A Comparative Study of Dividend Policies of Selected Domestic and Multinational Companies in Indian Pharmaceutical Sector

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<u>Abstract</u>

During the post-liberalization period, reorientations in Indian economy haveforcedbusinessfirms tomodernize theirmanagement practices. The domestic companies have failed to maintain their traditional practices as they have been highly exposed to the foreign competitors. Framing suitable dividend policy is one of the most crucial issues that the management of a company should consider with due importance in order to survive in today's competitive business environment. There is no strict rule or guideline to decide as to what portion of the profit should be distributed as dividend and what portion should be kept in the business. An inefficient dividend policy may put the company into financial distress. Both conservative and liberal dividend policies have some positive as well as negative impacts. Dividend policy that ensures shareholders' wealth maximization istreated as the ideal dividend policy. In fact, an ideal dividend policy which is influenced by a good number of internal as well as external factors is very crucial to improve he value of the company. In this backdrop, the present paper seeks to examine the dividend payout trends and the degree of influence of some major internal factors on dividend policy of both domestic and multinational pharmaceutical companies in Indian pharmaceutical industry during the period 1998-99 to 2012-13. The paper also makes a comparison, in respect of dividend payout trend and the degree of influence of some important internal factors on dividend policy, between multinational and domestic companies in the Indian pharmaceutical industry during the same period. In this study, ten multinational and ten domestic companies in the Indian pharmaceutical sector have been considered. The issues analyzed in this study have been tackled using relevant statistical tools and techniques.

Key words: Pharmaceutical Industry, Multinational, Domestic Companies, Dividend Payout

I. Introduction:

Dividend policy is one of the most crucial areas of financial management. An ideal dividend policy should fulfill the organizational objective of shareholders' wealth maximization. If the company retains a huge portion of earnings for possible expansion and modernization in future, shareholders may get deprived in short run due to insufficient dividend. On the other hand, if the company distributes a substantial portion / full of the profits by way of dividend, the company may earn the confidence of the shareholders in short run, but it may cause serious hindrance in long term growth of the company. In fact, an ideal dividend policy which is influenced by a good number of internal as well as external factors is very crucial to enhance the

value of the company. In this backdrop, the present paper seeks to examine the dividend payout trends and the degree of influence of some major internal factors on dividend policy of both domestic and multinational pharmaceutical companies in Indian pharmaceutical industry during the period 1998-99 to 2012-13. The paper also makes a comparison, in respect of dividend payout trend and the degree of influence of some important internal factors on dividend policy, between multinational and domestic companies in the Indian pharmaceutical industry during the same period. In this study, ten multinational and ten domestic companies in the Indian pharmaceutical sector have been considered. The issues analyzed in this study have been tackled using relevant statistical tools and techniques.

II. Review of Existing Literature:

Before entering into the research problem a quick look through the existing literature on the issue addressed in the present study seems desirable. A considerable number of studies on dividend policy have been undertaken by different researchers in India. A very brief explanation of some significant studies so far carried out in India on this topic is presented here. Mahapatra and Sahu (1993) in their study analysed the determinants of dividend policy. The study recognized net earnings and cash flow as significant determinants of dividend policy. The cash flow is a significant determinant of dividend followed by net earnings. The study also revealed that past dividend was also a major factor in influencing the selected companies dividend decision while past earning failed to establish itself as a notable determinant of dividend policy of a company. Bhat and Pandey (1994) in their study analysed perceptions of managers of 425 Indian companies during the period 1986-87 to 1990-91. The study observed that managers perceived current earnings to be the most important factor affecting the dividend decision followed by the pattern of past dividends. The study also noticed that increasing equity base and expected future earnings had major influence on the company's dividend policy whereas competitors belonging to the same industry had least impact on the dividend policy of the company. Maity (1995) evaluated the dividend decision and practices in respect of equity shares followed by private sector in India. Only cash dividend on equity shares were considered excluding stock or bonus dividend from the scope of the study. The impacts of different variables on the dividend decision were felt through this study, but the way of influencing could not be properly noticed. The view was also supported that the dividend of the just preceding year largely influences the dividend decisions of the current year. Singhania (2006) analysed different determinants of equity share prices with references to Indian stock market. Finally, it was observed that price-earnings ratio, book value. Earnings per share and dividend are the variables which contribute the most in fixing share prices followed by dividend per share and yield. Bhayani (2009) in his study examined the influence of profitability, liquidity and size of the business operations of selected firms on its dividend policy of corporate firms in India. It discloses that profitability and liquidity status of the firm are highly influencing factors in framing dividend policies of Indian companies. Sur and Gupta (2012) in their study analysed the dividend payout trend and the degree of influence of some major internal factors on dividend policy of Indian pharmaceutical industry. The study revealed that company size, earnings and past dividend trends had notable influence on the dividend policies of the companies under study. A good number of studies on the issue addressed in the present study

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have carried out in India in the present study have carried out in India in the last three decades. But the outcomes derived from these studies are conflicting and inconclusive in nature. Moreover, no in-depth study on the same issue associated with Indian pharmaceutical sector has been conducted in the recent past. Further the researchers in India who made significant contribution in this field have not addressed the topic in connection with the comparison between domestic and multinational companies in respect of their dividend policies. In order to bridge the gap, the present study has been conducted.

III. Objectives of the study:

This study has the following objectives:

- To rank the companies on the basis of average dividend payout, consistency of the same and finally on the basis of average and consistency jointly.
- To study the strength of association between the selected factors and the dividend payout ratio of each of the multinational and domestic companies under study and to make a comparison between them.
- To analyze the joint impact of size of the firm, liquidity of the firm, and earning capability on dividend payment of each of the multinational and domestic companies under study and to make a comparison between them.
- To examine whether the findings of the study conform to the theoretical arguments.

IV. Methodology of the study:

The study is based on twenty (consisting of ten multinational and ten domestic companies) companies which were selected from Indian pharmaceutical sector following purposive sampling procedure. The pharmaceutical industry which is the lifeline industry in any country was chosen here because its contribution towards the growth, development and welfare of the economy as well as towards forming a strong human capital and intellectual property rights in a country cannot be ignored. The selected ten multinational and ten domestic companies are listed in Appendix 1. The data of the selected companies for the period 1998-99 to 2012-13 used in this study were taken from secondary sources i.e. Capitaline Corporate Database of Capital Market Publishers (I) Ltd. Mumbai.The dividend payout ratio on equity capital was used in this study to measure the extent of earning distributed as dividend. The size of the firm was represented by total assets (TA), liquidity of the company wasmeasured by the current ratio (CR) and the earning measure which was selected in this study is return on capital employed (ROCE). For analyzing the data statistical tools like arithmetic mean, consistency score (CS) and statistical techniques like Pearson's simple correlation coefficient, Spearman's rank correlation coefficient, Kendall's correlation coefficients and multiple regression analysis and statistical tests like t test and F test were applied at appropriate places.

V. Limitations of the study:

- This study was based on the data from published financial statements.
- In this study only cash dividend was considered. Bonus dividend was not taken into consideration.

• The influence of macroeconomic or general factors was been ignored in this study.

VI. Findings of the study:

A. In Table 1, the values of the average DPR of the companies under study were ascertained by applying arithmetic mean and the consistency of dividend payment by companies were measured by using the consistency score (CS) of their dividend payout ratios. The ranks were assigned to the selected companies both in respect of average and consistency. The ultimate ranks were determined on the basis of composite scores which were ascertained by taking into consideration sum total of the ranks based on average and ranks based on consistency.

This table shows that the average dividend payout of Piramal was the highest, followed by Glaxosmithkline, Merck, Wyeth, Abbott, Ranbaxy, Organon, Astrazeneca, Sanofi, Lupin, Novartis, Pfizer, Cadila, Wockhardth, Sun, Ipca, Cipla, Dr Reddy's, Fulford and Aurobindo in that order. This table also reveals that in respect of consistency in designing dividend policyCadila captured the top most position and it was followed by Sun, Glaxosmithkline, Novartis, Cipla, Ipca, Sanofi, Aurobindo, Abbott, Wyeth, Pfizer, Astrazeneca, Dr Reddy's, Wockhardth, Ranbaxy, Piramal, Lupin, Fulford, Merck and Organon respectively. Considering both the average and consistency aspects together in respect of dividend policy Glaxosmithkline occupied the best rank while the second rank was captured by Abbott, Wyeth and Cadila jointly and it was followed by Novartis, Sanofi, Piramal & Sun, Astrazeneca, Ranboxy, Merck, Cipla & Ipca, Pfizer, Organon & Lupin, Aurobindo & Wockhardth, Dr Reddy's and Fulford respectively. According to the ranking on the basis of both 'average' and 'consistency' of dividend policy by occupying four out of five best ranks as compared to the domestic companies under study.

B. In Tables 2, 3 and 4 the analysis of relationship between the dividend policy and its influencing factors was made by using three most popular measures, such as Karl Pearson's simple correlation coefficient, Kendall's correlation coefficient and Spearman's rank correlation coefficient. The correlation coefficients between DPR and each of the selected ratios influencing the dividend policy for the twenty companies under study were ascertained. In order to examine whether such correlation coefficients are statistically significant or not, t test was applied.

Table 2 shows that out of sixty correlation coefficients between DPR and TA in the selected companies, twenty-nine coefficients were positive, out of which nine coefficients were found to be statistically significant whereas the remaining thirty-one correlation coefficients were negative, out of which fifteen coefficients were found to be statistically significant. Thus, in the majority of the companies under study a negative relationship between firm's size and dividend payout was observed. The analysis of correlation between DPR and company size reveals that in the selected multinational companies positive correlation was found in nineteen out of thirty cases while in the selected domestic companies ten correlation coefficients out of thirty were found positive.

Table 3 exhibits that out of sixty correlation coefficients between DPR and CR of the selected companies, twenty-five coefficients were positive, out of which only one coefficient was found to be statistically significant while the remaining thirty-five correlation coefficients were negative, out of the negative coefficients, six coefficients were found to be statistically significant. So, the study failed to provide any indication in favour of the generally accepted principle that the better the liquidity, the higher is the DPR. The analysis of correlation between DPR and liquidity depicts that in the selected domestic companies positive correlation was found in fifteen out of thirty cases while in the selected multinational companies ten correlation coefficients out of thirty were found positive.

Table 4 discloses that out of sixty correlation coefficients between DPR and ROCEof the selected companies twenty coefficients were positive, of which no coefficient was found to be statistically significant and the remaining forty coefficients between DPR and ROCE were found negative out of which thirteen coefficients were found to be statistically significant. It is an accepted principle that the higher the ROCE, the greater is the earning and the larger is the scope of dividend payment. Taking all the selected companies separately, the computed values of correlation coefficient between DPR and ROCE in a substantial portion of the sample companies do not conform to the accepted principle. The analysis of correlation between DPR and earning capability discloses that in the selected domestic companies positive correlation coefficients out of thirty cases while in the selected domestic companies only three correlation coefficients out of thirty were found positive.

C. The joint influence of the selected ratios on the dividend payout of each of the companies under study was shown in Table 5. The multiple regression equation which was fitted in this study for each company is: DPR=B₀+B₁TA+B₂CR+B₃ROCE+e, where B₀ is the constant, B₁, B₂ and B₃ are the partial regression coefficients and e is the error term.

The regression equation shows that in ten cases the effect of size on dividend payout was positive. Considering multinational and domestic companies separately, in case of multinational companies the effect of size on dividend payout was positive in seven caseswhereas only in three domestic companies this effect was positive. Again, in seven cases the impact of liquidity on dividend payout was positive.Considering multinational and domestic companies separately, it is found that while in the multinational companies the effect of liquidity on dividend payout was positive in only two cases, in the domestic companies the effect was positive in five cases.

Table 6 shows that the multiple correlation coefficient of DPR on TA, CR and ROCE in the companies under study varied between 0.759 (Cadila) and 0.914 (Ipca). This coefficient is found to be statistically significant in nine companies. It reveals that the joint influence of TA, CR and ROCE on DPRwas noticeable in these nine companies. While considering multinational and domestic companies separately, the coefficient of multiple correlation was found to be statistically significant

in three multinational companies (Glaxosmithkline, Pfizer and Wyeth) and six domestic companies (Cadila, Ipca, Piramal, Ranbaxy, Sun and Wockhardt).

VII. Concluding Remarks:

- Considering both 'average' and 'consistency' aspects together in respect of payment of dividend,Glaxosmithkline occupied the best rank while the second rank was captured by Abbott, Wyeth and Cadila jointly and it was followed by Novartis, Sanofi, Piramal & Sun, Astrazeneca, Ranboxy, Merck, Cipla & Ipca, Pfizer, Organon & Lupin, Aurobindo & Wockhardth, Dr Reddy's and Fulford. According to the ranking on the basis of both 'average' and 'consistency' of dividend payment, the selected multinational companies captured higher ranks (four out of five best ranks) as compared to the domestic companies under study.
- In majority of the companies under study a negative relationship between company size and dividend payout was observed. However, another significant outcome of the study was that in case of the analysis of correlation between dividend payout and company size greater number of positive correlation was observed in the selected multinational companies as compared to the domestic ones during the study period.
- The study failed to provide strong evidence in favour of the generally accepted principle that the better the liquidity, the higher is the dividend payout ratio. However, more positive correlation between liquidity and dividend payment was found in the domestic companies as compared to the multinational ones during the period under study.
- Taking all the selected companies separately, the computed values of correlation coefficient between DPR and ROCE in a substantial portion of the sample companies do not conform to the accepted principle thatthe higher the ROCE, the larger is the scope of dividend payment. The study also reveals that the selected multinational companies recorded positive correlation between ROCE and DPR in much more times as compared to the domestic ones.
- The regression equation of DPR on TA, CR and ROCE fitted in this study shows that in ten cases the effect of company size on dividend payout was positive, out of which seven cases were placed in the multinational companies category while the remaining three cases found place in the domestic companies category. The impact of liquidity on dividend payout was positive in seven cases, of which only two cases were placed in the multinational companies category whereas the remaining five cases found place in the domestic companies the remaining five cases found place in the domestic companies category. In case of only two multinational companies the impact of earning capability on dividend payout was positive whereas all domestic companies registered negative influence of earning capability on dividend payout during the study period.

• The joint influence of TA, CR and ROCE on DPRwas notable in nine companies, out of which it was found in three multinational companies (Glaxosmithkline, Pfizer and Wyeth) while the remaining six domestic companies (Cadila, Ipca, Piramal, Ranbaxy, Sun and Wockhardt) registered significant impact of the independent variables on the dependent one (DPR) during the period under study.

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Table 1							
Ranking on the basis of average and consistency of payment of dividend							
	Company	Average	Ranking	Consistency	Ranking on	Sum	Overall Rank
		DPR (%)	on the	Score (C.S.)	the basis of	total	
			basis of	(%)	consistency	of	
			average			rank	
_	Abbott	52.29	5	1.76	9	14	3
ma	Astrazeneca	39.47	8	1.39	12	20	9
atic	Fulford	14.24	19	0.66	18	37	20
tin	Glaxosmithkline	61.37	2	3.54	3	5	1
Iul	Merck	59.07	3	0.57	19	22	12
4	Novartis	37.80	11	3.46	4	15	5
	Organon	43.97	7	0.52	20	27	15.5
	Pfizer	36.62	12	1.64	11	23	14
	Sanofi	38.89	9	2.98	7	16	6
	Wyeth	57.18	4	1.65	10	14	3
Domestic	Aurobindo	8.39	20	2.16	8	28	17.5
	Cadila	26.74	13	5.84	1	14	3
	Cipla	20.11	17	3.31	5	22	12
	Dr Reddy's	18.89	18	1.38	13	31	19
	Ipca	22.03	16	3.17	6	22	12
	Lupin	38.48	10	0.67	17	27	15.5
	Piramal	62.98	1	0.71	16	17	7.5
	Ranbaxy	46.19	6	1.03	15	21	10
	Sun	22.39	15	4.87	2	17	7.5
	Wockhardth	25.73	14	1.37	14	28	17.5
Source:	Compiled and compu	ited from 'C	apitaline Coi	porate Database	e' of Capital Ma	rket Publ	ishers (I) Ltd., Mumbai.

		Table 2	2				
Analysis of correlation between dividend payout and size of the company							
Company			Corelation				
		Pearson's	Kendal's	Spearman's			
	Abbott	-0.512	-0.581**	-0.707**			
	Astrazeneca	0.512	0.410*	0.661**			
_	Fulford	0.287	0.186	0.223			
ona	Glaxosmithkline	0.742**	0.600**	0.779**			
atic	Merck	0.089	0.105	0.146			
tin	Novartis	-0.663**	-0.448*	-0.511			
Jul	Organon	0.096	-0.505**	-0.607*			
N	Pfizer	-0.365	-0.219	-0.279			
	Sanofi	0.067	0.105	0.111			
	Wyeth	0.107	0.200	0.361			
estic	Aurobindo	-0.184	-0.086	-0.061			
	Cadila	-0.504	-0.448*	-0.554*			
	Cipla	0.094	0.200	0.332			
	Dr Reddy's	0.159	0.333	0.500			
	Ipca	-0.519*	-0.600**	-0.711**			
om	Lupin	-0.357	-0.524**	-0.718**			
Ă	Piramal	0.563*	-0.238	-0.321			
	Ranbaxy	-0.469	-0.352	-0.514*			
	Sun	0.633*	0.543**	0.764**			
	Wockhardth	-0.586*	-0.314	-0.479			
		(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,					

Note: *Correlation is significant at 0.05 level (2-tailed).

**Correlation is significant at the 0.01level (2-tailed).

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

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<u>F</u> Company	Analysis of correlation between divid	Corelation	company
company	Pearson's	Kendal's	Spearman's
Abbott	-0.566*	-0.689**	-0.842**
Astrazene	ca -0.364	-0.364	-0.408
Fulford	0.185	0.147	0.213
E Glaxosmit	hkline 0.536*	0.238	0.393
Merck	0.419	0.125	0.147
) Novartis	-0.571*	-0.421*	-0.547*
Organon	0.080	-0.200	-0.346
Pfizer	-0.416	-0.219	-0.282
Sanofi	-0.254	-0.048	-0.129
Wyeth	-0.318	-0.238	-0.304
Aurobindo	0.164	-0.067	-0.113
Cadila	0.506	0.096	0.170
Cipla	-0.099	-0.249	-0.322
<u>u</u> Dr Reddy'	s -0.192	-0.249	-0.300
Ipca	0.477	0.245	0.363
E Lupin	0.406	0.134	0.245
A Piramal	-0.094	-0.230	-0.288
Ranbaxy	0.043	0.115	0.120
Sun	-0.099	-0.048	-0.079
Wockhard	th -0.307	0.295	0.454
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Source: Compiled Analysi mpany Abbott Astrazeneca Fulford Glaxosmithk Merck	and computed from 'Capitaline Corpo Tat s of correlation between dividend pa Pearson's 0.099 0.291 -0.206 cline 0.115 -0.276	ed). prate Database' of Capital Market H ple 4 ryout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.249 0.204 -0.346
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Source: Compiled Analysi mpany Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's	Pearson's 0.099 0.291 -0.206 cline 0.115 -0.276 0.145 -0.375 -0.080 -0.239 -0.180 -0.303 -0.303 -0.303	ed). rrate Database' of Capital Market H ple 4 ryout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.238 0.029 -0.010 -0.371 -0.029 -0.010 -0.371 -0.029 -0.105 -0.581** -0.162 -0.467*	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.057 -0.139 -0.775** -0.296 -0.650**
Source: Compiled Analysi mpany Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's Ipca	In its significant at an origination of the originating originating originating origination of the origi	ed). rrate Database' of Capital Market H role 4 ryout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.029 -0.162 0.029 -0.010 -0.371 -0.029 -0.010 -0.371 -0.029 -0.105 -0.581** -0.162 -0.467* -0.524**	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.057 -0.139 -0.775** -0.296 -0.650** -0.736**
Source: Compiled Analysi mpany Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's Ipca Lupin	In its significant at the orbite for (Capitaline Corport Tat s of correlation between dividend pa Pearson's 0.099 0.291 -0.206 cline 0.115 -0.276 0.145 -0.375 -0.080 -0.503 -0.180 -0.731** -0.303 -0.646** -0.538*	ed). prate Database' of Capital Market H pole 4 pout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.238 0.029 -0.162 0.238 0.029 -0.010 -0.371 -0.029 -0.105 -0.581** -0.162 -0.467* -0.371 0.254** -0.371 -0.371 -0.371 -0.524** -0.371	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.057 -0.139 -0.775** -0.296 -0.650** -0.736** -0.571* 0.242 -0.571*
Source: Compiled Analysi ompany Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's Ipca Lupin Piramal	In its significant at the orbitely of the iteration of the orbitely of	ed). prate Database' of Capital Market H pole 4 pyout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.238 0.029 -0.010 -0.029 -0.010 -0.371 -0.029 -0.105 -0.581** -0.162 -0.467* -0.524** -0.257 0.027	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.057 -0.139 -0.775** -0.296 -0.650** -0.736** -0.736** -0.343 0.150 0.150 -0.343 0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.150 -0.343 -0.150 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.150 -0.343 -0.343 -0.150 -0.343 -0.150 -0.343 -0.343 -0.343 -0.343 -0.343 -0.571* -0.343 -0.571*
Source: Compiled Analysi mpany Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's Ipca Lupin Piramal Ranbaxy	In its significant at the ofference of the iteration of the iteration of the iteration of the ofference of the iteration of the ofference of the iteration of the iteraticance of the iteration of the iteration of the itera	ed). prate Database' of Capital Market H pole 4 pyout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.238 0.029 -0.010 -0.371 -0.029 -0.010 -0.162 -0.029 -0.105 -0.162 -0.257 -0.257 -0.057	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.139 -0.775** -0.296 -0.650** -0.571* -0.571* -0.343 0.183 0.422
Analysi Analysi Analysi Abbott Astrazeneca Fulford Glaxosmithk Merck Novartis Organon Pfizer Sanofi Wyeth Aurobindo Cadila Cipla Dr Reddy's Ipca Lupin Piramal Ranbaxy Sun	In its significant at the orbite for (Capitaline Corport Tat s of correlation between dividend pa 0.099 0.291 -0.206 cline 0.115 -0.276 0.145 -0.375 -0.080 -0.503 -0.731** -0.303 -0.646** -0.538* -0.558*	ed). prate Database' of Capital Market H pole 4 pyout and earning capability of th Corelation Kendal's 0.086 0.295 0.128 0.086 -0.162 0.238 0.029 -0.010 -0.371 -0.029 -0.105 -0.581** -0.581** -0.524** -0.524** -0.371 -0.257 0.057 -0.314	Publishers (I) Ltd., Mumba ne company Spearman's 0.150 0.429 0.249 0.204 -0.346 0.275 0.043 0.021 -0.475 -0.057 -0.057 -0.139 -0.775** -0.296 -0.650** -0.571* -0.571* -0.343 0.183 -0.482 -0.165

Note: *Correlation is significant at 0.05 level (2-tailed).

**Correlation is significant at the 0.01level (2-tailed).

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Company	Partial regression	Constant		
	$B_1(TA)$	$B_2(CR)$	$B_3(ROCE)$	\mathbf{B}_0
Abbott	0.012	-28.681	-1.107	135.544
	(0.235)	(-1.326)	(-1.089)	(2.565)
Astrazeneca	0.170	-28.229	0.547	59.105
	(0.921)	(-0.723)	(0.998)	(0.624)
Fulford	0.170	-4.615	-0.089	16.631
	(0.727)	(-0.372)	(-0.344)	(0.732)
Glaxosmithkline	0.066	-10.887	-0.777	69.197
	(2.982)**	(-1.180)	(-1.614)	(3.078)
Merck	-0.512	86.309	-1.018	17.231
	(-1.619)	(1.960)*	(-0.248)	(0.073)
Novartis	-0.035	-1.382	0.015	49.831
	(-1.355)	(-0.456)	(0.039)	(3.293)
Organon	-0.888	8.858	-7.783	320.457
-	(-0.729)	(0.268)	(-1.639)	(1.707)
Pfizer	0.020	-20.029	-1.585	147.281
	(0.326)	(-1.340)	(-2.822)**	(4.623)
Sanofi	0.001	-3.152	-0.466	61.856
	(0.097)	(-0.589)	(-1.479)	(4.470)
Wyeth	0.422	-94.871	-2.430	332.930
	(4.808)***	(-5.126)***	(-3.761)***	(6.157)
Aurobindo	-0.001	1.885	-0.125	8.878
	(-0.584)	(0.359)	(-0.977)	(0.827)
Cadila	-0.001	0.538	-0.593	39.355
	(-0.961)	(0.309)	(-2.259)**	(5.621)
Cipla	-0.002	-0.441	-0.960	56.201
	(-0.996)	(-0.041)	(-1.640)	(2.771)
Dr Reddy's	0.000	-1.669	-0.832	39.923
	(-0.122)	(-0.463)	(-2.714)**	(2.993)
Ipca	-0.004	18.954	-0.909	14.321
	(-2.090)*	(1.990)*	(-5.037)***	(0.877)
Lupin	0.002	51.678	-6.427	83.827
•	(0.162)	(0.989)	(-1.729)	(0.710)
Piramal	0.017	- <mark>77.12</mark> 0	-1.720	196.645
	(2.551)**	(<mark>-2.63</mark> 8)**	(-0.694)	(2.637)
Ranbaxy	-0.021	-106.985	-0.209	301.666
-	(-3.549)***	(-2.431)**	(-0.232)	(3.594)
Sun	0.001	-2.241	-0.355	36.054
	(2.322)**	(-2.242)**	(-2.580)**	(5.953)
Wockhardth	-0.014	7.921	-0.455	36.971
	(-2.920)**	(1.510)	(-1.415)	(2.897)
gures in the parent	heses indicate t va	alues.		/

ROCE of the Selected Companies in the Indian Pharmaceutical				
Industry	•	-		
	Company	R	\mathbb{R}^2	F
Ŋ	Abbott	0.622	0.387	2.314
Compan	Astrazeneca	0.573	0.329	1.796
	Fulford	0.330	0.109	0.449
	Glaxosmithkline	0.798	0.637	6.444**
nal	Merck	0.583	0.340	1.891
tio	Novartis	0.658	0.433	2.802
ina	Organon	0.451	0.204	0.938
lult	Pfizer	0.745	0.555	4.566**
Z	Sanofi	0.539	0.291	1.505
	Wyeth	0.855	0.731	9.979**
	Aurobindo	0.323	0.105	0.428
y	Cadila	0.759	0.576	4.979*
testic Company	Cipla	0.518	0.269	1.348
	Dr Reddy's	0.655	0.429	2.752
	Ipca	0.914	0.835	18.496**
	Lupin	0.599	0.359	2.052
	Piramal	0.780	0.609	5.702*
lou	Ranbaxy	0.733	0.537	4.256*
Π	Sun	0.809	0.655	6.955**
	Wockhardth	0.707	0.500	3.672*
Note: *	Significant at 5 per o	cent level,		
**	Significant at 1 per o	cent level		
Source: C	Compiled and compu	ted from 'Cap	oitaline Corpor	ate Database'
of Capital	Market Publishers (I) Ltd., Mumb	bai.	

 Table 7: Analysis of Multiple Correlation of DPR on TA, CR and

	Appendix				
Sl. No.	List of Companies under Study				
	Abbott India Ltd. (Abbott)				
	Astrazeneca Pharma India Ltd. (Astrazeneca)				
	Fulford (India) Ltd. (Fulford)				
	Glaxosmithkline Pharmaceuticals Ltd. (Glaxosmithkline)				
al	Merck Ltd. (Merck)				
es	Novartis India Ltd. (Novartis)				
ani	Organon (India) Ltd. (Organon)				
np np	Pfizer Ltd. (Pfizer)				
Mu	Sanofi (Sanofi)				
20	Wyeth Ltd. (Wyeth)				
	Aurobindo Pharma Ltd. (Aurobindo)				
es	Cadila Healthcare Ltd. (Cadila)				
ani	Cipla Ltd. (Cipla)				
9du	Dr. Reddy's Laboratories Ltd. (Dr. Reddy)				
Jor	Ipca Laboratories Ltd. (Ipca)				
U O	Lupin Ltd. (Lupin)				
sti	Piramal Healthcare Ltd. (Piramal)				
me	Ranbaxy Laboratories Ltd. (Ranbaxy)				
Ō	Sun Pharmaceuticals Industries Ltd. (Sun)				
Ι	Wockhardt Ltd. (Wo <mark>ckhardt</mark>)				