33	174.42
FCF	150	9.705793	9.837094	.174	49.657
DDT	150	8.066893	6.534668	1.219	60.8

Sources: Authors' computation

The mean value of Dividend Payout Ratio (DPR) is 40.76 variables were the highest at 76.67. The lowest mean value is 12.797 representing the mean value for the divided paid ratio to the shareholders. This was expected since the variable is a ratio. Standard Deviation shows the variation in the data with Dividend payout ratio to the Shareholders with the least value of Standard Deviation at 14.68 implying the Dividend payout ratio variation.

### Diagnostic Tests

To test the critical assumption for regression analysis I conduct the following tests and the results highlighted below:

#### Colinearity test

Colinearity test for Independent variables such as Current Ratio (CR), Size (SIZE), Earnings Per Share (EPS), Free Cash Flows (FCF) and Dividend Distribution Tax (DDT) was conducted to examine the presence of multi-colinearity between independent variables with a significant effect on the relationship between the predictor variables.

VIF coefficients for independent variables as tabulated below:



Table 4: VIF coefficients

vif		
Variable	VIF	1/VIF
CR	1.26	0.792946
SIZE	1.21	0.824888
FCF	1.19	0.841209
AGE	1.18	0.846173
EPS	1.16	0.864261
DDT	1.14	0.875740
Mean VIF	1.19	

Sources: Authors' computation

The results of the above table show all the VIF values for the independent variables were less than four. **None of the Tolerance is lower than 0.1 and none of the VIF is higher than 4. Mean value of VIF in the above table is 1.09, an even individual value of VIF of the exploratory variable is maximum 1.26. The result of the above table indicates that there is no problem of multicollinearity at a 95% confidence level.**

### Normality test

Regression models assume that the variables took in the model follow a normal distribution. To test the normality of the variable, we use the Shapiro & Wilk (1965) test. Shapiro-Wilk test was preferred because of its good power properties (Mendes & Pala, 2003). **If the value of W lies between zero and one, the small values of W lead to rejection of normality.**

Table 5: Normality Test

```
. swilk DPR CR SIZE EPS FCF DDT
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
DPR	150	0.96026	4.624	3.472	0.00026
CR	150	0.92163	9.118	5.011	0.00000
SIZE	150	0.97748	2.620	2.183	0.01450
EPS	150	0.71598	33.047	7.930	0.00000
FCF	150	0.84144	18.450	6.609	0.00000
DDT	150	0.55479	51.802	8.949	0.00000

Sources: Authors' computation

On the basis of the results above, W ranges from 0.55479 and 0.96026. **This showed an indication of normality of the variables.**

Table 6: Hausman Test

```
. hausman fixed random
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
CR	-3.277383	-4.09984	.8224566	.6542668
SIZE	1.199658	-.7181234	1.917782	1.090586
EPS	-.1325626	-.1127832	-.0197795	.0227963
FCF	.3626659	.420059	-.0573931	.0786027
DDT	.5602453	.6007755	-.0405302	.0286474

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
= 7.55  
Prob>chi2 = 0.1831  
(V\_b-V\_B is not positive definite)

Sources: Authors' computation

The Hausman test indicates that the Random effect model is more appropriate than the fixed effect model. As the testing result of significant P-value, where  $\text{Prob}>\chi^2 = 0.1831$ , which is not significant on the 95% significant level (where  $P > 0.05$ ). The result indicates that the **Random effects model** should be applied to the data analysis.

## 7. Empirical Results and Discussion

The regression result conducted using the Random effects model to examine the effect of the Independent variables such as Current Ratio (CR), Size (SIZE), Earning Per Share (EPS), Free Cash Flows (FCF) and Dividend Distribution Tax (DDT) on the Dependent variable Dividend Payout Ratio (DPR) of FMCG sector of India listed in the stock exchange of India.

**Table-7: Random Effect Model**

DPR	Coef.	Stad. Err	P> Z
CR	-4.09984*	1.768737	0.020
SIZE	-.7181234	1.644598	0.662
EPS	-.1127832**	.0335233	0.001
FCF	.420059**	.1258546	0.001
DDT	.6007755**	.1513584	0.000
Cons.	46.97518	13.64192	0.001
No. of Observations	150		
No. of Groups	15		
F-test	Prob>Chi2=0.0000		
Hausman Test	Prob >(chi)2=0.1831		

Sources: Authors' computation

Notes: t-statistics are in parentheses. \*, \*\* and \*\*\* denote the insignificant, Significance level at 5, 1 and 10 percent, respectively.

The above table shows the regression result of Random effects model to examine the effect of the Current Ratio (CR), Size (SIZE), Earnings per Share (EPS), Free Cash Flows (FCF) and Dividend Distribution Tax (DDT) on the Dividend Payout Ratio (DPR) of FMCG sector of India listed in the stock exchange of India. **The result of F-Test value from the above table shows, Prob>Chi2=0.0000, i.e. < 0.05, at 95% confidence level. It indicates that the model of the regression analysis is OK.**

### Analysis of the result

- i. **H01 (CR):** *The value of P (0.020) which is less than 0.05 in the 5% significant level which states that the null hypothesis (H01) is rejected and alternative hypothesis is accepted (H11) An evaluation of the slope of the coefficient of the explanatory variable reveals that it has negative relationship between Current Ratio (CR) and Dividend Payout Ratio (DPR) which was also found to be significant at 95% confidence level holding the other variables remain unchanged.*
- ii. **H03 (SIZE):** *The value of P (0.662) which is greater than .05 in the 5% significant level. it means the null hypothesis (H03) is accepted. An evaluation of the slope of the coefficient of the explanatory variable reveals that it has no relationship between Size (SIZE) and Dividend Payout Ratio (DPR) which was also found not to be significant at 95% confidence level.*

- iii. *H05 (EPS): The value of P is (0.001), which is less than 0.01 in the 1% significant level which states that the null hypothesis (H05) is rejected and alternative hypothesis is accepted (H15). An evaluation of the slope of the coefficient of the explanatory variable reveals that it has negative relationship between Earnings Per Share (EPS) and Dividend Payout Ratio (DPR) which was also found to be significant at 99% confidence level holding the other variables remain unchanged.*
- iv. *H07 (FCF): The value of P is (0.000), which is less than 0.01 in the 1% significant level which states that the null hypothesis (H07) is rejected and the alternative hypothesis is accepted (H17). An evaluation of the slope of the coefficient of the explanatory variable reveals that it has a positive relationship between Free Cash Flow (FCF) and Dividend Payout Ratio (DPR) which was also found to be significant at 99% confidence level holding the other variables remain unchanged.*
- v. *H08 (DDT): The value of P (0.001) which is less than 0.01 in the 1% significant level which states that the null hypothesis (H08) is rejected and the alternative hypothesis is accepted (H18). An evaluation of the slope of the coefficient of the explanatory variable reveals that it has a positive relationship between Dividend Distribution Tax (DDT) and Dividend Payout Ratio (DPR) which was also found to be significant at 99% confidence level holding the other variables remain unchanged.*

### Discussion

- 1) The Liquidity variable, Current Ratio (CR) of the FMCG sector signaling a significant and inversely related to dividend payment decisions for the entire period of study 2007-08 to 2016-17. *The coefficient value is (-4.09984) which implies that if the value of CR increase by 1% the Dividend Payout Ratio (DPR) decreased by (4.1) %.* The result confirmed by Franklin and Muthusamy (2010), they argued that the firms which are financed more conservatively, resulting in an increase the liquidity might lower dividend payout. The firms with a higher level of debt need a higher level of liquidity to pay the interest to allow for pay off on potential implicit claims. This negative relation between Liquidity and Dividend Payout ratio is in line with Kania and Bacon (2005), Muhammad et al (2011).
- 2) The Profitable variable (EPS) of the FMCG sector signals a significant and inversely related to dividend payment decisions for the entire period of study 2007-08 to 2016-17. *The coefficient value is (-.1127832) which implies that if the value of EPS increases in one unit the Dividend Payout Ratio (DPR) decreased by (0.11%).* This was supported by (Myers 1984), Josiah (2014), and argued that the capital in firms finance investment must be firstly from internal finance, and if external finance is necessary, firms prefer to use debt capital before issuing shares capital to reduce the transaction and other costs.
- 3) The Free Cash Flow variable (FCF) of the FMCG sector is signaling a significant and positive relation to the dividend payout ratio for the entire period of study 2007-08 to 2016-17. *The coefficient value is (.42) which implies that if the value of FCF increases by 1% the Dividend Payout Ratio (DPR) increased by (0.42%).* This result is supported by many of the researchers result (Jensen et al 1992, Han et al 1999). They argued that the profitability has a positive relationship with the dividend payout ratio. According to them, the high and stable profitable firms may have strong cash flow and that is why the managers pay more dividends to the shareholders.
- 4) The variable (DDT) of the FMCG sector signaling a significant and positive relation to dividend payment decisions for the entire period of study 2007-08 to 2016-17. *The coefficient value is (0.60) which indicate that if the value of DDT increases by 1% resulting in the increase of the Dividend Payout Ratio (DPR) by (0.6%).* Investors in a

high tax bracket would prefer to invest in stock giving a low rate of return so as to pay low tax. On the other hand, the investors who belong to a low tax bracket would definitely prefer to invest in stocks with higher returns as he currently does not have a large tax liability. Pettit (1977) showed that the investors who are older (retired persons) have more like to invest in the Stock which having the high dividends paying records because generally, they pay lower income tax. In this case, we call it the tax clientele effects.

## 8. Conclusion

The Random effect model was used to analysis the panel data to find out the determinants of Dividend Pay-out ratio of the FMCG sector and their impacts on it.

Based on the findings of this Research for FMCG sector, I found that *the determinants of Dividend Payout Ratio are Current Ratio (CR) , Earnings Per Share (EPS) and Free Cash Flow (FCF) and Dividend Distribution Tax (DDT)*

The empirical results suggests that Free Cash Flow ( FCF) and Dividend Distribution Tax (DDT) variables are positively significant while Current Ratio (CR) and Earnings Per Share (EPS) variables are negatively significant with the Dividend Payout Ratio (DPR) for the entire period of study.

*The result of the data analysis indicates that high free cash flow and Dividend distribution Taxpaying firms have higher dividend payout ratio whereas the firms with high Current ratio and high Earnings per Share have lower dividend payout ratio.* Finally the Dividend Payout Ratio (DPR)=  $46.97518-4.09984CR-0.1127832EPS+0.420059FCF+0.6007755DDT+\epsilon$

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