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Factors Influencing Business Efficiency of Steel Firms: Evidence from Vietnam

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Abstract

This study aims to identify and analyze the impact of internal factors on business efficiency of steel firms in Vietnam. The article uses data collected from the financial statements of 26 steel firms operating in Vietnam between 2012 and 2019. With the application of E-view software in quantitative analysis to build regression models on the table data (panel data), and the study has built a regression model identifying the relationship and impact level of internal factors affecting business efficiency of steel firms in Vietnam. In the study, the dependent variable is business efficiency, determined by the profit after tax on the firm's assets. The independent variables are firm size, growth rate, capital structure, ratio of long-term assets, receivables management, and solvency. The research results show that the four factors of firm size, growth rate of assets, receivables management, and solvency have a positive impact on business efficiency, while two factors including capital structure and ratio of long-term assets do not affect business efficiency of enterprises. The results of this article are very useful for corporate executives in general and for financial managers in particular, helping managers make the right financial decisions for the company to promote business efficiency of the company.

Keywords: Business Efficiency, Steel Firms, Receivables Management, Solvency

JEL Classification Code: C23, G30, L61

1. Introduction

Business efficiency plays a big and significant role, so most countries in the world encourage and create a favorable environment for businesses to improve their business efficiency, thereby improving efficiency of the whole economy. In recent years, although the Vietnamese economy has experienced many positive changes, the operation of enterprises is still facing many difficulties. The impact from the economic crisis and recession is still a threat to the bankruptcy possibility of the business. Steel firms are also of no exception and are facing the fact that they lack competitiveness, and face limited financial resources, low

sales and inefficient business operations. In the period 2015-2019, steel enterprises had a low growth rate, and in 2019 there were declines in profits.

Business efficiency of the business can be reflected through many indicators, such as Tobin's Q, the price-to-earning ratio (P/E), and its market value (Phillips & Sipahioglu, 2004; Zeitun & Tian, 2007; Jiraporn & Liu, 2008), or profitability ratios such as after-tax return on assets (ROA), after-tax return on equity (ROE) (Abor, 2005; Cheng et al., 2010; Ahmad & Abdullah, 2013). However, in general, it can be seen that business efficiency of enterprises reflects the relationship between costs spent and profits earned. In the recent period, many large steel enterprises have reported losses due to rising costs. According to the analysis of Vietnamese economic experts, steel consumption is unlikely to strongly recover in the coming period, the industry's estimated consumption growth only as low as 5% -7% in 2020 due to stagnation in the real estate market combined with slow public investment.

Facing this situation, steel enterprises need to quickly implement solutions to recover their financial situation and increase profits. To be able to improve business efficiency of enterprises, financial managers must design a system of indicators to measure and evaluate business efficiency,

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understand the impact mechanism of factors on efficiency in order to come up with the right solutions to improve business efficiency. Although there have been many studies on business efficiency of enterprises in the world, the results of these studies are not really consistent with the current situation of steel enterprises in Vietnam in the past years. Consequently, the author wrote this article for the purpose of analyzing and finding out factors affecting business efficiency and evaluating the influence of those factors on steel enterprises in recent years. With the research results, the steel industry business managers can take specific measures affecting each factor to gradually improve business efficiency of the business.

The paper is structured as follows: Part 2 provides an overview of the literature and research hypotheses, and then Part 3 describes the research methodology. Part 4 presents the results of the study. Part 5 consists of discussion and recommendations proposed by the author. Finally, the conclusion of the study is presented in Part 6.

2. Literature Review and Hypotheses

2.1. Literature Review

Roden and Lewellen (1995) studied 48 US companies between 1981 and 1990 and showed a positive relationship between profitability and corporate debt ratio. In 2003, Deloof studied Belgian companies and discussed how working capital management would have a significant impact on corporate profits. Using correlation and regression, he found a significant negative relationship between firms' earnings and the number of days of receivables. On that basis, the study suggested that managers could create value for their shareholders by reducing the number of days for receivables to a reasonable minimum. Abor (2005) concluded that short-term debt has a positive relationship with profitability rate when studying the impact of capital structure on profitability of 22 listed companies on the Ghanaian Stock Exchange in the period 1998-2002.

Khatab et al. (2011) examined the relationship between the quality of corporate governance and corporate business efficiency through indicators ROA, ROE and Tobin's Q coefficient with explanatory variables including financial leverage, the business model and asset growth rate of 20 companies listed on the Karachi Stock Exchange, Pakistan based on data collected from 2005-2009. The results of the study showed that financial leverage and asset growth have statistically significant effects on ROA, ROE and Tobin's Q, while firm size has no effect on the above indicators. Since then, this research revealed that business efficiency of enterprises is determined by corporate governance policy.

San and Heng (2011) studied 49 listed construction enterprises on the Malaysian stock market in the period 2005-2008, divided into 3 types of large, medium and small scale. Research results showed that for large firms return on capital with debt per share market value and earnings per share with

long-term debt per share are often positively correlated, while earnings per share with debt on equity are negatively related; only marginal operating returns with long-term debt per share are usually positively related in mid-sized firms, and earnings per share with debt on equity are negatively related in small firms.

Saeed et al. (2013) researched and assessed the impact of capital structure on operational efficiency through indicators ROA, ROE, EPS with independent variables including short-term debt, long-term debt, total debt to equity ownership, and two controlled variables, which are firm size and growth rate of total assets of 25 banks listed on the Karachi stock exchange, Pakistan, based on data collected from 2007 to 2011. The results showed that the ratio of short-term debt, total debt and firm size had the same effect, while the long-term debt ratio had a negative impact on ROA, ROE and EPS, while asset growth rate did not affect ROA and ROE. In addition, there are many other studies on the impact of these factors affecting business efficiency of enterprises. However, there are no studies focusing on factors affecting the efficiency of Vietnam's steel enterprises in the period 2012-2019. Therefore, this article contributes to helping Vietnamese steel enterprises improve their business efficiency.

2.2. Hypotheses

Based on theoretical and empirical research on business efficiency of enterprises, the author has set up six assumptions about the factors affecting business efficiency of steel enterprises in Vietnam as follows:

Business size: Previous studies have particularly focused on the effect of firm size on business efficiency. Firm size is important to business efficiency because it represents the company's resources. Hall and Weiss (1967) find a positive relationship between firm size and profitability. Majumdar (1997) argues that larger firms have higher business efficiency than small firms and vice versa. Gleason et al. (2000) stated that firm size has a positive impact on firm's business efficiency as measured by ROA. Wu and Chua (2009) argued that the larger firms are more competitive due to the advantages in accessing resources. Some other empirical studies in the world also confirm that firm size is the most important factor affecting the financial performance of enterprises (Uadiale, 2010; Chen et al., 2012). Research by Pouraghajan et al. (2012), Nguyen et al. (2019) both showed the results that the size of the business had a positive and significant impact on the business efficiency of the business. However, some other studies such as Durand and Coeuderoy (2001), Tzelepis and Skuras (2004) showed that firm size has no statistically significant effect on firm's business efficiency. The hypothesis is as follows:

H_1 : Business size is positively correlated with business efficiency.

Growth rate: Firms with high growth rates often perform well because high-growth businesses can make a return on their investments. In the study of Tzelepis and Skuras (2004), Zeitun and Tian (2007), Khatab et al. (2011) showed that the growth of assets has a negative impact on business efficiency. The study of Pouraghajan et al. (2012) also confirmed that revenue growth has a positive impact on ROA. The hypothesis is as follows:

H_2 : Growth rate is positively correlated with business efficiency.

Capital structure: One of the main factors affecting the business efficiency of a business is capital structure. Corporate capital structure is the combination of debt (short-term and long-term debt) and equity in the total capital that a firm can raise to finance its operations (Saad, 2010). The short-term debt ratio has a positive impact on the firm's market-based performance. Research by Masulis (1983) showed that stock price is positively correlated with funding level as well as the relationship between firm's business efficiency and capital structure. Ooi (1999) argues that firms with good business efficiency are more likely to attract more lenders by financial institutions due to their low tax benefits and bankruptcy costs. However, there are some studies claiming that capital structure has a negative impact on businesses. Research by Kester (1986) shows an inverse relationship between capital structure and profitability of companies in the US and Japan. Research results of Ahmad and Abdullah (2013) conducted in 58 enterprises in Malaysia or the study of Tsuji (2013) choosing samples of 73 manufacturing companies listed on the Tokyo Stock Exchange the period 1981-2011 also showed similar results. In addition, there are some studies claiming that capital structure is not related to the business efficiency of enterprises such as research of Ebaid (2009), Saeedi and Mahmoodi (2011). The hypothesis is as follows:

H_3 : Capital structure is negatively correlated with business efficiency.

Ratio of long-term assets: According to research by Zeitun and Tian (2007), the ratio of long-term assets has a negative impact on business efficiency. However, Pouraghajan et al. (2012) argued that increasing the ratio of long-term assets has a positive impact on business efficiency. Steel manufacturing and processing businesses are characterized by very large fixed assets. The investment in fixed assets with modern technology will help businesses reduce costs as well as save time, contributing to improving profits for businesses. From the above arguments, the hypothesis of the correlation between the ratio of long-term assets and business efficiency is:

H_4 : The ratio of long-term assets is positively correlated with business efficiency.

Receivables management: Receivables management involves trade-offs between risks and returns as well as future financial planning. Level of accounts receivable management is measured through the average collection period. Deloof (2003) concludes that average collection period has a negative impact on firm's business efficiency. Consistent with the results of this study, there is research by Buse et al. (2010); Gill et al. (2010); Napompech (2012); Addae and Nyarko-Baasi (2013); Nguyen et al. (2020). The hypothesis is as follows:

H_5 : Receivables management is negatively correlated with business efficiency.

Solvency: Solvency indicates the liquidity of the business. Higher liquidity can allow businesses to overcome unexpected and difficult situations in times of crisis. Almajali et al. (2012) showed that the solvency of an enterprise has a positive effect on its business efficiency. Nguyen and Nguyen (2020) also thinks that solvency has a positive impact on ROA. Meanwhile, the study of Bolek and Wilinski (2012) suggested that the fast solvency coefficient has a negative impact on ROA. The hypothesis is as follows:

H_6 : Solvency is positively correlated with business efficiency.

3. Research Methods

3.1. Research Data

The research sample includes data over an 8-year period (from 2012 to 2019) of 26 steel firms in Vietnam. Data collected come from information on exchanges, securities companies and data collected directly from companies. These are sources of information are reliable according to the author. The data used in the study are constructed from the financial statements and financial information of firms in the steel industry. The financial statements of these companies are established on the basis of compliance with the Vietnamese accounting standards system and have been audited.

3.2. Research Model

Based on the research of Gomes (2001); Bokpin and Onumah (2009); Nair (2011), econometric model is selected to test the impact of internal factors on business efficiency of enterprises in Vietnam's steel industry including:

Overall regression model:

$$Y = \beta_1 + \beta_i X_i + u_i$$

In which:

Y: Dependent variable

X_n : The independent variable affects the dependent variable

β_1 : Free coefficient

β_i : Regression coefficient

u_i : Random error

In the specific regression model of the study, the dependent variable is the firm's business efficiency represented by ROA, determined by the profit after tax on the firm's average assets. The independent variables include: (1) Firm size (SIZE), (2) Growth rate (GRO), (3) Capital structure (CS), (4) Ratio of long-term assets (LAR), (5) Accounts receivable management (RM), (6) ability to pay short-term debts (SOL).

Building and testing models:

The regression model parameters were estimated by E-view software.

Overall regression model:

$$ROA_i = \beta_1 + \beta_2 SIZE_i + \beta_3 GRO_i + \beta_4 CS_i + \beta_5 LAR_i + \beta_6 RM_i + \beta_7 SOL_i + u_i$$

Overall regression function:

$$ROA_i = \beta_1 + \beta_2 SIZE_i + \beta_3 GRO_i + \beta_4 CS_i + \beta_5 LAR_i + \beta_6 RM_i + \beta_7 SOL_i$$

In which:

1. The dependent variable ROA_i: Business efficiency of the business determined by the profit after tax on average assets of each of the 26 steel enterprises in Vietnam in the period 2012-2019.
2. The group of independent variables reflecting the factors for which the statistics are taken from the financial statements of 26 Vietnamese steel enterprises from 2012 to 2019 include:

- SIZE_i: The size variable of enterprise i, measured by the logarithm of the asset value of the enterprise i.

- GRO_i: Variable growth rate of an enterprise is equal to the growth rate of total assets of the enterprise i.

- CS_i: Variable capital structure of the business, measured by the debt to equity ratio of the firm i.

- LAR_i: Variable structure of tangible assets of the enterprise, equal to the ratio of average long-term assets to total assets of the enterprise i.

- RM_i: It is determined by the logarithm of the average number of days of debt collection of the enterprise. In which, the average number of days of collection is calculated by the number of days in the period multiplied by the average receivables divided by the net revenue.

- SOL_i: The variable coefficient of solvency of short-term debt of enterprise i, which is determined by the ratio of short-term assets to short-term debts of the enterprise i.

- β_i : The partial regression coefficient measures the change in the mean value of dependent variable ROA when the independent variable changes one unit and the other independent variables remain unchanged.

- u_i : Random error of the model.

The statistics are presented in Table 1.

The data in Table 1 show that the rate of return after tax on assets (ROA) of enterprises in the period 2012-2019 is -0.00140839, but this rate is quite different between enterprises, -1.676185 to 0.257809. This is considered an urgent research issue for Vietnamese steel enterprises. In the past period, profitability was very low, and many enterprises were at negative level. Table 1 also shows that the average growth rate of enterprises is 6.359848%. The size of the business is measured by the logarithm of the average enterprise asset value (SIZE) of 9.07616086, the average capital structure is 1,72897676, the average long-term assets ratio is 40,136992%, the logarithm of the average money collection period is 1,54887839, average value of the short-term solvency (SOL) is 1.16321763.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	208	-1.676185	0.257809	-0.00140839	0.172845187
SIZE	208	7.274427	11.007646	9.07616086	0.747768663
GRO	208	-0.850979	2.563459	0.06359848	0.328385362
CS	208	-67.581898	24.774277	1.72897676	7.822907042
LAR	208	0.043188	0.977486	0.40136992	0.223062693
RM	208	-0.008415922	3.239344	1.54887839	0.501073067
SOL	208	0.035928	4.029619	1.16321763	0.584754909
Valid N (listwise)	208				

3.3. Research Method

The study uses table data regression with three methods: Pooled Ordinary Least Squares (POLS), Random Effects Model (REM) and Fixed Effects Model (FEM). Run the model using E-view software and use the least squares method (OLS) to determine the regression coefficient β_i . Based on the results obtained when running the model, an equation of the factors affecting the capital structure will be written. Then, check the model's suitability, that is, test β_i to find out whether the independent variable can explain the dependent variable or not. Assess the model's suitability using Adjusted R Square to determine the model's interpretability in practice.

4. Research Results

Running the model using E-view software under Panel data, we have:

- Regression with the Random Effect method:
- Use Hausman Test to select a model:

The Hausman test is used to choose between two Random Effect Model and Fixed Effect Model. In essence, this is a test of whether unique errors correlate with the explanatory variables.

Test of hypothetical pairs:

- H_0 : There is no correlation between explanatory variables and random components (choose Random Effect)
- H_1 : There is a correlation between explanatory variables and random components (choose Fixed Effect)

Prob. = 0.0000 < 0.05 should reject H_0 , select Fixed Effect model. Therefore, this article will use the Fixed Effect Model to regression to find out key factors affecting the business efficiency of steel firms in Vietnam in the period of 2012-2019.

- Test to remove variables from the model:

The purpose of removing variables from the model is to exclude variables that have no impact on dependent variables. Using the method of elimination and testing, remove each variable from the model and use E-view software to verify. After running the software, we see that at most two variables can be removed: CS, LAR.

To conduct the test to remove two variables CS, LAR from the initial regression model, we test the following hypothesis pair:

- $H_0: \beta_4 = \beta_5 = 0$
- $H_1: \beta_j \neq 0 (j = 4,5)$

Table 2: Regression results with Fixed Effect Model

Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 11/03/20 Time: 23:39				
Sample: 2012 2019				
Periods included: 8				
Cross-sections included: 26				
Total panel (balanced) observations: 208				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.184091	1.156622	-3.617508	0.0004
SIZE	1.721897	0.514025	3.349831	0.0010
GRO	0.071587	0.032071	2.232133	0.0269
CS	3.40E-05	0.001336	0.025467	0.9797
LAR	0.193394	0.127043	1.522270	0.1298
RM	0.038096	0.014626	2.604784	0.0100
SOL	0.148331	0.031471	4.713231	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.741715	Mean dependent var		-0.001408
F-statistic	5.657009	Durbin-Watson stat		1.996566
Prob(F-statistic)	0.000000			

Table 3: Regression results with Random Effect Model

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Date: 11/03/20 Time: 23:43				
Sample: 2012 2019				
Periods included: 8				
Cross-sections included: 26				
Total panel (balanced) observations: 208				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.232668	0.309956	-3.976906	0.0001
SIZE	0.493610	0.132136	3.735631	0.0002
GRO	0.124244	0.029570	4.201640	0.0000
CS	0.001527	0.001243	1.228565	0.2207
LAR	0.088291	0.058717	1.503659	0.1342
RM	-0.018964	0.009335	-2.031512	0.0435
SOL	0.142591	0.023367	6.102165	0.0000
Weighted Statistics				
R-squared	0.313642	Mean dependent var		-0.001246
F-statistic	15.30832	Durbin-Watson stat		1.877402
Prob(F-statistic)	0.000000			

Table 4: Hausman test results

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Cross-section random	35.708923	6	0.0000	
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
SIZE	1.732156	0.493610	0.242053	0.0118
GRO	0.074193	0.124244	0.000122	0.0000
CS	0.000291	0.001527	0.000000	0.0029
LAR	0.209112	0.088291	0.012163	0.2733
RM	0.033476	-0.018964	0.000120	0.0000
SOL	0.141155	0.142591	0.000417	0.9440

Table 5: Test results of removing 2 variables CS, LAR from the model

Redundant Variables: CS LAR				
F-statistic	1.196599	Prob. F(2,169)		0.3048
Log likelihood ratio	2.924813	Prob. Chi-Square(2)		0.2317
Test Equation:				
Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 11/03/20 Time: 23:50				
Sample: 2012 2019				
Periods included: 8				
Cross-sections included: 26				
Total panel (balanced) observations: 208				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.553643	1.081352	-3.286295	0.0012
SIZE	1.481587	0.489670	3.025687	0.0029
GRO	0.069586	0.031985	2.175544	0.0310
RM	0.038598	0.013963	2.764210	0.0063
SOL	0.126662	0.028167	4.496743	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
Period fixed (dummy variables)				
R-squared	0.735225	Mean dependent var		-0.001408
Adjusted R-squared	0.637378	S.D. dependent var		0.172845
S.E. of regression	0.129648	Akaike info criterion		-1.088094
Sum squared resid	2.874268	Schwarz criterion		-0.494397
Log likelihood	150.1618	Hannan-Quinn criter.		-0.848033
F-statistic	5.570009	Durbin-Watson stat		2.072514
Prob(F-statistic)	0.000000			

Prob. F = 0.3048 > 0.05. Not enough to reject H₀.
So, it is possible to remove 2 variables CS, LAR from the model.

Prob(F-statistic) = 0.000000 < 0.05. The regression function is appropriate.

The model of factors affecting business efficiency is:

$$ROA_i = \alpha_1 + \alpha_2 SIZE_i + \alpha_3 GRO_i + \alpha_4 RM_i + \alpha_5 SOL_i$$

Sample regression function:

$$ROA_i = -3.553643 + 1.481587SIZE_i + 0.069586GRO_i + 0.038598RM_i + 0.126662SOL_i$$

5. Discussion and Recommendations

5.1. Discussion

In Table 6, there is R² = 0.735225 indicated in the regression model, four variables SIZE, GRO, RM, SOL have a great influence on ROA, and have the ability to explain 73.5225% for the variation of ROA, which means 73.5225% change in ROA of Vietnamese steel firms is due to the impact of four variables SIZE, GRO, RM, SOL.

+α₂ = 1.481587 reflects the size of the firm having a positive impact on the business efficiency of the firm, meaning that the large-scale steel enterprises have higher business efficiency,

when other factors remain unchanged and if the logarithm of the asset value increases by 1%, the ROA increases by 1.481587% and vice versa. This is explained by the fact that large-scale enterprises often have many investment opportunities to seek profits in order to improve business efficiency for businesses. This is also the result consistent with the study of Hall and Weiss (1967), Majumdar (1997), Gleason et al. (2000); Wu and Chua (2009); Uadiale (2010); Chen et al. (2012); Pouraghajan et al. (2012); Nguyen et al. (2019).

+ $\alpha_3 = 0.069586$ means that the growth rate of the steel industry has a positive impact on business efficiency, when other factors are unchanged and if the growth rate of the firm increases by 1%, ROA increases by 0.069586% and vice versa. Growth is one of the basic conditions that help businesses achieve their goals, so businesses can accumulate capital, expand business operations, and create a good image with customers, investors and suppliers, thereby leading to the possibility of increased business efficiency. This is the result supported by the studies of Tzelepis and Skuras (2004), Zeitun and Tian (2007), Khatab et al. (2011), Pouraghajan et al. (2012).

+ $\alpha_4 = 0.038598$ means that receivables management has a positive impact on the business efficiency of steel enterprises. When the logarithm of the average collection period increases by 1%, the ROA of the business increases 0.038598% and vice versa. This result is contrary to research results of Deloof (2003), Buse et al. (2010), Gill et al. (2010), Napompech (2012), Addae and Nyarko-Baasi (2013), Nguyen et al. (2020). The result of this article is explained that when the average collection period increases, which means the business loosens credit policy for customers, it may lead to easier sales of goods and revenue increase, leading to increased profitability of the business.

+ $\alpha_5 = 0.126662$ means that short-term debt solvency has a positive impact on business efficiency of the business. When the solvency ratio of short-term debts of enterprises increases by 1%, the ROA of enterprises increases by 0.126662% and vice versa. This result is similar to the study of Almajali et al. (2012), Nguyen and Nguyen (2020).

This study shows that the capital structure (CS) variable does not affect the business efficiency of the business. This result is similar to the results of Ebaid (2009), Saeedi and Mahmoodi (2011).

This study also shows that the ratio of long-term assets (LAR) does not affect the business efficiency of the business. This, although not similar to some previous studies, but it is consistent with the characteristics of steel enterprises in the sample.

5.2. Recommendations

From the discussion, some recommendations can be made to help steel enterprises improve their business efficiency as follows:

- Promote the scale and growth rate: Variable size and growth rate have a positive impact on the performance of steel enterprises. Therefore, in order to increase the operational efficiency of steel enterprises, it is necessary to boost the scale and growth rate. To do this, businesses can take measures such as: improving marketing efficiency, researching the market, promoting and positioning brands to expand market share; building an appropriate distribution system and pricing strategy; developing human resources, researching and applying science and technology to improve product quality and reduce production costs; and having a business plan to match the market.

- Companies need to have tighter customer debt management policies, but still have to ensure flexibility. Receivables of steel enterprises are quite high, mainly short-term receivables. According to the actual data, providing credit to customers has a positive impact on business efficiency because it helps businesses have the opportunity to have large value contracts, bring high revenue and profit. However, if businesses only want high profits, but give customers too much debt, it is very risky. Especially when businesses are easy in terms of payment and do not urge due debts, the risk of capital loss is very high. Therefore, businesses need to have a reasonable credit policy for customers

- Improving solvency: The solvency of existing steel enterprises fluctuates in the same direction with business efficiency, so businesses need to improve their solvency to help them achieve profitability on the one hand, and on the other prevention of insolvency. In addition, the analyzed data also showed that many businesses use short-term debt to finance long-term assets, which causes financial imbalances and high risks of business bankruptcy. In the coming time, businesses need to regularly analyze their financial situation to identify risks of insolvency, make detailed short-term cash flow planning, increase the ability to generate cash to ensure solvency.

6. Conclusion

In summary, the article has studied the factors affecting business efficiency of steel firms in Vietnam through data collected from 26 steel firms in the period 2012-2019. The empirical model shows the correlation between internal factors and business efficiency, including: firm size, growth rate of assets, debt management, ability to pay short-term debt working in the same direction on business efficiency, while two factors of capital structure and fixed assets ratio do not affect business efficiency of the business. The results of this study have provided useful information for steel firms in finding solutions to improve their business efficiency.

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