

## **EXAMINING THE RELATIONSHIP BETWEEN DEBT FINANCING AND PROFITABILITY AT CEMENT INDUSTRIES**

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### **Abstract**

This research is correlational. The population of this study are Cement Industries that have active in Tehran Stock exchange. Dates have extracted from financial statements of companies by using comprehensive software of Exchange and related Internet sites. In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used. The results Kolmogorov-Smirnov Test shows the test distribution is not Normal. So we can use Spearman Correlation coefficients to test the hypothesis of the research. Findings show that ratio of total debt to total assets, ratios of long-term debt to total assets and equity ratios to total assets have relationship with the Equity efficiency ratio. And also, the ratio of total debt to total assets and equity ratios to total assets have not relationship with efficiency ratio of sales and ratios of long-term debt to total assets and efficiency ratio of sales have negative relation. Finally, the ratio of total debt to total assets and equity ratios to total assets have not relationship with efficiency ratio of total assets and ratios of long-term debt to total assets and efficiency ratio of total assets have negative relation

*Keywords: Profitability, ratio of total debt to total assets, ratios of long-term debt to total assets and equity ratios to total assets*

### **INTRODUCTION**

Corporate managers in the US and Europe claim that maintaining “financial flexibility” is the primary objective of their firms’ financial policies (Graham and Harvey, 2001) and Bancel and Mittoo, 2002). Their stated policies are consistent with the notion of ensuring funding for present and future investment undertakings in a world where financing frictions force firms to pass up profitable opportunities. In spite of these assertions, empirical work on capital structure often ignores the interplay between corporate investment and financing decisions. Most recent papers take investment as exogenous to financial policy, and focus on issues such as the relative costs of issuing debt versus equity (Fama and French, 2002, 2005), market timing (Baker and Wurgler, 2002), security return dynamics (Welch (2004)), and the relevance of elements of the tradeoff theory; taxes and financial distress costs (Hovakimian et al., 2001). While these issues are undoubtedly important for our understanding of corporate financial policies, the literature abstracts from crucial aspects influencing the supply and demand for external funds across firms: capital market frictions and real investment demand. Why is financing choice important for profitability? Financing choice raises particularly important research and policy questions regarding the microfinance industry. Microfinance

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industry promotes small scale investments that generates sufficient revenues from otherwise unrealized market activities while yielding a return on the investment (Muriu, 2011). Agency costs may be particularly large in this industry because companies hold private information on their loan clients. In addition, companies access to grant funding and other safety net protections may increase incentives for risk shifting or lax risk management, potentially increasing the agency costs of outside debt. Financing choice involves a tradeoff between risk and return to maximize shareholder wealth (Berger and Bonaccorsi di Patti, 2006). The objective of an optimal financing choice for any firm is therefore to have a mix of debt, preferred stock, and common equity that will maximize shareholders wealth. For example, changes in financial leverage affect firm value. A higher debt ratio can enhance the rate of return on equity capital during good economic times.

Debt financing is a method of obtaining capital to operate by a business through borrowing money. Businesses borrow money from a variety of commercial sources and then have to pay it back under the terms they negotiate with their source. They pay back the principal that they borrow plus whatever rate of interest they are charged. The interest rate is the rent for the use of money that is borrowed (Marks and Robbins, 2009). Companies which are well established and have demonstrated steady sales, solid collateral and profitable growth often rely on debt capital for financing their business.

The empirical literature concerning the impact of debt on profitability leads us to make two inferences. The first one is that most of the empirical studies focused on listed companies. The second one is related to paucity of studies on the French companies as mentioned by; Goddard et al. (2005), Margaritis and Psillaki (2010) and recently in Kebewar (2012).

Profitability refers to the potential of a venture to be financially successful. This may be assessed before entering into a business or it may be used to analyze a venture that is currently operating. Although it may not be necessary to abandon the venture. It may instead be feasible to change operational factors such as pricing or costs (wood and Sangster, 2005). When we talk about profit, we mean the excess of revenues over expenses for a set of transaction. The revenues consist of the monetary value of goods and services that have been supplied to customers. The expenses consist of the monetary values of the assets used to obtain those revenues. Profit will be made when goods or services are sold at a more than cost price, while a loss will be made when the goods and services are sold at less than the cost price ( Ben Omonuk, 1999).

The main purpose of this study is examining the relationship between debt financing and Profitability at Cement Industries. The sub-purposes of this study is:

- examining the relationship between the ratio of total debt to total assets and the Equity efficiency ratio.
- examining the relationship between ratios of long-term debt to total assets and the Equity efficiency ratio.
- examining the relationship between equity ratios to total assets and the Equity efficiency ratio.
- examining the relationship between the ratio of total debt to total assets and efficiency ratio of sales
- examining the relationship between ratios of long-term debt to total assets and efficiency ratio of sales
- examining the relationship between equity ratios to total assets and efficiency ratio of sales
- examining the relationship between the ratio of total debt to total assets and efficiency ratio of total assets
- examining the relationship between ratios of long-term debt to total assets and efficiency ratio of total assets

- examining the relationship between equity ratios to total assets and efficiency ratio of total assets

## **METHOD**

This research is correlational. The population of this study are Cement Industries that have active in Tehran Stock exchange. Dates have extracted from financial statements of companies by using comprehensive software of Exchange and related Internet sites. In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used. The results Kolmogorov-Smirnov Test shows the test distribution is not Normal. So we can use Spearman Correlation coefficients to test the hypothesis of the research. In order to determine the relationship between the variables of the study, the SPSS tool has been used.

## **RESULTS AND CONCLUSION**

In this paper we have nine hypotheses. The statistical way of analysis of hypotheses is two ways,  $H_1$  is acceptance of hypothesis and  $H_0$  is rejecting of hypothesis. In other words, it means that  $H_1$  has positive meaning and  $H_0$  has negative meaning.

*Hypothesis 1: There is relationship between the ratio of total debt to total assets and the Equity efficiency ratio.*

Table 2: Results of Correlation coefficient between There is a significant relationship between the ratio of total debt to total assets and the Equity efficiency ratio.

Independent Variable	Dependent Variable	n	r	p
ratio of total debt to total assets	Equity efficiency ratio	146	0.605	0.000

According to table (2), the evaluated p-value is 0.000. So, the correlation between ratio of total debt to total assets and Equity efficiency ratio in the  $p \leq 0.01$  had been significant, and we reject  $H_0$  and accepted  $H_1$  hypothesis with 99% confidence. And says that ratio of total debt to total assets significance have significant correlation with Equity efficiency ratio at Cement Industries.

*Hypothesis 2: There is relationship between ratios of long-term debt to total assets and the Equity efficiency ratio.*

Table 2: Results of Correlation coefficient between There is a significant relationship between ratios of long-term debt to total assets and the Equity efficiency ratio.

Independent Variable	Dependent Variable	n	r	p
ratios of long-term debt to total assets	Equity efficiency ratio	146	-0.442	0.000

According to table (2), the evaluated p-value is 0.000. So, the correlation ratios of long-term debt to total assets and Equity efficiency ratio in the  $p \leq 0.01$  had been significant, and we reject  $H_0$  and accepted  $H_1$  hypothesis with 99% confidence. And says that ratios of long-term debt to total assets significance have negative significant correlation with Equity efficiency ratio at Cement Industries.

*Hypothesis 3: There is relationship between equity ratios to total assets and the Equity efficiency ratio.*

Table 2: Results of Correlation coefficient between There is a significant relationship between equity ratios to total assets and the Equity efficiency ratio.

Independent Variable	Dependent Variable	n	r	p
equity ratios to total assets	Equity efficiency ratio	146	0.605	0.000

According to table (2), the evaluated p-value is 0.000. So, the correlation equity ratios to total assets and Equity efficiency ratio in the  $p \leq 0.01$  had been significant, and we reject  $H_0$  and

accepted  $H_1$  hypothesis with 99% confidence. And says that equity ratios to total assets significance have negative significant correlation with Equity efficiency ratio at Cement Industries.

*Hypothesis 4: There is relationship between the ratio of total debt to total assets and efficiency ratio of sales*

Table 2: Results of Correlation coefficient between There is a significant relationship between the ratio of total debt to total assets and the efficiency ratio of sales.

Independent Variable	Dependent Variable	n	r	p
ratio of total debt to total assets	efficiency ratio of sales	146	0.075	0.367

According to table (2), the evaluated p-value is 0.367. So, the correlation between ratio of total debt to total assets and efficiency ratio of sales in the  $p \leq 0.05$  had been not significant, and we reject  $H_1$  and accepted  $H_0$  hypothesis with 95% confidence. And says that ratio of total debt to total assets significance have not significant correlation with efficiency ratio of sales at Cement Industries.

*Hypothesis 5: There is relationship between ratios of long-term debt to total assets and the efficiency ratio of sales.*

Table 2: Results of Correlation coefficient between There is a significant relationship between ratios of long-term debt to total assets and the efficiency ratio of sales.

Independent Variable	Dependent Variable	n	r	p
ratios of long-term debt to total assets	efficiency ratio of sales	146	-0.164	0.049

According to table (2), the evaluated p-value is 0.049. So, the correlation ratios of long-term debt to total assets and efficiency ratio of sales in the  $p \leq 0.05$  had been significant, and we reject  $H_0$  and accepted  $H_1$  hypothesis with 95% confidence. And says that ratios of long-term debt to total assets significance have negative significant correlation with efficiency ratio of sales at Cement Industries.

*Hypothesis 6: There is relationship between equity ratios to total assets and the efficiency ratio of sales.*

Table 2: Results of Correlation coefficient between There is a significant relationship between equity ratios to total assets and the efficiency ratio of sales.

Independent Variable	Dependent Variable	n	r	p
equity ratios to total assets	efficiency ratio of sales	146	-0.075	0.367

According to table (2), the evaluated p-value is 0.367. So, the correlation equity ratios to total assets and efficiency ratio of sales in the  $p \leq 0.05$  had been significant, and we reject  $H_1$  and accepted  $H_0$  hypothesis with 95% confidence. And says that equity ratios to total assets significance have not significant correlation with efficiency ratio of sales at Cement Industries.

*Hypothesis 7: There is relationship between the ratio of total debt to total assets and efficiency ratio of total assets*

Table 2: Results of Correlation coefficient between There is a significant relationship between the ratio of total debt to total assets and the efficiency ratio of total assets.

Independent Variable	Dependent Variable	n	r	p
ratio of total debt to total assets	efficiency ratio of total assets	146	-0.022	0.793

According to table (2), the evaluated p-value is 0.793. So, the correlation between ratio of total debt to total assets and efficiency ratio of total assets in the  $p \leq 0.05$  had been not significant, and we reject  $H_1$  and accepted  $H_0$  hypothesis with 95% confidence. And says that

ratio of total debt to total assets significance have not significant correlation with efficiency ratio of total assets at Cement Industries.

*Hypothesis 8: There is relationship between ratios of long-term debt to total assets and the efficiency ratio of total assets.*

Table 2: Results of Correlation coefficient between There is a significant relationship between ratios of long-term debt to total assets and the efficiency ratio of total assets.

Independent Variable	Dependent Variable	n	r	p
ratios of long-term debt to total assets	efficiency ratio of total assets	146	-0.682	0.000

According to table (2), the evaluated p-value is 0.000. So, the correlation ratios of long-term debt to total assets and efficiency ratio of total assets in the  $p \leq 0.01$  had been significant, and we reject  $H_0$  and accepted  $H_1$  hypothesis with 99% confidence. And says that ratios of long-term debt to total assets significance have negative significant correlation with efficiency ratio of total assets at Cement Industries.

*Hypothesis 9: There is relationship between equity ratios to total assets and the efficiency ratio of total assets.*

Table 2: Results of Correlation coefficient between There is a significant relationship between equity ratios to total assets and the efficiency ratio of total assets.

Independent Variable	Dependent Variable	n	r	p
equity ratios to total assets	efficiency ratio of total assets	146	-0.022	0.793

According to table (2), the evaluated p-value is 0.793. So, the correlation equity ratios to total assets and efficiency ratio of total assets in the  $p \leq 0.05$  had been significant, and we reject  $H_1$  and accepted  $H_0$  hypothesis with 95% confidence. And says that equity ratios to total assets significance have not significant correlation with efficiency ratio of total assets at Cement Industries.

This study has done to examining the relationship between debt financing and Profitability at Cement Industries. For this purpose we developed nine Hypotheses. Also, to analysis of theses Hypotheses, we used Spearman correlation. Findings show that:

- There is relationship between the ratio of total debt to total assets and the Equity efficiency ratio.
- There is relationship between ratios of long-term debt to total assets and the Equity efficiency ratio.
- There is relationship between equity ratios to total assets and the Equity efficiency ratio.
- There is not relationship between the ratio of total debt to total assets and efficiency ratio of sales
- There is negative relationship between ratios of long-term debt to total assets and efficiency ratio of sales
- There is not relationship between equity ratios to total assets and efficiency ratio of sales
- There is not relationship between the ratio of total debt to total assets and efficiency ratio of total assets
- There is negative relationship between ratios of long-term debt to total assets and efficiency ratio of total assets
- There is not relationship between equity ratios to total assets and efficiency ratio of total assets

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