

# Cost of capital paper essay

[Business](#), [Accounting](#)



**INTRODUCTION** The long-term investments that make today will determine the value of business tomorrow.

In order to make long-term investments in new product lines, new equipment and other assets, managers must know the cost of obtaining funds to acquire these assets. The cost associated with different sources of funds is called the cost of capital. . If the business earns more than its cost of capital, the market value of the business will increase. Likewise, if returns on long-term investments are below the cost of capital, market values will decline. Therefore, how we manage capital is extremely important to fulfilling the basic objective of increased shareholder value. This report is basically concentrated on the topic of “ Firm & Industry cost of capital”.

And then there is an empirical analysis of cost of capital on pharmaceutical industry of Bangladesh by using the concept cost of capital & Statistical model. In Bangladesh the pharmaceutical sector is one of the most developed hi-tech sectors is contributing in the country’s economy. There will be an extensive analysis on the pharmaceutical firm’s capital structure, their dividend payment pattern, their ROE in comparison with cost of equity and determining the factor that influencing the pharmaceutical company’s cost of capital largely.

**BACKGROUND OF THE REPORT** Cost of capital is a very common phenomenon in a corporate world. It is essential to recognize whether the firm is maximizing its investor value or not. It is very hard to decide the required rate of return of investors of the company. For the purpose of determining the cost of capital of the firm and industry, Pharmaceutical

industry has been chosen. This report will attempt to expose the following facts : ? Introducing Cost of Capital basics. ? Capital structure and Dividend policy overview of the pharmaceutical companies. ? The equity and assets beta of the pharmaceutical companies.

? Industry Cost of capital the pharmaceutical sector of Bangladesh. ?

Whether pharmaceutical cost of capital influenced by capital structure and dividend policy or not. 1| Page COST OF CAPITAL There is a cost of doing business that must serve as your benchmark for how you invest in long-term assets. This cost is called Cost of Capital. Cost of Capital is the rate you pay to those who lend or invest money into your business.

You can think of Cost of Capital as the rate of return investors require for incurring risk whenever they give you money. Cost of Capital applies to long-term funding of assets as opposed to short-term funding of working capital. Why is Cost of Capital so important? Well, you have to earn an overall rate of return on your assets that is higher than your cost of capital. If not, you end-up destroying value. There are basically two forms of cost of capital identified in a firm. Such as: ? Firm cost of capital: The cost of capital is the overall or average required rate of return on the aggregate of investment projects of the firm.

? Project cost of capital: The project's cost of capital is the minimum required rate of return on funds committed to the project. Project cost of capital may vary from firm cost of capital. Because the project's riskiness may differ from firm overall riskiness. WHAT IMPACTS THE COST OF CAPITAL The cost of capital is influenced by a number of factors.

Some are beyond the firm's control, but others are influenced by its financing and investment policies. The graph is shown below, pasteurized that cost of capital of the determined by the combined influence of the firm's Debt/Equity mix, Riskiness of the firm, Financial soundness of the firm and interest rate of the country. Here Debt/equity mix and financial soundness of the firm is under the firm control but the interest rate and the riskiness of the overall firm may change due to the changes of economic factors.

2| Page Figure: Influencing factors of cost of capital SIGNIFICANCE OF COST OF CAPITAL We should recognize that the cost of capital is one the most difficult and disputed topics in the finance theory. Financial experts express conflicting opinions as to the correct way in which the cost of capital can be measured. Irrespective of the measurement problems, it is a concept of vital importance in the financial decision making. It is useful as standard for: ? ? ? Evaluating investment decisions. Designing a firm debt policy.

Appraising the financial performance of top management. 3| Page Evaluating investment decisions: The primary purpose of measuring the cost of capital is its use as a financial standard for evaluating the investment projects. In the NPV method, an investment project is accepted if it has a positive NPV.

The project's NPV is calculated by discounting its cash flows by the cost of capital. In this sense, the cost of capital is the discount rate used for evaluating the desirability of an investment project. The cost of capital is the minimum required rate of return on the investment project that keeps the shareholder's present wealth unchanged.

It may be thus, noted that the cost of capital represents a financial standard for allocating the firm's funds, supplied by owners and creditors to the various investment projects in the most efficient manner. Designing Debt Policy: The debt policy of a firm is significantly influenced by the cost consideration. Debt helps to save taxes, as interest on debt is a tax deductible expense.

The interest tax shield reduces the overall cost of capital, though it also increases the financial risk of the firm. In designing the financing policy, that is the proportion of debt and equity in the capital structure, the firm aims at maximizing the firm value by minimizing the overall cost of capital.

Performance Appraisal: The cost of capital framework can be used to evaluate the financial performance of top management. Such an evaluation will involve a comparison of actual profitability of the investment projects undertaken by the firm with the projected overall cost of capital and the appraisal of the actual cost incurred by management in raising the required funds. 4| P a g e SOURCES OF FUND AND THEIR RISKINESS There are mainly four sources of funds available. Investor will require different rate of return on various securities since they have risk differences.

Higher the Risk of a security, the higher the rate of return demanded by investor. Since ordinary share is more risky, investor will require highest rate of return on their investment. A preference share is riskier than debt; therefore its required rate of return will be higher than that of debt. Here is the graphical status of the sources of fund based on cost of capital:

APPROACH AND METHODOLOGIES OF THE REPORT It is already mentioned

that pharmaceutical Industries has been selected for the cost of capital analysis. By considering their capital structure and risk factors, various tools have been selected to analyze pharmaceutical industry and cost of capital from different aspects. Weighted average cost of capital (WACC) It has examined that the Pharmaceutical firm basically uses two sources of fund; debt and equity for financing their projects. For that reason its weighted average cost of capital will be: By definition:  $WACC = w_d r_d + w_e r_e$  (1) Where,  $w_d$  &  $w_e$  weights of debt, equity respectively Costs of debt, retained earnings and new common stock respectively Cost of retained earnings and cost of equity both are equal, if equity is not newly issued. It is important to remember that since a firm must raise its funds using either debt or preferred stocks or retained earnings or new common stocks or a combination of any of those capitals, the sum of the weights have to be equal to one:  $w_d + w_e = 1$  Cost of Equity: Since this report is concerned about the empirical cost of capital analysis of pharmaceutical industry and its listed companies; so using CAPM approach would be suitable for the cost of equity calculation.

Since it uses historical beta here is the details about cost of Equity:

According to CAPM, the expected return of an asset is defined as follows:

$E(R_i) = R_{rf} + \beta_i (E(R_M) - R_{rf})$  In order to use CAPM to estimate the expected return of a common stock (or retained earnings), we need to first estimate several of the key variables for CAPM: (1) the risk-free rate  $R_{rf}$ , (2) the return of the market portfolio  $E(R_M)$ , and (3) the beta of the stock ( $\beta_i$ ). [Dividend growth model or Gordon model uses forecasted dividend and growth to determine the cost of capital. so it is not appropriate for empirical

analysis. ] 6| Page Cost of Debt: In Bangladesh bond market has not developed yet. So the only source of long term debt is banking sector. From debt structure analysis of Pharmaceutical, it has found that in non-current liabilities formed with different types of items; such as: ? ? ? Deferred tax liability- No direct interest payment. Deferred liability –staff gratuity – No direct interest payment.

Secured loan – Directly interest bearing debt. Etc. And in interest expense, short term and long term both types of interest include. So using the total interest payment may overestimate the total interest expense. And in annual report all companies didn't disclose interest expense information clearly. Generally Average Cost of debt calculated by: But considering the above facts, it was getting difficult to use above formula. So in this report, cost of debt was not calculated by using above formula. Rather it has been considered the average lending rate of the bank over the last 10 years to determine the cost of debt.

Here is the last 10 years lending rate information: Lending Rate 2008 2007  
2006 2005 2004 2003 2002 2001 2000 Average Lending Rate 12. 31 12. 75  
12. 99 11. 3 10. 8 12. 36 13.  
1 13. 42 13. 75 12.

67 [Cost of debt might vary company to company. But it is assumed that over the last five years pharmaceutical firm's had to pay on an average 12. 67% interest on long term debt. Some firms might pay higher interest than average and some might pay lower.

But on an average overall industry might follow the average cost of debt] 7|  
P a g e Market Risk or Equity Beta Equity beta uses to calculate the required return by using CAPM approach. Market Risk is calculated by Asset Beta/Unlevered Beta Asset beta often referred unlevered beta. It reflects the business risk of the assets. Asset Beta calculated by: Multiple Regression Analysis This analysis has done for analyzing which factor influence highly in cost of capital determination. Here is the variables list: ? ? ? ? Cost of capital – Dependent variable Debt/Equity Ratio – Independent variable Retention Ratio – Independent Variable. Equity beta – Independent variable.

INDUSTRY OVERVIEW In Bangladesh the pharmaceutical sector is one of the most developed hi-tech sectors which is contributing in the country's economy. After the promulgation of Drug Control Ordinance – 1982, the development of this sector was accelerated. The professional knowledge, thoughts and innovative ideas of the pharmacists working in this sector are the key factors for these developments. Due to recent development of this sector it is exporting medicines to global market including European market. This sector is also providing 97% of the total medicine requirement of the local market. Leading pharmaceutical companies are expanding their business with the aim to expand export market. Recently few new industries have been established with high tech equipments and professionals which will enhance the strength of this sector. 7% of total market share are captured by the local manufacturing company.

For the analysis 8| P a g e COMPANY SELECTION In DSE pharmaceutical and chemical sector 20 companies are listed. But among those five companies



are selected for the analysis cost of capital. These are: ? ? ? ? ? Square pharma Renata Ltd. Beximoc Phama. Glaxco Smithkline. Ambee pharma.

These are selected, because they are involved with producing pharmaceutical products which are their core products. Other 15 companies are involved with chemical, Pharmaceutical accessories producing and they diversified other line of business. Besides, there are some other pharmaceutical companies running there operation which are not listed. They are not taken under consideration to analyze the Industries cost of capital due to inaccessibility to their financial information. For that reason, these fives are selected for the extensive analysis of cost of capital. Now here will be a detail discussion about how capital structure decision and dividend policy decision and their market risk or business risk influencing the firm's and Industries cost of capital.

CAPITAL STRUCTURE OVERVIEW From the capital structure analysis, it has found that the pharmaceutical companies are mainly Equity financed. They are using very less amount of debt in their capital structure. And they didn't use other means of financing. Here is the graphical overview of 2008 capital structure of pharmaceutical companies:

Company	Debt (%)	Equity (%)
Ambee Pharma	3%	97%
Baximco Pharma	14%	86%
Glaxo SmithKline	10%	90%
Renata	10%	90%
Square Pharma	9%	91%

From the above chart, it has found that Beximco Phama largely debt financed among the five pharmaceutical companies. Average amount of debt used by this industry was 9.

3%. So in determining the cost of capital, cost of equity has large contribution. Basically two reasons worked behind of using less amount of debt: Operating leverage of the pharmaceutical companies was very high, so increasing debt might be harmful for their existence. Besides they have large amount of retained earnings, so having such cheapest internal sources of fund reducing the uses of debt. Here is the last five years Debt to equity ratios by using Market Value and book value of Equity: 10 | P a g e DEBT TO EQUITY (BOOK VALUE) RATIO 2008 2007 2006 2005 Ambee Pharma 0. 3 0. 00 0.

00 0. 00 Beximco Pharma 0. 14 0. 20 0. 15 0. 19 Glaxo SmithKline 0. 10 0. 12 0.

16 0. 09 Renata Ltd. 0. 10 0. 11 0. 12 0. 13 Square Pharma 0.

09 0. 08 0. 09 0. 07 DEBT TO EQUITY (MARKET VALUE) OF EQUITY 2008 2007 2006 2005 Ambee Pharma 0. 01 0.

00 0. 00 0. 00 Beximco Pharma 0. 08 0. 22 0. 19 0. 27 Glaxo SmithKline 0. 03 0.

05 0. 08 0. 05 Renata Ltd. 0.

02 0. 02 0. 05 0. 05 Square Pharma 0. 02 0.

04 0. 05 0. 02 2004 0.

00 0. 30 0. 09 0. 16 0. 01 2004 0. 00 0. 24 0.

04 0. 06 0. 004 In cost of capital determination, market value equity will be used against book value of debt. The above table is calculated by:  $\frac{\text{Book value of Equity}}{\text{Market value of Equity}}$  Market value of equity has been considered to calculate Pharmaceutical firm and Industries cost of capital. The firm's balance sheet shows the book values of the common stock, and long-term debt. You can use the balance sheet figures to calculate book value weights, though it is more practicable to work with market weights. Basically, market value weights represent current conditions and take into account the effects of changing market conditions and the current prices of each security. Book value weights, however, are based on accounting procedures that employ the par values of the securities to calculate balance sheet values and represent past conditions.

Book value of debt used because there is no established debt market of pricing the debt market value. 11 | Page DIVIDEND PAYMENT PATTERN ANALYSIS From the dividend payment pattern analysis it has found that those companies retain more who has more profitable investment opportunities or growing company. Here is the graphical overview of 2008 dividend payment pattern of pharmaceutical companies.

Ambee Pharma Payout ratio 5% Retention Ratio Baximco Pharma Payout ratio Retention Ratio 31% 95% 69% Glaxo Smithkline Payout ratio Retention Ratio Renata Payout ratio Retention Ratio 20% 49% 51% 80% Square Pharma Payout ratio Retention Ratio 49% 51% 12 | Page It is observed that the company like Square pharma, Beximco Pharma and Renata are retaining more. Ambee pharma always paid higher dividend and their retention ratio

only five percent in 2008. Here is the last 5 years retention ratios are given:

RETENTION RATIO 2008 2007 2006 0.

05 0. 22 0. 00 0. 31 0.

46 0. 68 0. 49 0. 33 0. 00 0. 80 0. 76 0. 67 0.

51 0. 1 0. 27 Ambee Pharma Beximco Pharma Glaxo SmithKline Renata Ltd.

Square Pharma 2005 -0. 37 0. 76 0. 26 0. 58 0.

34 2004 0. 08 0. 36 0. 67 0. 44 0. 17 From the above graph and table analysis, it has found that Ambee Pharma retaining less among the five companies over the last 5 years, even they paid dividend despite of negative EPS in 2005. The reason is that this company was not as profitable as other pharmaceutical companies.

So retaining more will create higher opportunity cost for the investors of that company. And the higher the retention increased the Pharmaceutical internal sources of fund. And they are using less amount of debt in overall capital structures. Enhanced retention doesn't mean that they are paying fewer dividends. In absolute terms they paid higher dividend than previous year. But with the increasing earnings they retained highly in relative terms. Average retention in the industry was around 50% and average ROE 15.

40%. So the growth rate is:  $g(2008) = \text{Industry ROE} \times \text{Industry Retention Ratio} = 15.40\% \times 50\% = 7.7\%$  It means pharmaceutical industries growing tremendously and its growing highly supported by its internal sources fund. Pharmaceutical companies are continuously paying stock dividend. It means

they are capitalizing their retained earnings and leaving less cash from the firm. 13 | P a g e MARKET CAPITALIZATION ANALYSIS Market Capitalization IN 2008 Ambee Pharma 0% Beximco Pharma 30% Glaxo SmithKli ne Renata 5% Ltd.

13% Market Capitalization IN 2007 Ambee Pharma 0% Square Pharma 46% Beximco Pharma 24% Square Pharma 52% Renata Ltd. 23% Glaxo SmithKli ne 7% Market Capitalization IN 2006 Ambee Pharma 0% Beximco Pharma 28% Glaxo SmithKli ne Renata 8% Ltd. 12% Market Capitalization IN 2005 Beximco Pharma 18% Ambee Pharma 0% Glaxo SmithKli ne 7% Renata Ltd.

8% Square Pharma 52% Square Pharma 67%Market Capitalization IN 2004 Ambee Pharma 1% Square Pharma 44% Beximco Pharma 35% Renata Ltd. 9% Glaxo SmithKli ne 11% 14 | P a g e From market capitalization analysis it is observed that Ambee pharma has very little contribution in total market capitalization. Square pharma and baximco pharma were always in the top from market capitalization perspective. Market capitalization determined by the total outstanding share and the market price of the stock. MARKET RISK & BUSINESS RISK (EQUITY & ASSET BETA) ANALYSIS EQUITY BETA/MARKET RISK It is known that in market risk is the basic component of determining the required rate of return. This is calculated form the covariance between the general index and securities return.

Market risk refers as non diversifiable risk and for which an investor can demand market risk premium. When the securities return is highly correlated with index return then market risk increases. Because securities price movement only caused by the index movement, firm specific causes have

little contribution. But there are other reasons may increase the firm's riskiness such as revenue variability, higher degree of operating and financial leverage. An investor may claim risk premium for those risk also.

But it is said that market price discount everything, that means price movement of securities may reflect the fundamental riskiness of the firm as well market created risk. So only market risk has consider here to determine the risk premium of the selected companies. Here is the last 5 years market risk of the selected companies: 15 | P a g e Equity Beta (In last 5 years)  
Square Pharma Renata Ltd. Glaxo SmithKline 0. 76 0. 19 2004 0. 52 1.

36 0. 71 0. 88 0. 29 2005 0. 45 1.

23 0. 63 0. 78 0. 35 2006 0. 44 1. 04 0.

57 1. 03 2007 0. 49 0. 45 1. 17 0. 62 1.

01 0. 54 2008 0. 69 1. 8 0. 81 Beximco Pharma Ambee Pharma From the above graphical analysis it has found that Equity Beta of Beximco pharma and square pharma always in the top over the last 5 years. Renata was always below in terms of market risk over the last 5 years among the 5 pharmaceutical companies.

Market risk is represented by Beta. Beta means sensitivity of security's return due to changes of market return and it can be calculated by the regression analysis. Here is the market risk analysis of 2008 by using regression Analysis: 16 | P a g e Market Risk Analysis 120. 00% 100.

00%  $y = 0.06x + 0.002$   $R^2 = 0.$

153 Market Risk Analysis 50. 00% 40. 00% 30. 00%  $y = 1.178x - 0.000 R?$   
 $= 0.35860.$

00% 40. 00% 20. 00% 0.

00% Beximco Pharma 80. 00% Ambee pharma 20. 00% 10. 00% 0. 00% -20.  
 00% -10.

00% -10. 00% 0. 00% -20.

00% -30. 00% -40. 00% -50. 00% General Index 10. 00% 20.

00% -30. 00% -30. 00% -20. 00% -10.

00% 0. 00% -20. 00% -40. 00% General Index 10. 00% 20. 00% Market Risk  
 Analysis 60. 00% 50.

00% 40. 00%  $y = 0.689x + 0.$

004  $R? = 0.121$  Market Risk Analysis 40. 00% 30. 00% 20. 00%  $y = 0.535x$   
 $+ 0.025 R? = 0.$

156 Glaxo SmithKline 30. 00% 10. 00% 0. 0% -20. 00% -10.

00% -10. 00% 0. 00% -20. 00% -30.

00% -40. 00% General Index 10. 00% 20. 00% Renata 20. 00% 10. 00% 0.  
 00% -20.

00% -10. 00% 0. 00% -10. 00% -20. 00% -30. 00% General Index 10. 00% 20.

00% -30. 00% -30. 00% Market Risk Analysis 50. 00% 40. 00% 30. 00%  $y = 1.005x - 0.$

003  $R^2 = 0.260$  Square pharma 20. 00% 10. 00% 0. 00% -20.

00% -10. 00% -10. 00% 0.

00% -20. 00% -30. 00% -40. 00% -50. 00% General Index 10.

00% 20. 00% -30. 00% From the above analysis it has found that those securities beta are low which securities return are congested with the trend line.

Higher the coefficient of determination means securities return highly explained by the market movement and its market risk or equity beta will be higher. 17 | Page Asset Beta /Unlevered Beta/Business risk of the pharmaceutical's companies: Asset beta calculates the business risk of the firm. It is often referred as unlevered Beta. Here is the last 5 years calculated asset beta: ASSET BETA/UNLEVERED BETA 2008 2007 2006 0.804 0.623 0.565 1.

114 0.975 0.896 0.

677 0.431 0.411 0.528 0.480 0.334 0.

991 0.999 0.754 Ambee Pharma Beximco Pharma Glaxo SmithKline Renata Ltd. Square Pharma 2005 0.632 0.77 0.

437 0.277 0.866 2004 0.713 1.109 0.508 0.184 0.762 From the above analysis it has found that there was very insignificant difference between



equity beta and asset beta of the Pharmaceutical companies except Baximco pharma.

Because all of the pharmaceutical companies are using less amount debt in their capital structure except Baximco Pharma. For that reason beximco pharma's asset beta decreased significantly from equity beta. So it can be said that there financial riskiness of Baximco phrama was higher than any other pharmaceutical companies. 18 | P a g e COST OF EQUITY AND

COMPARISONS WITH ROE We know that cost of equity is the required rate of return of stockholders for the given risk category of the company. If the cost of equity is larger than the return of equity then the stockholders equity value declines. Here is the last 5 years Cost of equity and comparisons with ROE: Cost of Equity Vs ROE Ambee Pharma Cost of Equity 0.176 0.

136 0.165 0.161 0.123 0.110 Ambee Pharma ROE 0.161 0.080 0.180 0.

216 0.097 0.052 Cost of Equity Vs ROE Beximco Pharma Cost of Equity 0.233 0.

154 0.043 2007 0.059 0.072 0.068 Beximco Pharma ROE 0.

229 0.263 2008 2007 2006 2005 2004 2008 2006 2005 2004 Cost of Equity Vs ROE Glaxo SmithKline Cost of Equity Glaxo SmithKline ROE 0.219 0.

155 0.261 0.146 Cost of Equity Vs ROE Renata Ltd. Cost of Equity 0.263 0.148 0.246 0.110 Renata Ltd.

ROE 0.249 0.121 0.

250 0. 112 0. 163 0. 157 0. 143 0. 056 0. 115 0. 140 0.

060 2008 2007 -0. 022 2006 2005 2004 2008 2007 2006 2005 2004 Cost of  
Equity Vs ROE Square Pharma Cost of Equity 0. 197 0. 164 0. 216 0.

178 0. 182 0. 137 Square Pharma ROE 0. 226 0.

189 0. 211 0. 186 2008 2007 2006 2005 2004 From this analysis we have  
found that Renata over the last 5 years was able to generate higher ROE  
than cost equity.

Beximco Farma's cost of equity was always higher than its ROE. That means  
according to firm risk structure it was not able generate the expected  
required return. And the cost of equity of Square Pharma increased in recent  
years than ROE. The reason found from analysis is that they raised the  
equity capital by issuing bonus shares over last 5 years, so with the  
increasing outstanding equity square pharma was not able to increase its  
ROE up to investors required return. 19 | P a g e COST OF CAPITAL OF THE  
SELECTED COMPANIES AND THE INDUSTRY COST OF CAPITAL 2008 2007  
2006 Ambee Pharma 0. 8 0. 17 0.

12 Beximco Pharma 0. 21 0. 20 0. 14 Glaxo SmithKline 0. 16 0. 14 0. 11  
Renata Ltd.

0. 14 0. 15 0. 11 Square Pharma 0. 19 0.

21 0. 13 INDUSTRY COST OF CAPITAL Average cost of capital 0. 18 0.

17 0. 12 Capitalization weighted 0. 19 0. 19 0. 13 2005 0. 16 0. 19 0. 14 0.

12 0. 19 0. 16 0.

18 2004 0. 18 0. 22 0. 15 0. 11 0. 19 0. 17 0. 19 Here, industry cost of capital calculated by: ? Average Cost of Capital = ? Market Capitalization weighted cost of capital = In average cost of capital industry cost of capital underestimated, because all are equally weighted.

But there market capitalization greatly differs. So industry cost of capital should be calculated according to market capitalization weight of the company. Pharmaceutical Industry Cost of Capital 0.

18 0. 19 Average cost of capital 0. 19 0. 17 Capitalization weighted 0. 16 0. 18 0.

17 0. 19 0. 12 0. 13 2008 2007 2006 2005 2004 Pharmaceutical industry cost of capital in 2008 & 2007 was very high in both methods. 20 | P a g e  
THE FACTORS INFLUENCE THE PHARMACEUTICAL'S COST OF CAPITAL Now it will be decided which factor influences the cost of capital significantly. It is known that cost of capital of the firm influenced by the riskiness of the firm, debt equity mix and the financial soundness of the firm. In this report it has tried to capture the fact which influences the pharmaceutical firm's cost of capital significantly.

It that case a multiple regression analysis has done to find out real scenario: ? INPUT OF THE ANALYSIS 1. Cost of capital – dependent variable 2. Debt/Equity Mix – independent variable 3. Retention Ratio – independent variable. 4. Equity Beta – independent variable. 5. 25 observations over the last 5 years regarding the above variables.

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6. Significance level 5% ? OUTPUT OF THE ANALYSIS: Variables

Entered/Removed(b) Variables Model Variables Entered 1 Debt to Equity Ratio, Retention ratio, Beta(a) a. All requested variables entered. b.

Dependent Variable: Cost of capital . Enter Removed Method 21 | Page  
Model Summary(b) Adjusted Model R 1 . 899(a) R Square .

809 R Square . 782 Std. Error of Durbin- the Estimate Watson . 01570 2. 689  
a Predictors: (Constant), Debt to Equity Ratio, Retention ratio, Beta b

Dependent Variable: Cost of capital ANOVA(b) Model 1 Regression Residual  
Total Sum of Squares . 022 . 005 . 027 Df 3 21 24 Mean Square . 07 . 000 F  
29. 657 Sig. . 000(a) a Predictors: (Constant), Debt to Equity Ratio, Retention  
ratio, Beta b Dependent Variable: Cost of capital Coefficients(a)

Unstandardized Model Coefficients B 1 (Constant) Beta Retention ratio Debt  
to Equity Ratio . 085 . 114 . 002 -. 111 Std. Error . 010 . 013 . 012 . 043

Standardized Coefficients Beta 8. 354 1. 074 . 020 -. 344 8. 538 . 191 -2. 554  
. 000 . 000 . 850 . 018 t Sig. a Dependent Variable: Cost of capital 22 | Page

e Coefficient Correlations(a) Model 1 Correlations Debt to Equity Ratio  
Retention ratio Beta Covariances Debt to Equity Ratio Retention ratio

BetaDebt to Equity Ratio 1. 000 -. 426 -. 652 . 002 . 000 . 000 Retention ratio  
-. 426 1. 000 . 247 . 000 . 000 . 000 Beta -. 652 . 247 1. 000 . 000 . 000 . 000

a Dependent Variable: Cost of capital SUMMARY OF THE FINDINGS: 1. Cost of  
capital of the pharmaceutical company highly influenced by the market risk.

The equation is: Cost of capital (Kc)= . 085+. 114Beta + . 002Retantion  
Ratio - . 111 (D/E) The equation means that: cost of capital of the

pharmaceutical firm increase by . 114 unit if beta increased by 1 unit. Cost of  
capital decreases with the increasing debt to equity mix. It express that cost

of capital decreases by .111 if Debt to equity ratio increases by one 1 unit. If Retention ratio increases by 1 unit, then cost of capital will increase by .002.

2. Here,  $R^2 = .809$ . That means the cost of capital changes highly explained by the changes of market risk, debt/equity mix and retention ratio.

3. The influencing power of debt to equity mix and market risk on cost of capital was very high. And the result is statistically significant. Because this result was less than 5% significance level.

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4. The above statistical analysis was statistically feasible. Because: ? The relationship between dependent and independent variables was appropriate. Such that: Cost of capital increases with increasing beta. Cost of capital increases with increasing Retention Ratio. Cost of capital Decreases with increasing Debt to Equity Ratio. And the multiple regression analysis has given the same result. ?? There was no autocorrelation, which was proved by Durbin Watson value. Multicollinearity problem was not there. Because the correlation among the independent variables are less than . . So the conclusion is that the cost of capital of pharmaceutical companies significantly influenced by “ Capital Structure policy and Market Risk” .

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**CONCLUSION**

At the end of an extensive analysis on pharmaceutical’s cost of capital, the following issues are revealed: ? Pharmaceutical companies are mainly equity financed. They are using less amount of debt. So in cost of capital determination cost of equity of the company highly weighted. Tax deductible opportunity was not exploited by the pharmaceutical companies. ? Pharmaceutical sector is a growing sector. As growing sector, the companies are retaining more of their earnings. It raised their total internal sources of fund. We know that cost of equity equals cost of retained earnings. Besides

higher retention create opportunity cost for the investors. ? Pharmaceutical company's Market risk or average beta was less than 1, which means this sector was less sensitive with the market movement. ? Pharmaceutical industries and firm's cost of capital significantly influenced by the market risk, capital structure decision and dividend policy decision had little influences. 25 | P a g e 26 | P a g e