RISK MANAGEMENT PRACTICES AND COMPANY PERFORMANCE: AN EMPIRICAL EVIDENCE FROM CEMENT SECTOR OF PAKISTAN

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Abstract

The study investigates the impact of risk management on the company performance. Degree of financial leverage (DFL), degree of operating leverage (DOL) and the working capital ratio (WCR) are taken as independent variables which are the representative of risk and the earning price per share (EPS), return on assets (ROA), return on equity (ROE), Sales and Net profits are taken as the representative of performance. Last 10 years (2004-2013) of Cement sector of Pakistan data is chosen as sample for analyze their relations by multiple regression technique. Results reveal that WCR impact adequately on the company performance because if company has enough liquidity than it perform its operations smoothly and enhance its performance very well. DFL should be control moderately because enough DFL leads performance of company downward. On the other hand, the DOL should be less because it causes the less profitability for the company from its operations.

Keywords: Degree of Financial Leverage (DFL), Degree of Operating Leverage (DOL), Working Capital Ratio (WCR), Earning per Share (EPS), Return on Equity (ROE), Return on Assets (ROA)

1. BACKGROUND OF THE RESEARCH

Risk management is essential for the sustainability of any organization due to increased volatility in the world of business. It is management process, which identify and evaluate collective risk of firm to create value for firm and shareholders (Hoyt & Liebenberg, 2011). Organizations are utilizing methods of risk management these days to reduce their risk, as it is very important of a company to manage their risk to achieve their goals and objectives (Liu, 2011). Stronger the risk management, better the competitive advantage will be (Frenz, 1997). Researchers have worked o different measures of risk management.

Working Capital management is one of the methods, which is widely used by organizations for the purpose of risk management, as it deals with the liquidity and profitability (Deloof, 2003). Those organizations who can manage their working capital management efficiently can also manage their operations smoothly and conveniently with a competitive edge. Effective and efficient working capital management is based on how enterprises work on the reduction of the short-term responsibilities and how to improvise the short-term assets by enhancing excessive liquidity for the betterment for the organization (Raheman & Nasr, 2007).

Organization have adopted different other ways to manage risk like managing operating and financial leverage to minimized the risk. These leverages are linked with systematic risk and can effects the performance of the organizations. The proficient managers regulate these leverages to minimize the risk to boost firm's performance (Nimalathasan & Pratheepkanth, 2012). Therefore, this study have employed Working capital ratio (WCM), Degree of operating leverage (DOL) and Degree of financial leverage (DFL) to measure risk management and their impact on performance of firms.

1.2 Problem statement

Company frauds, failures and scandals arises due to poor risk management (Quon, Zeghal, & Maingot, 2012). Managerial dysfunction and financial crises are also viewed as inadequate risk management (Power 2009; Zingales 2009). Risk management methodologies help companies in achieving competitive advantage and target returns though less efficient risk management practices can ruin the goals of a company. Furthermore, it is believed that greater the risk, greater will be the return. Therefore, taking risk is necessary due to increase in globalization. Moreover, managers usually focus on attaining risky project to increase the profitability of the company. Thus, considering this issue this study is at aim to analyze the influence and existence of risk management practices and their impact on performance of cement sector of Pakistan.

1.3 Research question

As per the problematic issue of the study, three research questions have generated, which can be viewed as follows:

1. What is the influence of working capital management on the company performance?
2. What is the impact of financial leverage on the company performance?
3. What is the impact of operating leverage impact on the company performance?

1.4 Research objectives

According to the challenging dilemma of this study, the general objective of this research is to determine the influence of risk management practices on cement sector performance. Additionally, the specific objectives of the study are as follows:

1. To investigate the influence of working capital management on the company performance
2. To check the impact of financial leverage on the company performance
3. To ensure the impact of operating leverage on the company performance

2. LITERATURE REVIEW

Researchers find out the effect of the risk management on the profitability of a company. They revealed the effect of financial leverage and operating leverage on the profitability of a firm, return on equity and return on the assets. Through their findings, they observed that Sri Lanka is not efficient market for the investment so there is weak relationship between degrees of leverage and profitability. They also disclosed that company should work on the systematic risk by applying the risk management techniques (Nimalathasan & Pratheepkanth, 2012).

Many organizations also do risk management by investing their money not only in long-term projects but also in those projects, which are less risky, short time and more liquid than the long term projects because these short term and liquid projects facilitate the organizations to come cross the problem of instant need of the cash. The companies can avail cash by selling these short-term securities into the market, get the quick cash, and fulfill the requirement of cash. (Holmström & Tirole, 2000).

Working capital management plays important role for managing the risk. Organizations should manage their current assets rationally. The excessiveness and shortness of current assets affect the company profits and operations of the company. If organization has fewer current assets, it can create hurdles for its day-to-day operations because current assets can easily be converted into the cash when the need arises. On the other hand, if the company's portfolio contains idle current then it cannot be helpful for getting more profit. Therefore, there should be a middle way to maintain the current assets (Raheman & Nasr, 2007).

Working capital management provide the information to reduce the financial cost of the company by paying the cash to the creditors and also by receiving the economic benefits from the debtors of the company. Efficient control over the working capital management provides the opportunity to the managers to invest the company excessive current assets into the productive investment opportunities and improve the company performance as well (Rehn, 2012).

Researchers studied on insurance companies of Ghana and validated the effect of working capital and leverage on profitability of firm. They revealed that liquidity and financial leverage is negatively associated with profitability though operating leverage is positively associated with profitability (Gatsi, Gadzo, & Akoto, 2013). However, Abid and Mseddi (2004) found positive impact of degree of operating and financial leverage on corporate value. Previous studies on cement sector of Pakistan observed the negative relation of leverage with profitability and positive relation of leverage with growth (Hijazi & Tariq, 2006).

3. DATA METHODOLOGY

This study utilized stratified sampling technique, as there are many sectors in Karachi Stock Exchange (KSE) of Pakistan; however, only Cement sector has selected to pursue the study. This study employed all companies listed in the cement sector of Pakistan. Furthermore, through SPSS, multiple regression has utilized to check the relationship between independent and dependent variables. Prior to analyzing regression, its assumption were fulfilled, e.g. Normality, Multicollinearity, linearity, outliers and homoscedasticity was examined, which shows that multiple regression can be scrutinized on the following models:

Model 1: the relations among independent variables (DFL, DPL & WCR) with Sales
Model 2: the relations among independent variables (DFL, DPL & WCR) with NP
Model 3: the relations among independent variables (DFL, DPL & WCR) with EPS
Model 4: the relations among independent variables (DFL, DPL & WCR) with ROA
Model 5: the relations among independent variables (DFL, DPL & WCR) with ROE

3.1 Measurements

For the ease of reader, variables and their measurement are formulated in the table (see Table 1).

Table 1. Variables and their measurement

Sr No	*Variables*	*Formulas to measure variables*
1	Degree of financial leverage	% Changes in EPS / % Change in EBIT
2	Working capital ratio	Current assets / Current liability
3	Degree of operating leverage	%Change in EBIT/ %Change in sales
4	Return on asset	Net profit / Average total assets
5	Return on equity	Net profit / Shareholder equity

4. RESEARCH FINDING AND RESULT

According to our model 1, the coefficient of determination magnitude is quite healthy. This represents that how well our model is fit for analysis. The value of R^2 is 73.91, which show that the change in sale is caused by 74% due to the independent variables (DOL WCR, & DOL). This indicates that

change in one unit in our independent variables caused 74% changed in our dependent (sale) variable. Through Model 1 we find the regression coefficient (beta) of the working capital ratio is the most important and influence coefficient on the sales of the of the cement sector.

The coefficient of working capital ratio represents a very strong and positive relation with the sales the coefficient of regression of working capital ratio is 90%, which shows that working capital ratio heavily, influence on the sales with 90%. It also cause a positive impact on the sale because the value of regression coefficient of working capital ratio in positive. This shows that a change in sale is directly relay on the working capital ratio of the company.

The DFL is the weakest influence variable on the sales of the company. It influence very weakly on the sales of the companies by 7.2%. We can say that the direction in positive but magnitude is so small. On the other hand, DOL has inverse relationship with the sales of the companies. Its means that when the sales of the companies increases the operating leverage of the companies go down which is very logical. The regression coefficient of the DOL is -27%, which presents that increase in one unit in DOL, cause for decrease in the sale by 27%.

According to the Model 2, the coefficient of determination has the strong magnitude, which is 86%. This shows that how strong our model of dependent variable (Net profit) and the independent variables (DFL, DOL & WCR) are fitted well. This model shows that the change in one unit in our independent variables caused the 86% change in our dependent variable. The coefficient of regression of WCR is 98% according to our Model 2, which present the strong relationship between the WCR and the net profit. Its show that changes in the one unit change in the WCR causes the 98% change in the net profit in same direction because the coefficient of regression of WCR has the positive value.

On the other hand the magnitude of the DFL regression coefficient regression is very weak which 4.1% is. DFL regression coefficient regression has the positive value but due to less magnitude it does not affect hardly to profit. If we look the DOL regression coefficient we find out that the Net profit has the inverse relation with the operating leverage. Its mean that if the operating leverage increase by one unit cause the decrease in the Net profit by 18%. This because the net profit depends on the sale if the sale is less than net profit goes automatically decrease. This negative relation between net profit and DOL because of the DOL has the negative relation with sales but net profit has the direct relation with the net profit.

When we look the Model 3 the working the coefficient of the determination has the strong magnitude, which means the model fitted well between our dependent variable (EPS), and the independent variables (DFL, DOL & WCR). The value of the R2 is 81%, which indicates that if the change in one unit in our independent variables, causes the 81% change in our dependent variable. The magnitude of the regression coefficient of WCR is high up to 90%, which shows that if a company increases their current assets it is earning per share become increase on the other hand if one unit decreases in WCR the EPS also decrease by 90%.

The DFL regression coefficient has the positive result, which shows that if DFL increases by one unit the change in EPS is about 9%. This depict that financial leverage should be strategically managed in the capital structure. On the other hand, if operating income of company in high pressure than it is not good that increase in DFL causes good impact on the EPS. If the operating leverage increases the EPS go down that's why our coefficient of regression of DFL (independent variable) with respective of EPS is negative by 9%.

According to our model 4 the coefficient of determination has the value of 81% which is high in magnitude and also in positive which shows that if one unit increases in our independent variables (DFL, DOL & WCR) caused the 81% change in same direction of our dependent variable (ROA). Our WCR impact the great influence on the ROA, which is our dependent in our model. The WCR coefficient of regression has the value of 97% which shows that if increase in one unit change in our current asset to current liability cause the 97% change in the ROA.

The DFL coefficient of regression has also the positive relation with the ROA because degree of financial leverage provide the tax exemption for any company and it cause result as increase in the Net profit so that's why ROA also increase . The magnitude of coefficient of regression is low by 19% but it has the positive impact. The DOL coefficient of regression has the negative relation related to the ROA. It presents that if DOL decrease the ROA. Our DOL coefficient of regression is -3.9%. The magnitude is low but the nature is in inverse. The negative is due to sale because when the change in sale is high than profit also changes with respect to sale. Higher the sale higher profit. If the profit is higher than return on asset also goes increases.

According to our model 5 the coefficient of determination is 73% which is quiet healthy percentage. It shows that how well our model fitted well. When one unit changes in our independent variables (DFL, DOL & WCR) caused the 73% change in our dependent variable (ROE). As above our models results the WCR has the great influence on our dependent variable (ROE) because the regression coefficient of WCR is 69%. This shows that one unit change in WCR caused the 69% change in our ROE.

If we look at the coefficient of regression of DFL with respect to the ROE, we find out that the DFL has the positive relation with the ROE. The change DFL caused by 35% magnitude into the ROE because the DFL provides the opportunity to avoid the tax. On the other DFL coefficient of regression has very less magnitude, which shows very weak relation between DOL and ROE.

5. CONCLUSION

Through our research we find out that, our all models fitted well because the magnitude of coefficient of determination of the entire models was quite healthy. This shows that DFL, DOL and the WCR are the important factors to whom company should manage well to get the best performance. Through our models we find out that working capital ratio is the most significant independent variable which has the great influence on the company perform because the coefficient of regression in all the models are greater than 69%. The result of models shows that DFL should

mange sensitively because high amount of DFL leads to decrease in the profit but on the other hand, some specific amount of DFL helps to company to get the tax benefits. If we look at the impact of DOL on the sales the coefficient of regression in negative, which shows that if the amount of fixed assets, cost increased by the company caused decrease in the sales of the company. So that's why company should decrease DOL to get high sales and get more profit.in the end the risk regarding performance can be manage by efficient use of DOL, DFL and WCR.

6. LIMITATIONS OF THE STUDY

This research paper does not cover the concept of hedging concepts against risk management. This research only realized the cement sector of the Pakistan economy not all the 36 sectors of the Pakistan economy and also this research only covers the data of last 10 years (2004-2013). Research only covers the WCR for working capital management there are other variables also use to measure the working capital management

7. RECOMMENDATIONS

The company should have rich in current assets against their current liabilities because the excess liquidity helps the organizations to run their operations smoothly and gets the maximum benefits from it. On the other side the company should be moderate regarding DFL because excess amount leads to decline in the profitability of the firm but moderate amount of DFL helps the organization to gets the tax benefits. The companies should also manage their operating leverage minimum because high value caused decrease in the sales of the company.

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APPENDIXES

Model 1

Model Summary		
Model	R	R Square
1	0.859360955	0.738501
a. Predictors: (Constant), WCR, DFL, DOL		

Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			Std. Error	Beta		
1	(Constant)	-2E+09	5.14E+09		-0.3886	0.035039
	DFL	67995818	4.23E+08	0.072245	0.160857	0.046986
	DOL	-473923	856924.1	-0.27009	-0.55305	0.035793
	WCR	1.1E+10	5.55E+09	0.913855	1.974137	0.027069
a. Dependent Variable: Sales						

Model 2

Model Summary		
Model	R	R Square
1	0.927371	0.860017
a. Predictors: (Constant), WCR, DFL, DOL		

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.3E+09	1.36E+09		-2.40177	0.038287
	DFL	14042503	1.12E+08	0.04121	0.12541	0.011668
	DOL	-114703	226993	-0.18056	-0.50532	0.023522
	WCR	4.25E+09	1.47E+09	0.979387	2.891685	0.001677
a. Dependent Variable: NP						

Model 3

Model Summary		
Model	R	R Square
1	0.899246	0.808643
a. Predictors: (Constant), WCR, DFL, DOL		

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			Std. Error	Beta		
1	(Constant)	-9.3517	5.384255		-1.73686	0.024545
	DFL	0.102313	0.442434	0.088845	0.231249	0.038625
	DOL	-0.00018	0.000897	-0.08521	-0.20395	0.051259
	WCR	13.27305	5.806376	0.905218	2.285943	0.012586
a. Dependent Variable: EPS						

Model 4

Model Summary		
Model	R	R Square
1	0.900796513	0.811434358
a. Predictors: (Constant), WCR, DFL, DOL		

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.149420327	0.09038		-1.65325	0.040094
	DFL	0.003612602	0.007427	0.185519	0.486436	0.024741
	DOL	-1.38629E-06	1.51E-05	-0.03819	-0.09208	0.035028
	WCR	0.211302346	0.097465	0.852217	2.167974	0.012446
a. Dependent Variable: ROA						

Model 5

Model Summary		
Model	R	R Square
1	0.855668091	0.732168
a. Predictors: (Constant), WCR, DFL, DOL		

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.40681	0.829661		-1.69564	0.032042
	DFL	0.053001	0.068175	0.353362	0.777425	0.018268
	DOL	1.08E-05	0.000138	0.038483	0.077863	0.045025
	WCR	1.322792	0.894706	0.69264	1.478466	0.027365
a. Dependent Variable: ROE						