

Impact of Corporate Earnings on the Cost of Equity: An Empirical Study of Pakistani Textile Sector

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To cite this article:

Muhammad Ateeq ur Rehman, Awais Raoof, Syed Zulfiqar Ali Shah, Ramiz ur Rehman, Sajjad Ahmed. Impact of Corporate Earnings on the Cost of Equity: An Empirical Study of Pakistani Textile Sector. *European Business & Management*. Vol. 2, No. 2, 2016, pp. 54-59. doi: 10.11648/j.ebm.20160202.16

Received: August 31, 2016; **Accepted:** November 24, 2016; **Published:** December 30, 2016

Abstract: The main purpose of this study is to investigate the relation between corporate earnings and cost of equity capital. Panel regression model is used to investigate the relation while Hausman test is applied to check the fixed and random effect. The study finds negative but weak relation between earnings and cost of equity capital. The study examines more intensity of fixed effect as compare to random effect.

Keywords: Cost of Equity, Corporate Performance, EPS, Market Risk

1. Introduction

Corporation is a large business owned by shareholders but separate from the owner and sells its stock in public [1]. Corporation is also an attractive form of the business in the modern world and the concept of limited liability causes to create more worth for the stakeholders while the transfer of ownership is also a big feature [2]. Moreover, corporation achieves its social values and long term relation with stockholders maximizing the value of the stock and generating financial information [3]. Strong financial information becomes a reason to attract the capital provider [4]. Corporate financial information plays an important role to value and reputation level of the relative firm [5]. In addition, corporation proclaims different types of information to create the stock value and build the good relation with stakeholders [6]. Legislative authority binds the corporate sector to show the financial information at a specific time which shows the real picture and risk level of a relative business unit. Financial statements are the tools to assess the informational evidence of a firm. Meanwhile the persistent financial information also causes to increase liquidity of the stock in the capital market [7]. Higher level of corporate

financial disclosure condenses the uncertain situation at market and it leads to reduce the risk level of a particular business unit. Therefore investors rank the organization on the basis of risk perceived through released information at corporate level [8]. Stakeholders dislike firms those do not announce financial information regularly. Investors analyze earning indicators of the organization and badly react if corporation does not produce financial information frequently [9]. In so far as, stockholders invest on the basis of financial information. Conversely, capital providers charge the cost of capital according to the financial performance and its long term objectives. Investors totally rely on earning which causes to decrease or increase the cost of capital. Consequently, investors require low cost of capital on high corporate performance [10]. Additionally better performance builds a trust between shareholder and company which leads to reduce the cost of equity capital [11]. Subsequently firm's earning also determines the relative risk of the stock and motivates the investors to provide more capital to create more wealth in future [12]. In consequence, annual reports show the financial display of a relative firm and stakeholders measure financial performance analyzing such reports. In addition, financial information determines the risk level of a

firm in order to estimate the required rate of return on provided capital. Investors do not invest in risky business due to uncertainty and the protection of investment is the critical issue now days because stockholders do not want to loose their investment at any cost.

Financial earning indicates the better utilization of the resources and it reduces the uncertainty level as a result it diminishes the cost of equity capital. Capital Asset Pricing model (CAPM), a traditional method measures the cost of equity capital [13].

Internationally a lot of work shows the impact of earn per share (EPS) to determine the cost of equity capital. Traditionally, only market risk premium is used as an independent factor which controls the return of the stock. The main objective of the research work is to explore the causal relationship between corporate performance and cost of equity capital.

Prior to the contemporary research, no study is conducted on causal relation between corporate earnings and cost of equity capital and less work is done in same dimensions related to equity market of Pakistan. Impact of EPS on the cost of equity capital fills the gap between past and contemporary knowledge. Corporate earning produces positive financial information and helps the investors in financial decision making as well as. The research provides guidance to the professionals with new dimension EPS as a measure of cost of equity related to Pakistani business. The study also examines how earning leads to change the attitude of the people regarding their demand on investment. Moreover, the body of knowledge divulges what factor determines the price of the stock and what are the reasons behind this volatile phenomenon is? In addition, the research also enhances the body of knowledge at academic level and discusses the behavior of earning of the corporation is changed. The study also investigates different factors those change the cost of stock.

The rest of the study has been ordered as follows. Section two discusses the previous literature in support of the contemporary study of causal relation between corporate performance and cost of equity capital. Section three discusses the research design and methodology for the current research work. Part four explains the procedure of data compilation as well as examines the results and discussion. The last Section concludes the summery of findings and results.

2. Literature Review

Corporations demonstrate high financial earning to motivate the capital provider. Capital suppliers analyze the value of corporate equity on the basis of proclaimed earning indicators at the end of its operating cycle [14]. Financial performance comes through positive financial indicators and EPS is the best source to visualize the performance [15]. It generates a signal to predict the stock prices and value of equity depends upon the earning growth of stock (for the next two years). So EPS is the most important factor to predict the

cost of equity because total market value of equity comes via present value of future EPS [16]. Subsequently, EPS measure the corporate performance and plays an important role to determine the cost of equity capital. Thus disparity in earning on investment leads to divert the expectation level of the investors [17]. Therefore, earning on stock is the most important factor in the eye of investors and it also leads the selling and buying activities. Positive earnings growth also predicts not only the price of relevant stock but also diminish the cost of overall capital and equity [18]. Dramatic movement in financial earning also causes to change the cost of equity capital and corporation try to stop the variation in earning because it creates a big hurdle for the business unit. In addition, increases in earning variation enhance the risk level and causes to increase the cost of equity and vice versa [19]. The investors also consider the relation of cost of equity with different factors under the umbrella of corporate governance including firm size, risk level and volatility in stock return. Further, such factors under corporate governance are negatively correlated with cost of equity capital [20]. Capital providers analyze earning per share to determine the price of the stock and most of the stock prices depend upon the forecasted growth in earning per share for the next two year. Accordingly, upward trend in earning per share to decrease the cost of equity [21]. Contrary to this another work investigates the relationship between earning per share and price of the stock using data related to UK biotechnology sector. The result clearly states there is no connection between EPS and stock return. In addition, earning for the current year and cumulative effect of that earning both have no relationship with price of the stock. In so far as, earning does not play an important role to determine the value of the stock [22]. In confutation to this a work confers that EPS cause to change the price of share but prejudiced factor to predict [23]. Another research finds positive relationship between earning indicators and cost of equity whiles the variation in earning cause to change the price level of the stock. Consequently, investors charge on investment keeping in view the movement of EPS indicators. The positive relation explains that increase in EPS means to increase the required rate of return on the share [24]. Henceforth, EPS predicts the required rate of return on capital stock and corporations declare high earning per share to reduce the cost of equity.

3. Methodology

3.1. Hypothesis Development

Theoretically, there is a strong relation between disclosure level and cost of equity because high disclosure level decreases the transaction cost and increases the demand of the stock. But practically, the evidence shows opposite result revealing insignificant relation between disclosure level and cost of equity [25].

However, superior performance of the company brings the positive change in EPS and annual return on stock. The

investors observe the financial view of the firm to comprehend the performance while the stakeholders also distinguish the firm on the basis of such indicators. However, better performance cause to increase required rate of return on stock [26]. Therefore, corporation shows high performance to secure its capital providers and to reduce the risk level. By this strategy, organization not only reduces uncertainty but also enjoy lower cost of equity capital [27]. Smoothly financial performance causes to resolve the uncertain situation in the market about relative companies. It also reduces precariousness in the prices of the stock and examines low level of risk [28].

In addition, low performing organization exhibits greater volatility of return as compare to high performing firm [29]. At last, Market uncertainty is also a factor to increase or decrease the risk level of relative company. The risk level not only reduces the performance but also create liquidity problem related to relevant stock.

The factor EPS measures the corporate performance which leads to predict the cost of equity. Following hypothesis states the relation [21],

H1: There is a negative association between earning per share and cost of equity capital.

3.2. Measurement of EPS

EPS is used as a measure of corporate performance and literature also shows EPS as an indicators of financial performance [16]; [21]; [23] and [24] in their previous work. The equation (1) shows the method to measure the earning per share,

$$EPS_{i,t} = NI_{i,t} / T.S_{i,t} \quad (1)$$

Where

EPS= Earning Per Share

NI= Net Income

T.S= Total No. of Share

i= Name of the Company

t= Number of the year

3.3. Measurement of Cost of Equity

Market risk is used as control variable because in panel regression there is problem of endogeneity due to the other factors which lies in the error term of the model. The problem of endogeneity in the model and it comes due to the other factors irrespective of the variables included in model [30]. Another study also describes the importance of the control variables and its effect on independent variables in the model [31].

Capital asset pricing model (CAPM) is used to measure the cost of equity and also a best strategic tool to find the expected value of the stock as compare to the other ones [33]. The following equation (2) shows the formulation of CAPM,

$$K_{e,i,t} = R_{f,i,t} + (R_{m,i,t} - R_{f,i,t}) * \beta + \varepsilon_{i,t} \quad (2)$$

Where

$K_{e,i,t}$ = Cost of Equity

$R_{f,i,t}$ = Risk Free Rate

R_m = Market Rate of Return

β = Risk level of the firm

$\varepsilon_{i,t}$ = Error Term

i= Name of the Company

t= Number of the year

Beta is used to measure the risk level of the company [32]. Consequently, another study exercise the same method to find the cost of equity capital and it also includes the additional premium in its formulation. Defense saving certificate is used as a proxy of risk free rate while market risk premium is assumed 5%. In addition three year monthly prices are used to find the beta of the stock [13]. The other study [24] finds the relation of EPS with cost of equity. Following equation (3) is formulated to check relation of corporate performance with cost of equity and MR is taken as control variable same equations

$$K_{e,i,t} = \alpha_{it} + \beta_i (MR)_{it} + \gamma_i (EPS)_{it} + \varepsilon_{it} \quad (3)$$

3.4. Fixed Effect Model and Hausman Test Specification

In order to find the fundamental relation between cost of equity and corporate earning, the data of fifty companies from 2001 to 2006 has been used. However, such panel data of various corporations leads in adoption of panel regression model to find the relation between independent and dependent variable. Many factors affect the cost of equity but the study contain only one variable related to corporate performance with one control variable market risk while the companies were selected randomly from KSE (Karachi Stock Exchange) of Pakistan. In addition, random and fixed effect are also checked as proposed in the study [33] while to check the effectiveness of both effect Hausman test was applied.

3.5. Data and Sample

This segment illustrates the procedure related to the collection of the data used in this current work. It also analyzes the proposition as well as the sample assortment method employed in this study. However, the data of stock prices are obtained from KSE (Karachi Stock Exchange) of Pakistan which is the biggest stock exchange among the other stock exchanges in Pakistan. Additionally, the study includes the data of different companies related to corporate earning indicators and it is taken from the SBP (Standard Bank of Pakistan) website (www.sbp.com.pk). However, both sources are reliable and authentic all around the country for financial and for public information related to any sector of Pakistani market.

To explore the relation between cost of equity and corporate performance, the stock price of 50 companies from 2001 to 2006 are used. Another study [34] used one year data to find the corporate performance of the Islamic banking sector while the recent study includes 6 years data to measure

the relation between corporate performance and cost of equity capital. To choose the sample of the companies the following approaches are considered;

- (a) The share of the company must be traded publicly
- (b) Banking and services related companies are not included in the sample
- (c) Randomly selected on market capitalization base

On the basis of such condition the work contains 50 companies from different sectors and it includes the years from 2001-2006 while sample includes 300 observations on the basis of panel data. EPS is used as earning measure whereas MR is treated as a control variable. Because MR can be controlled via economic policy at macro level and it can decrease the cost of equity more tactically. Apart from this, cost of equity is measured by using CAPM and it is the most important tool to calculate the required rate of return.

In CAPM, β is used to measure the relative risk of the stock and monthly stock prices are used to measure the return volatility [35]. However, Defense Saving Certificate (DSC) reported by SBP is used as a proxy of risk free rate. In addition, market risk premium is assumed 5%.

4. Findings and Discussion

4.1. Findings

Table-1 (Appendix) exhibits the relation of EPS with cost of equity capital and the findings reveal negative relation between both variable which is -0.03% while MR (0.04) positively move with cost of equity capital and the other study [21] also find the same relation of required rate of return with EPS. However, R-square is 0.445 which states that 44% of relation is explained by the formulated model mentioned in equation (3). However, t-value (-3.83) and p-value is 0.000 which also reveal the significance of the overall model.

As far as the relative effect is concerned, *Table-2 (Appendix)* and *Table-3 (Appendix)* show the fixed and random effect respectively. In fixed and random effect, MR is positively associated with cost of equity capital. However, t-value and z-value also prove the significant relation of EPS with cost of equity capital.

In order to find the effectiveness of fixed and random effect, *Table-4 (Appendix)* shows p-value is less than 0.05 and it expose the effectiveness of fixed effect as compare to random effect which is tested by using Hausman test.

The acceptance of fixed effect also describes there are also some other factors irrespective to the factors included in the equation (3) which also change the cost of equity capital.

4.2. Discussion

The main objective of this research papers is to investigate the relation of corporate earning with the cost of equity capital. However, EPS is taken as a proxy to measure the corporate earnings and cost of equity is measured using Capital Asset Pricing Model (CAPM) while Market risk is taken as a control variable. In order to find the relation

between both variable, EPS is taken as independent variable and cost of equity is used as a dependent variable in the study.

Regression analysis shows the negative association between earning and cost of equity capital. The p-value also proves the significance of the model formulated in equation (3). Although, MR is positively associated with the cost of equity and the constant term of the model is also positively associated with the dependent variable. The overall model is explained by 44% comes through R^2 shown in the findings section. Apart from this, the effectiveness of random or fixed effect is tested using Housman test. It explores factors not included in the model also change the cost of equity hidden inconstant term of the model. So, overall effect of corporate earnings is negatively associated with the cost of equity which exhibits that the investors require low return on their investment in case of high earnings.

5. Conclusion

The main objective of this research is to investigate the relation between corporate performance and cost of equity capital. A number of 50 companies data regarding the stock prices was collected from Karachi Stock Exchange (KSE) of Pakistan while EPS of the relative companies was taken from State Bank of Pakistan (SBP) from 2001-2006. The EPS is taken as a measure of corporate performance on the basis of previous literature while cost of equity is measured using capital asset pricing model (CAPM). Prior to this contemporary study, less work is done related to the market of Pakistan.

The contemporary findings give answer regarding the relative hypothesis formulated in the study. The study found the negative association between corporate earnings and cost of equity capital. As far as market risk is concerned, it is positively associated with the cost of equity capital used as a control variable in existing research work. On the other hand, fixed effect is more as compare to the random effect which is measured using Hausman test which describes that other factors also change the cost of equity capital.

The study also contains a limitation regarding yearly data point of view and in future more years can be included for further research. In addition lagged effect can also be checked on cost of equity capital by doing same kind of work. However, other factors can also be included to measure the corporate earnings and can be regressed on the cost of equity capital.

Appendix

Table 1. Pooled Regression Results (2001-2006).

Source	SS	df	MS	Number of Obs
Model	0.144	2	0.0722	300
Residual	0.180	297	0.0006	
Total	0.324	299	0.0108	
Ke	Coef.	t	P> t 	
EPS	-0.0003	-3.83	0.000	
Beta	0.412	14.95	0.000	
Cons	0.115	44.35	0.000	

Table 2. Fixed Effect Regression Results (2001-2006).

Ke	Coef.	t	P> t
EPS	-0.0008	-5.53	0.000
Beta	0.0333	6.88	0.000
Cons	0.1279	33.29	0.000
Sigma_u	0.0126	R-square	0.22
Sigma_e	0.0254	F-value	34.19
rho	0.1969	Prob>F	0.000
Corr (u _i , X _b)	-0.153		

Table 3. Random Effect Regression Results (2001-2006).

Ke	Coef.	z	P> z
EPS	-0.0003	-3.83	0.000
Beta	0.0419	14.96	0.000
Cons	0.0116	44.35	0.000
Sigma_u	0	R-square	0.17
Sigma_e	0.0254	Wald chi ² (2)	238.10
rho	0	Prob>chi ²	0.000
Corr (u _i , X)	0		

Table 4. Hausman Fixed Random Result (2001-2006).

	Fixed	Random	Diff	S.E
EPS	-0.0008	-0.0003	-0.0004	0.0001
Beta	0.0330	0.0419	-0.0089	0.0039
Chi ² (2)	27.15	Prob>Chi ²	0.000	

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