

Factors Affecting Firms' Performance: The Case of Vietnam construction firms

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Abstract

In the context of Vietnam's international economic integration, improving the performance of enterprises is increasingly important because it not only affects businesses but also affects the development prospects of the economy. The purpose of the paper is to consider the impact of factors on the performance of listed construction companies in the period of 2012-2018. By means of an empirical analysis, this study uses Eviews econometric software and table data techniques. This study found the factors that positively impact on performance are asset structure, capital structure and firm size that negatively impact the performance of Vietnam listed construction firms. These findings support business administrators in selecting appropriate business and production plans to increase the operating performance of businesses in the construction industry.

Keywords: Profitability, construction firms

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1. Introduction

In the context of Vietnam's international economic integration, improving the performance of enterprises is increasingly important because it not only affects businesses but also affects the development prospects of the economy.

The global economic crisis has strongly affected the Vietnamese economy, causing all businesses to face many difficulties. And so do the construction industry. Vietnam construction industry has experienced the difficult time in 2009-2013. In the period of 2000-2009, the growth rate of construction industry was 9.6% / year and in the period of 2009-2013 reached 4.6% / year. In fact, many businesses have gone bankrupt, one of the reasons is the factors affecting the operational efficiency, which have not been taken seriously in the operation process of enterprises.

Therefore, it is necessary to study the impact of factors on the performance of enterprises. The paper includes 4 main contents: (1) Overview of the impact of factors on firm performance, (2) Research methodology, (3) Empirical results on the impact of factors to the performance of listed construction enterprises, (4) Some recommendations.

2. Review of related literature

There are plenty studies about the impact of factors on the performance of businesses in general. Performance is often determined by the return on total assets (ROA), such as Sivathaasan et al. (2013) conducted a research on factors affecting profitability of all manufacturing companies listed on the exchange for the period 2008 – 2012; Khidmat and Rehman (2014) studied 9 chemical companies listed on the Pakistan Stock Exchange for the period 2001 – 2009; Bolek and Wiliński (2012) pointed out the impact of internal and external economic factors on the profitability of all construction companies listed on Warsaw Stock Exchange for the period 2000 – 2010;

Previous studies have considered many factors affecting the performance of enterprises such as capital structure, receivables management, solvency, asset structure, firm size, growth rate.

The capital structure of enterprises

The capital structure of enterprises is measured by debt-to-assets ratio. The research by Sivathaasan et al (2013) shows that capital structure has a positive effect on firm's performance. Khidmat and Rehman (2014) point out that capital structure has a negative impact on firm performance. The research of Bolek and Wiliński (2012), and the research of Lazaridis and Tryfonidis (2006) (which used data from 131 Greek listed companies for period of 2001 – 2004) also have the same results with the research of Khidmat and Rehman (2014).

Receivables management

Receivables management: The level of receivables management is measured through the average collection period. Research by Bolek and Wiliński (2012) suggests that the average collection period has a negative impact on the firm performance. Consistent with this research result, there are other studies: Gill et al. (2010) studied 88 companies listed on the New York Stock Exchange for the period of 2005 - 2007; Napompech (2012) sampled 255 companies listed on Thailand Stock Exchange for the period of 2007 – 2009; Addae and Nyarko-Baasi (2013) studied 125 listed companies on Ghana Stock Exchange for the period of 2004 -2009; Owolabi et al. (2012) studied processing enterprises listed on the Nigerian stock market in the period 2005-2009.

Solvency

Solvency: Solvency is the ability of a company to meet its long-term debts and financial obligations. Research by Khidmat and Rehman (2014) suggested that liquidity is a positive impact on ROA. While the study of Bolek and Wiliński (2012) suggested that the quick ratio has an opposite effect on ROA.

Asset structure

Asset structure: Asset structure is expressed by asset structure ratios (fixed asset ratio, current asset ratio). Sivathaasan et al. (2013) argues that asset structure has no effect on ROA. Bolek and Wiliński (2012) showed that asset structure has a negative impact on ROA.

Firm size

Firm size: firm size is expressed through the natural logarithm of the total assets. Sivathaasan et al. (2013) have demonstrated a positive relationship between firm size and performance. Similar results were shown by an empirical research of Bolek and Wiliński (2012). However, the research by Ramasamy (2005) about the oil and gas industry in Malaysia concluded that firm size has a negative impact on firm performance. The reason for this conclusion is that the bigger the size of an enterprise, the more difficult it is to manage and run the business. Moreover, the enterprise has to invest a lot not only for assets but also for other resources such as people. So the profitability ratio of the business per one asset is reduced.

Growth rate

Growth rate: A high revenue growth rate will increase the profit of the business, leading to an increase in performance. A study of Yazdanfar (2013) on Swedish SME companies and Vijayakumar (2011) on Indian automobile trading companies shows that revenue growth has a positive impact on firm performance. These results are consistent with the research results of Bolek and Wiliński (2012).

In the above studies, mainly referring to the factors that affect firm performance of all listed companies, very few studies mention the factors affecting firm performance of enterprises in a certain industry, especially studies in Vietnam. Each sector has its own characteristics, factors affecting firm performance so need to be studied separately so that we can see the impact of factors on firm performance of different sector. Specifically, construction firms have very specific characteristics such as single products, large value of construction works, extensive working area. Moreover, construction firms also need a long time to change the scale and products, so they need to mobilize massive business resources.

3. Research methodology

Based on related reviews, the research model is constructed as follows (Figure 1):

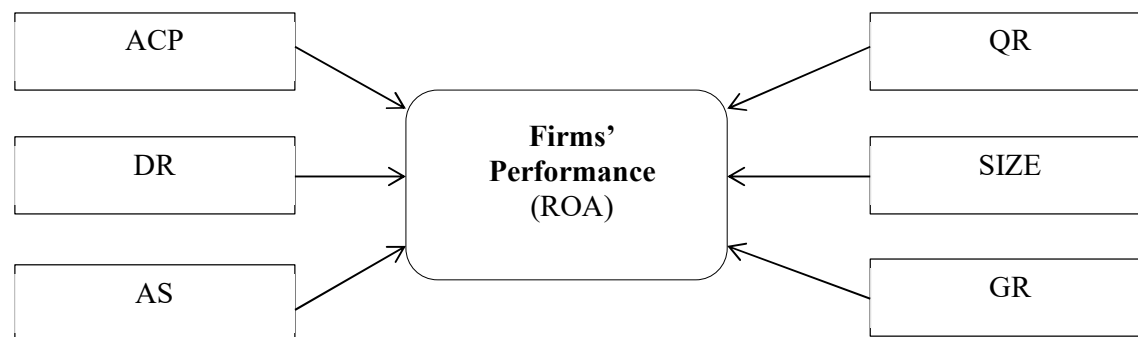


Figure 1. Research model of factors affecting firms' performance

Table 1. Variables in the research model

Variables	Code	Measures
Firms' performance	ROA	ROA = Net income/ Average total assets
Average cover period	ACP	= 360* receivables /net sales
Debt ratio	DR	Total liabilities/total assets
Asset Structure	AS	Current asset/total assets
Quick Ratio	QR	(Current assets – inventory)/ current liabilities
Firm size	SIZE	Firm size measured by log of total assets
Sale Growth	GR	(Current period net sales – previous period net sales)/ previous period net sales

Research data

The study relied on secondary data extracted from the audited financial statement of the selected companies. Data of these 40 companies is collected from 2012 to 2018. Audit Financial Statements of these companies will be acquired from the Hanoi stock exchange Library, Ho Chi Minh stock exchange Library, and websites of these companies listed on the Vietnam stock market.

In the study, panel data regression models were employed to examine the determinants constructions companies' profitability in Vietnam. The panel data regression models were the Fixed effects model (FEM). Variables in the research model are shown in Table 1.

4. Analysis findings and discussions

Research results

Table 2. Descriptive statistic

	ROA	ACP	DR	AS	QR	SIZE	GR
Mean	0.021421	1125.615	0.773051	0.794036	0.960996	0.083444	69.62950
Median	0.013000	139.0000	0.808450	0.850000	0.739000	0.083334	1.975000
Maximum	0.235000	100540.0	1.045400	1.000000	9.437000	0.094045	13797.00
Minimum	-0.156000	1.010000	0.218200	0.120000	0.164000	0.075609	-100.0000
Std. Dev.	0.037988	8591.307	0.139159	0.164275	1.033721	0.003238	839.9360
Skewness	1.062606	9.978437	-1.255221	-1.728839	5.270493	0.388975	15.77095
Kurtosis	11.67858	105.0126	4.855821	6.562846	35.03241	3.729683	256.9250
Jarque-Bera	931.3997	126056.5	113.7079	287.5765	13267.19	13.27250	763849.3
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.001312	0.000000
Sum	5.998000	315172.2	216.4542	222.3300	269.0790	23.36444	19496.26
Sum Sq. Dev.	0.402628	2.06E+10	5.402888	7.529140	298.1335	0.002925	1.97E+08
Observations	280	280	280	280	280	280	280

Note. The descriptive statistic for the study presented in table1 was for constructions company for period of seven years covering 2012 to 2018. Statistical data (Table 2) show the mean value of ROA was 0.021421 of which the highest ROA was 0.235 and the lowest ROA was -0.156. Average collection period was 1125.61 and quick ratio was 0.960996 current assets over current liabilities of firms.

Table 3. Correlation matrix

	ACP	DR	AS	QR	SIZE	GR
ACP	1	0.1604	0.0516	0.0970	-0.0502	-0.0125
DR	0.1604	1	0.1016	0.0009	-0.0953	0.0565
AS	0.0516	0.1016	1	-0.1181	0.4169	0.0600
LIQ	0.0970	0.0009	-0.1181	1	-0.2013	0.0239
SIZE	-0.0502	-0.0956	0.4169	-0.2013	1	0.0219
GR	-0.0125	0.0565	0.0600	0.0239	0.0219	1

Note. The following Table 3 shows the correlation coefficients between variables. The purpose is to examine whether there is close correlation between independent variables and dependent variables to exclude variable that may lead to multi-collinearity. This is necessary step before running the regression. The results show that the correlation coefficient between any pair independent variables in the model is no less than 0.8 and therefore multicollinearity is unlikely to occur.

Table 4. Model summary

Indicators	Coefficients
R-squared	0.630506
Adjusted R-squared	0.547856
S.E. of regression	0.025544
F-statistic	7.628640
Prob(F-statistic)	0.000000
Durbin-Watson stat	1.417533

Note. R-square value was found to be 0.630506. This implies that the combined effects of Profitability was found to be negatively correlated with average cover period, debt ratio, asset structure, quick ratio, firm size and sale growth explained 63.05% of the variation in the profitability of constructions companies while the remaining 36.95% was due to the other variables not captured in this study. F- value indicates that the model used in the study is significant (prob >F =0.0000).

Table 5. Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.027112	0.204397	5.025093	0.0000
ACP	-1.69E-07	2.67E-07	-0.633969	0.5267
DR	-0.279063	0.030392	-9.182095	0.0000
AS	0.092118	0.021504	4.283791	0.0000
QR	-0.003338	0.002458	-1.357815	0.1759
SIZE	-10.30468	2.232357	-4.616056	0.0000
GR	2.30E-06	2.18E-06	1.055036	0.2925

Note.

Results regarding the impact of firm size on the performance of listed constructions companies confirm the findings of previous studies conducted in Greece (i.e. Notta and Vlachvei 2014, Kontogeorgos et al 2017). Profitability was found to be negatively correlated with debt ratio and firm size.

On the other hand, the relationship between profitability and asset structure was positive, it was found that profit increases as asset structure increases. This implies that an increase in asset structure to increase in production and revenue and thereby leads to increase in profitability.

Discussions

This paper examines the effects of capital structure, asset structure, quick ratio, average payment period, firm size, and revenue growth rates on Vietnamese listed construction enterprises in the period of 2012 - 2018. In correlation with previous domestic and foreign studies, this study also contributes to a better explanation of the factors affecting firm performance.

The represented variable is ROA. According to empirical research results, 3 of 6 independent variables included in the study affect ROA: capital structure, asset structure, firm size. Asset structure has a positive impact on performance. Vice versa, capital structure and firm size negatively impact on firm performance.

5. Conclusion

The results of this study show that it is always required large enough capital for long business cycles such as construction sector. The enterprises which have larger scale of business capital get the higher the profitability. Due to the ability to undertake large construction works, in the long run, and also easier to take advantage of opportunities business. In order to maintain a large scale of business capital, the enterprise cannot finance itself but then it needs to mobilize more capital from different sources. This will increase financial risk and affect the profitability of the business. Therefore, businesses need to be very careful in using the effects of financial leverage. This result can help construction enterprises explain the causes affecting the performance, thereby helping business administrators in selecting suitable business and production plans to increase profitability.

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