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Determinants of Profitability: Investigation from Cement Sector

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Abstract

The significance of this research determines that either the chosen independent determinants could present the real picture of profitability. The sample size of twelve (20) cement firms registered in KSE has been analyzed by the consolidated financial statement for the year 2009-2014 that was published on the website of State Bank of Pakistan. Pooled regression model has been used to analyze the data. The data employed in this research covered 4 financial years i-e 2010 to 2014. The results revealed that all the variables including current ratio, earning per share, financial leverage, Yearly growth in revenue has negative relationship with profitability when measured in terms of ROE except gross profit margin which has statistically positive association with profitability in terms o ROE.

Key Words: Profitability, Cement Sector, EPS, Liquidity, Financial leverage, Growth, GP Margin

1. Introduction

This article emphasizes on studying the effect of certain determinants on profitability of companies in the sector of cement manufacturing particularly in Pakistan. Moreover, the objective of this research article is to look at whether the companies related to cement sector show a commonality in respect of the connection of the selected determinants to profitability. In short, what is the capability of the connection between a profitability and specific determinant be generalized at what extent for the cement sector in total or is there any proof to determine that the importance of selected determinants fluctuates from organization to organization.

Twenty cement companies registered on KSE (Karachi Stock Exchange) has been analyzed by the consolidated financial statement present on the website of State Bank of Pakistan. The important profitability determinants discussed as dependent variable is ROE (Return on Equity) while current ratio, average share price, yearly revenue growth, financial leverage and Gross Domestic Product has been discussed as independent determinants.

The result indicates that financial leverage has a negative relationship with respect to profitability. Secondly, liquidity as calculated through current ratio has an indirect relationship with respect to profitability. Thirdly, yearly growth in revenue of sales also has a negative impact on the profitability of the analyzed firms. This suggests inconsistencies in the structure of cost of the companies' sample which indicates that for a provided % (percentage) raise in sales revenue of each company, the % change in profitability will fluctuates from company to company. Moreover, Earnings per share have negative influence on profitability in terms of ROE. Finally, gross profit margin also has positive linkage with profitability.

Literature Review

The research paper primarily focuses on linkage of profitability on key financial and economic indicators such as cost efficiency. The underlying theoretical concept illustrates that profitability of firm is determined by its liquidity ratios other than shared average price. The financial leverage ratios are indicated as insignificant predictor in identifying the short-term profitability of firms. The ratios such as long term debt to capital utilization compare company's long term debts to its short term debts.

Literature review suggests that the issue of return can be reduced by providing excess capacity in result of undesirable demand in order to grasp export opportunities. The company introduced public sector development program which addresses the need of public sector to have growth opportunities in reference with linkage of profitability with key financial and economic indicators (Zubairi, 2010).

According to research by Rangriz and et al. the decision is based on several research methods and the objective of this research is to rate cement industry on more than one research methods. According to Ardabil and Azhar Shahr all these ratios profitability, liquidity and financial leverage play crucial role for the success of any firm by using Copeland method. Furthermore, it is investigated that working capital management has weak relationship in growth and profitability of cement industry in framework of Iran. The liquidity ratios determine whether company has adequate cash to pay-off its short term creditors whereas profitability ratios are a measure of operational activities and long-term interest for survival of firm. The research suggests that profitability ratios are unlike liquidity ratios and both measure the performance of cement industry in long-run and short-run (Hajihassani, 2015).

The central idea of the research paper focuses on liquidity management and its current financial chaos on the firm and present condition of the economy. The objective of this article is to build a strategy in order to sustain liquidity and boost profitability of firm. Today, many firm's despite of capital budgeting and capital structure focuses on working capital management (Barad Mahesh M., 2010). The inefficient management of working capital affects liquidity of firm as the company is not in situation to capitalize in its productive assets (Panigrahi, 2013).

The working capital can be either positive or negative and it shows whether a company is capable of managerial competence in a company. The negative working capital is considered higher in terms of profitability and its day to day activities are subsidized by customers. Researchers emphasize more on liquidity ratios by aiming current ratio and quick ratio and consider working capital management as goal setting problem. Working capital management yield better returns by producing maximum income and to have appropriate liquidity of investment.

According to Singh and Pandey (2008) proposed that, fixed and current assets are essential for the success of any business organization, and management has a positive impact on profitability and liquidity. There are two separate schools of thought; according to one school of thought, working capital is not a factor of refining success and there may be a negative relationship between profitability and working capital, while on the contrary investment in working capital plays a dynamic role to improve corporate profitability, and without minimum level of investment of working capital, output and sales cannot be balanced - in fact, the deficiency of working capital would keep fixed asset secure. It can be concluded that working capital indirectly affects liquidity of the company hence companies should ensure that current assets and liabilities increase at same rate. The companies can have maximum returns on capital by using negative working capital. The percentage of current assets in inventories should also be minimum.

According to (Hossain & Ul-Huq, 2014) financial analysis shows significance between statement of financial performance and position in regard to financial strength and weakness of a company. The research further investigates that increase in prices of raw materials shows that continuous growth around 20 to 25% in cement industry. Further investigated that operational strength of the company has declined as liquidity ratios falls during the period. Furthermore (Shah 2006) illustrates that technological advancement will show better growth rate from seven to eight percent in future but it is necessary that human resources should be used efficiently up to maximum capacity.

(Portela & Thanassoulis, 2005) Found few aspects of assessing performance are:

- Optimal use of other operation section.
- Gaining competence increase sales and customer profit.

(Gaganis, Liadaki, Doumpos, & Zopounidis, 2009) Have determined the influence on competence of distinguishable factors e.g., personnel, income per capita, loans to asset ratio and return to assets etc. Therefore, companies should focus on opportunity to increase the competence in order to compete with powerful departments. The departments should focus on managing the incompetence by maintain profitable customer relationships and balancing the economy.

(Kouser, Azid, & Ali, 2012) Have examined detailed research and investigated monetary and operational performance according to accounting performance standards of different developing countries. The developing countries having incomplete privatization having momentous increase in overall performance such as monetary investment, operational performance, capital expenditure and output become stronger. Many researchers concluded that success of firm is positively associated with privatization. It can be suggested that government should take predictive measures for policy making and provide financial assistance for private sector to involve in financial purchase of goods and services professionally and successfully. The prior objective of firm is to look benefit of society not business and take notice of serious matters such as law and order and sympathetic to investment without being bias to consumers and tax payers.
The government should recover political state of country and develop positive work environment which will be beneficial for privatization. It can be concluded that government should take predictive measures to increase profitability by providing better management, equipped with advanced technological systems and dynamic policies so that external sources capitalize in our country. The government should remove unnecessary limitations and extensively on industrial sector to reinforce private sector completely on its assets and regulatory arrangement for increasing profitability on functional level.
The strategy investigates that financial ratios are very important for the analyzing the financial performance of firm and cash is significant factor for all SMES. The effective management of funds is often known as financial management and company needs money for one of the following reasons:

- For development
- To run its daily operations.

According to (Awan, Shahid, Hassan, & Ahmad, 2014) that there are number of firms involved in ineffective planning of existing assets and existing liabilities and thus because of this improper planning most firms are having deficiency or surplus of working capital. Most of the firms are responsible for minimum monetary costs which increase the money to invest in monetary projects rather than amount invested in current assets. There are number of managers whose time and effort are owed in carrying not at all optimal level of present assets and liabilities back to optimal level. Accounting ratios have essential role in other empirical researches but taking alternative ratios as a choice is a problem because of absence of complete theory available for analyzing performance. To solve this problem researcher developed alternative ratio model for analyzing and observing of working capital efficiency management. Further it can be concluded that variables that have direct significant impact on working capital management are inventory turnover in days (ITD) cash conversion cycle (CCC), quick ratio, current ratio, gross working capital average payment period (APP) size of firm and money assigned by public sector development program. Further results prove that conversion cost cycle (CCC) inventory turnover (ITD) average payment period (APP) have negative influence on productivity and profitability of firms. The current ratio is insignificant and has indirect influence on ROE (Deloof, 2003) Receivables inventory cash and short term elements are important aspects of working capital management and with the help of cash management as cash flows or cash budget working firm can be more efficient and productive.
According to (Agha, 2014) It is essential for the success of firms as firm's performance is dependent on capital structure. A firm's capital structure is dominating factor in

statement of financial position. The literature review states composed of long-term debt equity and shares. During last decades researches have not verified certain percentage of debt and equity in capital structure in order to determine its influence on financial performance of firms but recent researches shows that long-term debt and equity and managers use strategies that increase firms worth and productivity.

The prior research lays emphasis on working capital management should be conducted correctly as on maximum or minimum level the working capital management will make firm nonoperatic and firms will face problems in achieving profits hence short term investments will decline. The firm will also have liquidity issues and negative impact on profitability.

Previous theories for capital structure have different aspects as they are situational because it depends on situation which is based on different set of hypothesis (Parveen, Khattak, Qayyum, & Afzal, 2014). Eldomiaty and Ismail (2009) explained that due to changing nature of business firms should regulate capital structure accordingly that's why firms work on different set of assumptions according to different situations when debt becomes less firm uses retained earnings (POT) for financing otherwise tax shield benefits for maximum tax (TOT).

Further it can be stated that there is positive relationship between short-term debt and equity and indirect relation prevails between long-term debt and equity. Therefore, it is suggested that cement sector should focus on short-term debt instead of long-term debt to have minimum losses. The debt requirement rises internal cost of firm goes under burden and cash flow streams are unable to match debt duties therefore government should provide debt financing on minimum interest rates which hinders profitability of firms.

(Hossain & Ul-Huq, 2014) Investigated influence of working capital management on cement industry essential for making financial decisions despite of big or small portion of working capital invested. The research focuses on proper management of working capital to have larger share of profits. The managers are responsible for generating profits maintaining proper balance of conversion cost cycle (CCC) and monitoring receivables or inventory days. The working capital plays essential role in development of a company. Profitability is affected by WCM and risk factors continuously affect profitability of firms. It contributes that the higher the risk and lower liquidity gives more a firm is profitable.(Doug 2010) suggests the value of shareholder increases by proper management of working capital and it gives firms upper hand in competition with other firms. Alshubri states proper management of makes firm compatible to deal with challenges of working environment. The researcher (Delor 2003) performed correlation and regression test to investigate indirect relation between gross profit income day's inventory receivables and payables of firms. Later on these researches he confirmed that having least number of days inventory and receivables value to shareholders can be can transferred by managers. When firm has lower amounts of working capital there are fewer opportunities for firms and they may suffer from liquidity issues.

The efficient management of working capital boosts productivity otherwise short term profits decline makes firms less profitable. It is recommended that firms should address cash gap by using conversion cash cycle and maintain proper balance of different components of cash cycle.

The research investigates influence of current assets on profitability of Pakistani cement sector and to have equal level of profitability and risk firm should maintain balance in its liquid assets. The author (Eligely 2009) examines the measurement of performance and efficient utilization of resources are the result of some similar ratios of working capital. It is important to meet the standards to have desired level of targets and performance in order to attain higher profit margins firms should also have measurement of time required for achieving its target in order to boost its performance. The variations in production and sales level causes change in overall profitability and performance of firms.

Further researches show that safety stock and cash are categorized under short-term assets. It is mostly utilized to meet long-term least investments needs in the phase of present assets. They remain same over a longer period of time and associated with the company's fixed assets; all investments exist within internal investment of company. The major difference between fixed current assets and other is that they remain unchanged with time physically, but small changes like depreciation and difference in market value whereas constant enduring assets continually change in physical terms. The proper utilization of inventory reduces inventory turnover time which helps to manage manufacturing functions effectively. As inventories are minimum liquid form of assets hence effective management of inventory can increase profitability (Block and Hirt 1992).There are three motives for holding inventories as follows:

- The inventory should be balanced properly with cash and inventory should be available in adequate amount to have smooth procedure form buying of raw materials to final goods production or sales to consumers.
- The inventory should be on hand to have minimum shortage of risk in supplies can be minimized in order to alleviate the risk of demand and supply.
- Gaining advantage of price change

Further, according to (Pandey 2005) financial statement analysis assess future performance of firms and it is important in decision making. The financial disclosure helps to analyze measure and summarize financial position and earning capacity.

The researcher (Hussey 2008) also investigated that ratio analysis helps in understanding and analyzing financial data in comparison with other companies of unlike sizes; a specific industry business average and similar company over a decade. Another researcher (Anao 2002) determined that three method exist for financial statement analysis

- Percentage analysis
- Ratio analysis
- Trend analysis

Further it can be concluded that firms should maintain reasonable balance in liquidity which favors going concern and permits them to maintain equilibrium in profits generated through investments. The negative association of profitability and liquidity determines inverse association losing other means. It is proposed that more researches should take place on profitability and liquidity associated with each other to understand whether there is another factor which is responsible for unusual association between both. Further research should be conducted to discover insights on effects of earnings for ordinary shareholders and leverage risk. The studies should be conducted on stock market ratio and long term solvency to meet day to day obligations.

The researches shows financial performance and growth of cement industries and it is proved by the increasing demand in recent years. The research investigates that ratio analysis is a technique used to determine the financial performance of industries which is important tool for decision making by SWOT analysis. The researches suggests that there are number of ratios to investigative a firm liquidity but only few ratios are used for comprising results of financial statements and these ratios are as follows:

Current ratio

The current ratio is essential which evaluations company is in a position to pay-off its short term creditors. The higher current ratio is good for company to determine whether company is having enough cash to pay back its short term creditors in larger quantities. (Zubairi & Raza, 2009)

Quick ratio

The quick ratio is asset test ratio and determines most liquid form of assets which can be easily converted in cash to pay its short term creditors. (Zubairi& Raza, 2009)

Inventory turnover ratio

The number of times inventory is converted in to sells and number of days required for it and the greater the inventory turnover ratio inventory is going out quickly and minimum amount of stock is available to cover shortage. If ratio is low it indicates that extra stock is available which increases cash therefore obsolete excess inventory. (Zubairi& Raza, 2009)

Debt to equity ratio

The ratio is obtained by dividing firms leverage by dividing total liabilities by stock holders. The ratio indicates portion of debt and equity used by the company to finance its assets. (Zubairi& Raza, 2009)

Interest coverage ratio

The interest coverage ratio should be over 1.5 otherwise it indicates problem somewhere as 1 and a company is having enough capacity to pay its interest liabilities with cash available in business.

Further it can be suggested that firms should focus on introducing new technologies and convert its inefficient plant in to efficient one. It can be made possible by having new equipment and advanced technological systems to improve performance. (Zubairi& Raza, 2009)

Theory

The connection of capital structure to profitability is evident differently through 2 different theories proposed by Myers in the year 1984. These theories are named as POT (Pecking Order Theory) and STT (Static trade off theory). According to Static trade off theory, a capital structure of a firm is grounded on a ratio of debt equity which is attained at by assessing the costs and benefits connected to level of debt. The determinants examined include cost of agency, cost of financial distress, impact of tax etc. While Pecking Order Theory claims that firms centered their capital on a hierarchy of decisions. Firstly, companies would employ retained earnings (internal funds) for their financial requirements. If requirements of fund for investment cannot be fully accomplished from internal sources, a company would attempt for debt financing from other financial institutions or from a bank, while delivering equity would be measured as a final option for financing externally. This indicates that firms functioning profitability would commonly not recourse to debt financing for the sake of their new investment projects, as they have adequate funds internally available for the objective. STT explains as profitable firms would favor raising debt financing to accomplish the shield of tax benefit on borrowed assets (funds). Therefore, STT proposes a positive relationship between leverage and profitability, although, POT suggests a negative connection of profitability with respect to leverage. Furthermore, STT claims that the companies having bigger size would exhibit greater priority for financing debt because of less chances of getting bankruptcy.

Ross (1977) presented the Signaling theory which suggests that increasing debt can be taken as an indicator by the capital market that a firm is confident that its net cash flow in future after servicing debt are positive. This is due to a firm contractually compelled to service its debt that is repaying principal from its cash flow and pay interest; otherwise it might be enforced to bankruptcy by its creditors. Therefore, an increased range of debt reflects the investor's and management's direct expectations with respect to future cash flows of the firm. According to POT, instead of acquiring debt for investing, the equity issuance by a firm, gives an inverse indicator in the market and this happens due to that managers are anticipated raised and more information regarding the firm and might thus be drawn to equity issuance whenever there is price increased, so downing the interests of equity financiers.

Gahlon and Gentry (1982) presented a model in order to calculate beta which means an asset's measure of riskiness in relation to the risk of a market. Variables that has been discussed in the model are incorporated both financial and operating leverage which can be calculated by degree of operating leverage (DOL) and degree of financial leverage (DFL). This model illuminates the effect of financing and operating decisions on valuation and systematic risk of an asset. The findings of model assured that DFL and DOL represents risk of asset. Beta was also exhibited as a function of DFL and DOL, the variation coefficient of a firm's gross earnings, and relation of returns of cash to holders of equity with the return of total monetary on all investment and total capital asset. Another researcher named Mandelkar and Rhee (1984) confirmed about the relation among beta, DOL and DFL. They presented evidence empirically that between thirty eight to forty eight percent variations in a cross section of data are discussed by DFL and DOL.

Sudipto Dasgupta and Kunnal Sengupta (2002) in their research paper investigated the relationship among leverage and profitability. They found that within a vibrant framework profitability can be positively related to leverage, which is at the position of variance evident from most of the researches employing model of one period that exhibit an indirect relationship among profitability and leverage.

Research Methodology

This part of the research represents the measurements and the discussion of various measures of the determinants, methodology and the knowledge regarding the sample size and the sources of data.

The dependent variables of this research is return on equity (ROE) and the independent variables are market price per share, current ratio (liquidity), long term debt to total capitalization (financial leverage), gross profit margin and yearly growth in revenue.
The significant goal of this research is to inquire about that whether the economic and financial measures (indicators) does have any impact on ROE (Profitability) of the organizations especially the cement sector of Pakistan.
So, to accomplish our objectives or goals, the following 5 (five) hypothesis has been tested in order to measure the impact of profitability of the cement sector in Pakistan:
H_1: Profitability of the company is not significantly related to their Earning per share.
H_2: Profitability of the company is not significantly related to liquidity as measured by their current ratio.
H_3: Profitability of the company is not significantly impacted by financial leverage as measured by the financial leverage (long term debt to total capitalization ratio).
H_4: Profitability of the company is not significantly impacted by the revenues of yearly growth.
H_5: Profitability of the company is not significantly associated with the growth in Gross Profit Margin.
The test we are going to run is panel regression in order to test the hypothesis. The test of panel data analysis assists in investigation of time series and cross sectional data. The model of constant coefficient also known as “pooled regression” explains as the one where intercepts and slopes, both are supposed to be as constant. The time series and cross sectional organization data are accumulated together in a particular column supposing that there is no significant inter temporal or cross sectional effects.

Return on Equity

ROE calculated by dividing the net income by total stock holder’s equity correspondingly. For the objective of this study, ROE has been incorporated in the data directly from the consolidated balance sheet.

Earning Per Share

Earnings per share (EPS) is the proportion of the profit of a company that is assigned to each common share outstanding, to serve as an indicator of the profitability of the company. Earnings per share has been taken from the consolidated financial statement.

Liquidity

Quick and current ratios are generally the most commonly used liquidity indicators. Current ratio indicates the firm’s ability in order to meet their short term debts. It can be calculated by dividing current assets and current liabilities.
If inventory encompasses an increased percentage of current assets a liquidity measure known as quick ratio is considered to be a suitable indicator of liquidity, which is measured by dividing current assets minus liabilities to current liabilities. Universally, there is no bad or good quick and current ratios, although, these have been observed in the background of the nature of industry or the business to which a company belongs to. Generally, though, if these ratios are higher, than the firm is more secured from the view point of short term borrowers. Subsequently these ratios are measured on specific date of balance sheet, they can also be observed as measure of a company’s capability in order to

repay short term borrowers out of the cash continues from its current assets. In the extreme situation of the company which is going to be liquidated because of its failure in order to continue its functions in the context of going concern. In this article, measure of liquidity employed is the current ratio, measured in the customary technique that is current assets. It can be represented as (cash + marketable securities+ account receivable + inventories) dividing with current liabilities.

Financial Leverage

Firms can invest their assets through an arrangement of equity and debt. The ratio of financial leverage exhibit the degree of reliance of firm loaned out funds. This ratio interpret the management that how a company is investing its functions and offer understandings within its monetary strength. The more the proportion of debt in the capital structure of a firm, the more is its default risk because debt brings a fixed cost which has to be pay off regardless of its operating performance. However, an increased proportion of credit makes a company more exposed to default with a minor deterioration in operating performance. In exercise, there are many differences of this ratio. That's why, it is vital to be clear on statistics are being taken from a firm's financial statements for calculating this ratio. In this article financial leverage has considered as the proportion of long term debt in the total long term investing sources, calculated by dividing long term debt to long term debt + equity.

Yearly growth in revenue

Yearly growth in revenues is calculated in the terms of percentage by contrasting the net sale of a firm for a specific year with the net sales of the prior year calculated as (net sales of year two – net sales of year one divided by net sales of year one) multiply by 100%.

Gross Profit Margin

GPM is used as a parameter to evaluate company's financial health. It is calculated by dividing gross profit by revenues.

Data collection and sample

This research is restricted to the performance of the sector of cement particularly in Pakistan. Twenty (20) companies which are registered in Karachi stock exchange has been included in this research. The financial data of these organizations over years 2010-2014 has been evaluated by using consolidated financial statement of cement sector present on the website of State Bank of Pakistan.

Analysis of Results, Interpretations& Findings

This part of the study represents the outcomes of the regression analysis. The complete discussion and the interpretation of the findings empirically has also been discussed in this section. In short, a probable explanation regarding the financial theory has been provided in order to illuminate the findings empirically.

By employing the regression analysis method, we ran the technique of regression of profitability on current ratio (liquidity), gross profit margin and financial leverage at first with an objective to examine that whether these determinants have important explanatory strength or not. The profitability has been represented as return on equity. The assessed results are represented in the following table:

Dependent Variable: ROE
Method: Least Squares
Date: 09/08/16 Time: 16:01
Sample: 2010 2014
Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-24.51186	5.682239	-4.313767	0.1450
CURRENTRATIO	4.651795	1.160364	4.008909	0.1556
FINANCIALLEVERAGE	-5.289305	2.818710	-1.876499	0.3117
GROSSPROFITMARGIN	1.505254	0.078672	19.13325	0.0332

R-squared	0.999909	Mean dependent var	12.99800
Adjusted R-squared	0.999635	S.D. dependent var	14.16930
S.E. of regression	0.270808	Akaike info criterion	0.215749
Sum squared resid	0.073337	Schwarz criterion	-0.096700
Log likelihood	3.460627	Hannan-Quinn criter.	-0.622835
F-statistic	3649.830	Durbin-Watson stat	3.185028
Prob(F-statistic)	0.012167		

P values for t-statistic shows that current ratio & financial leverage values are found to be greater than 10% therefore null hypothesis is not rejected except for the values of gross profit margin which is found to be 0.0332 which means that null hypothesis is rejected. Values of R Square shows that 99% of the change in ROE is caused due to the change in financial leverage, gross profit margin & current ratio.

Equation

ROE= C+ B1 (Current ratio) + B2 (Financial leverage) + B3 (Gross profit Margin)
ROE= -24.511 + B1 (4.65) - B2 (5.28) + B3 (1.505)

Interpretation

Keeping other variables constant,

1. If current ratio in cement sector increases by 1%, ROE will raise by 4.65%
2. If financial leverage in cement sector increases by 1%, ROE will decrease by 5.28%
3. If gross profit margin in cement sector increases by 1%, ROE will raise by 1.505%

Afterwards, we have run test of regression on the remaining two variables as they are represented in PKR values. The assessed results have been represented by the following table;

Dependent Variable: ROE
Method: Least Squares
Date: 09/08/16 Time: 16:33
Sample: 2010 2014
Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.413974	32.47302	0.166722	0.8829
YEARLYGROWTHINREVENUE	-3.182636	25.39986	-0.125301	0.9117
EPS	3.623063	2.268412	1.597181	0.2513

R-squared	0.981894	Mean dependent var	12.99800
Adjusted R-squared	0.963787	S.D. dependent var	14.16930
S.E. of regression	2.696365	Akaike info criterion	5.105395
Sum squared resid	14.54077	Schwarz criterion	4.871058
Log likelihood	-9.763488	Hannan-Quinn criter.	4.476457
F-statistic	54.22930	Durbin-Watson stat	1.531661
Prob(F-statistic)	0.018106		

P values for t-statistic shows that yearly growth in revenue and earnings per share values are found to be greater than 10% therefore null hypothesis is not rejected. Values of R Square shows that 98% of the change in ROE is caused due to the change in yearly growth in revenue and earnings per share.

Equation

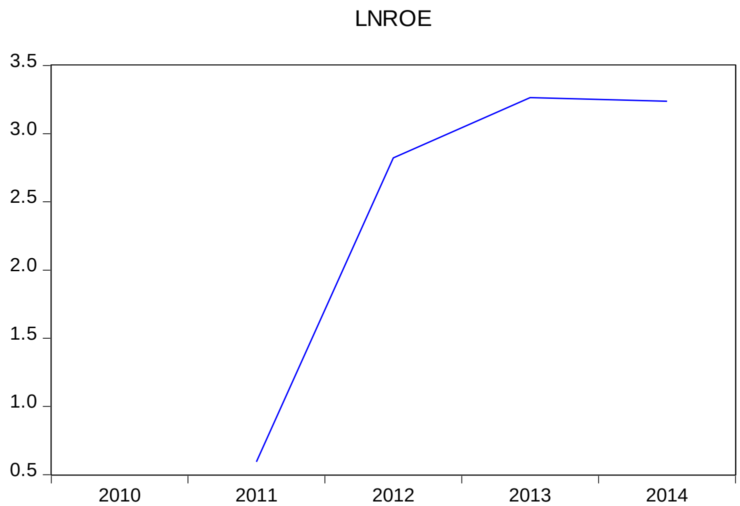
ROE= C + B4 (Yearly growth in revenue) + B5 (EPS)
ROE= 5.413 - B4 (3.18) – B5 (3.62)

Interpretation

Keeping other variables constant,

1. If yearly growth in revenue in cement sector increases by 1 million, ROE will decrease by 3.18%
2. If earnings per share in cement sector increases by 1 pkr, ROE will raise by 3.62%

To detect stationarity of the data we log of the dependent variable i.e. ROE has been generated.



Above graph shows a specific trend it means regression is spurious & our data is non-stationary

After the graphical analyses data has also been tested by ADF test that establishes powerful evidence to reject the null hypothesis. LNROE has a unit root means data is non stationary which shows that the variance and mean of the residuals do not seem to be vary much with respect to time.

Remedial Test

For remedial test, the difference of log of dependent variable has been taken i.e. ROE. So that, LNROE will become DLNROE then afterwards regression test has been run.

Dependent Variable: DLNROE
Method: Least Squares
Date: 09/08/16 Time: 17:29
Sample (adjusted): 2011 2014
Included observations: 4 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.916465	30.84168	0.094562	0.9400
YEARLYGROWTHINREVENUE	-2.405772	24.78353	-0.097071	0.9384
EPS	-0.082021	2.065854	-0.039703	0.9747

R-squared	0.073390	Mean dependent var	0.393590
Adjusted R-squared	-1.779831	S.D. dependent var	1.377154
S.E. of regression	2.296106	Akaike info criterion	4.614012
Sum squared resid	5.272101	Schwarz criterion	4.153732
Log likelihood	-6.228023	Hannan-Quinn criter.	3.603963
F-statistic	0.039601	Durbin-Watson stat	2.398805
Prob(F-statistic)	0.962606		

In the above table, after running the remedial test, probability of the independent variables is found to be greater than 10% which means that data has been turned from non-stationary to stationary.

Conclusion

In this research article, there is sample size of twenty (20) cement firms registered in KSE has been assessed through a technique of pooled regression model in order to determine that either the chosen independent determinants could present the real picture of profitability. The data employed in this research has been covered 4 financial years i-e 2010 to 2014. The following conclusions have been established that the current ratio (liquidity) has the negative linkage with profitability. Secondly, debt to equity ratio (financial leverage) has also a negative linkage with profitability represented as ROE. Thirdly, yearly growth has a negative association with profitability when it is represented by ROE. Earnings per share have negative influence on profitability in terms of ROE. Finally, gross profit margin has positive linkage with profitability. Hence, it is concluded that except for gross profit margin, none of the chosen can be considered as a determinant of profitability.

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