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Factors Affecting the Development of Vietnamese Construction and Real Estate Companies

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Abstract

This study aims to investigate the factors that contribute to the sustainable development of 334 Vietnamese construction and real estate companies listed on the Stock Exchange of Vietnam over a 5-year period from 2016 to 2020. By using regression analysis with the support of STATA software through examining the financial statements, which involves looking into crucial ratios including capital structure, profitability, firm size, accounts receivable management, and tangible assets investment, this study sheds light on whether these accounting indicators could help predict the construction and real estate companies growing potential in the future. Nevertheless, these ratios slightly contribute to the explanation of the change in revenue growth ratio, with a result of 1.6%, indicating that the value relevance of accounting information provides a modest and insignificant effect on investment decisions. This is understandable because the Vietnamese construction and real estate market still has many shortcomings in handling unexpected events, as well as the industry's peculiarities related to major capital sources from bank loans. Based on this study, governmental authorities and business executives should plan appropriate risk management policies and measures to contribute to the sustainable development of construction and real estate companies.

Keywords: Sustainable Development, Vietnamese Listed Enterprises, Vietnam Stock Exchange

JEL Classification Code: G31, G32, L25

1. Introduction

Restate is one of the fields that has piqued the interest of investors worldwide, particularly in Vietnam. Along with this growing trend, the business activities of real estate companies are becoming increasingly active and play an important role in each country's economy. Firstly, the real estate industry significantly contributes to economic development and national wealth (Ha, 2021), which could be exemplified by its contribution to the GDP of China, India, and Vietnam economies with 16.4%, 6%, and 4.51%, respectively (Liu & Xiong, 2020; Sharma, 2018; GSO, 2019). According to Vietnam's Ministry of Planning and Investment (2021), total registered foreign direct investment in Vietnam would reach 31.15 billion USD in 2021, up 9.2 percent from 2020. The real estate industry was included, ranking third with more than 2.6 billion USD in FDI (accounting for 8.3 percent). Secondly, by creating more jobs, with a 0.6% contribution to total employment in Vietnam, this industry helps to improve people's lives and thereby, solving social issues (Blakely et al., 1985; Goubran et al., 2019).

However, by 2019, the COVID-19 pandemic had significantly impacted most aspects of human life (Liguori & Winkler, 2020; Zahra, 2020) and the economic environment (Kuckertz et al., 2020; Kufel, 2020). The pandemic has not only caused the real estate market to freeze but also made property types plummet dramatically and disrupted the industry's supply chain (Uchehara et al., 2020). According to the Ministry of Planning and Investment Business Registration Department (2019), the real estate sector had the highest number of companies temporarily suspended

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or dissolved in 2019, with 598 real estate companies. In comparison to 2018, there were 36.8% more real estate companies registered to suspend operations, and 39.4% more companies dissolved. This situation has presented numerous challenges and requirements for companies to untangle, solve, and adapt. For instance, the total sales of China's top 100 real estate companies in September are shown in data from CRIC, a research arm of real estate services company E-House Enterprise Holdings. Year on year, sales dropped by 36% (CRIC, 2021). Evergrande Group, China's largest real estate company, reported a 44% fall in revenue and declared bankruptcy (CRIC, 2021). This occurrence has once again pushed small firms to provide their products and services to the brink of bankruptcy.

As a result, the situation of the real estate market in the United States and around the world is risky, raising concerns among real estate investors. These risks will have a detrimental effect on all stages of real estate projects. A variety of social, technological, economic, environmental, and political factors can be attributed to real estate risks (Clarke & Varma, 1999; Halman et al., 2006; Morrison, 2009), and the potential danger of these risks need to be assessed critically (Khumpaisal & Chen, 2010). Faced with this situation, state management agencies have had to react quickly to the potential risks of the current real estate market. Regulations on tightening and controlling real estate are issued in order not to create a price fever. Furthermore, the State Bank provides financial assistance packages to investors to alleviate difficulties in the volatile market situation (Nguyen et al., 2020). Simultaneously, investors must understand how to filter information about the real estate market to make sound investment decisions (Vu et al., 2019).

In the past, the dominant managerial mindset held that the ultimate goal of a firm is to maximize profits and satisfy its shareholders, only when the firm can be successful (Freeman et al., 2010). In particular, corporate social responsibility used to be regarded as an expense on philanthropy, leading to a decrease in profits and thus destroying the value of the firm (Bosch-Badia et al., 2013). Nevertheless, this notion was later substituted by Freeman's (1984) Stakeholder theory, which emphasizes the need to satisfy all stakeholders by responding to their concerns, and further strengthened by Porter and Kramer's concept of creating shared value (Porter & Kramer, 2019). The emergence of these managerial ideas, combined with the increasing public demand for ethical business behavior has motivated modern businesses to legitimize themselves and consider sustainable development as their long-term goal (Bosch-Badia et al., 2013).

These companies are pursuing sustainable development as a development strategy. In fact, there are many definitions of "the sustainable development of a company" based on various theories that have been developed. Most previous studies have shown that companies must go through many difficult stages to develop based on two different approaches. The first research direction demonstrates that development is a natural and necessary factor (Henrekson & Johansson, 2010; Stam & Wennberg, 2009; Wong et al., 2005). Whereas the second research direction defines development as the result of both attempting and achieving goals (Audretsch & Klepper, 2000; Freel & Robson, 2004). There are various methods for measuring a company's growth, such as comparing the current year's revenue with the previous year's revenue (Davidsson et al., 2010), considering the characteristics and goals of the company (Koga & Kato, 2017) or firm size (Mansfield, 1962; Hart & Oulton, 1996; Jones & Miskell, 2007). However, the majority of the above-mentioned studies were conducted in developed countries and emphasized the importance of selling and marketing costs rather than their structure. As a result, in this study, we measure business development through changes in revenue, profit, and size to obtain the most objective and comprehensive results. Unlike previous research articles that focused on SMEs to investigate the role of capital structure in corporate growth, this paper delves into large-scale companies (Gupta et al., 2013).

Despite the growing popularity of studies about factors impacting company development, they still have a lot of limitations, such as only providing one influencing factor or introducing numerous influencing elements without investigating these elements in depth (Singh & Gupta, 2020). Also, there is currently a lack of in-depth studies on this topic. With only a few articles referring to typical issues, research articles on the development of real estate and construction companies in Vietnam are still general in nature (Nguyen & Nguyen, 2020b). There are studies on capital structure, yet no articles on profitability and solvency, the critical factors in developing construction and real estate businesses in Vietnam.

This study will identify and assess the impact of factors influencing the long-term development of Vietnam's construction and real estate sector, including capital structure, profitability, firm size, liquidity, customer receivables management, firm's growth rate, and fixed asset investment. Simultaneously, the differences in these factors' impact will also be clarified. To achieve the aforementioned goals, the study will specifically aim to answer the following questions: The first research question: What are the typical factors influencing the long-term development of construction and real estate companies in Vietnam (capital structure, enterprise size, etc.) and how should these elements be arranged? The second research question: Based on this study of the factors influencing the development of real estate companies listed on the Vietnamese stock exchange, what recommendations does the research team have for regulatory agencies, state management agencies, construction and real estate companies, and distributors to take measures to

manage and prevent financial risks for investors while also promoting the company's sustainable development? The research results show that Vietnamese construction and real estate companies' development is scarcely described by the mentioned elements, implying that its revenue is more likely to be affected by factors outside the model.

2. Literature Review

According to Winter and Nelson (1982), a company's development results from its internal resources and capabilities. This has been a significant debate among investors, managers, and researchers (Eastersby-Smith et al., 2009). Regarding the theories on firms' development, there are two main groups of viewpoints. Firstly, the profit maximization theory introduced by Friedman (1970), which used to dominate the business research field, indicates that a firm has one and only one social responsibility, that is to maximize profit as long as it follows business rules and ethics. He argues that instead of business executives, it is the government's role as the only legitimate party to make social decisions (Friedman, 1970). This is in line with the idea previously proposed by Marris (1964), a dynamic balanced growth maximizing model of a company, stressing that the firm's ultimate objective is maximizing profits. After that, this was replaced by the second point of view, which indicates that corporate social responsibility is a positive contribution to society that goes beyond profit maximization goals (Donaldson & Preston, 1995; Freeman et al., 2010; Schwartz & Saiia, 2012).

To further clarify this idea, Freeman's (1984) Stakeholder Theory emphasizes the interdependence between a firm and its stakeholders as well as the firm's responsibility to respond to stakeholder concerns by addressing environmental and social issues (Carroll, 1979; Nguyen et al., 2020). It is argued that taking actions to alleviate the degradation of the environment will allow firms to gain long-term financial success, improve the company reputation and gain a competitive advantage in the market (Carroll, 1979; Siegel & Vitaliano, 2007; Bagnoli & Watts, 2003). Due to the public's increasing awareness about businesses' impacts on the social and environmental surroundings, along with the demand for businesses to take accountability for these impacts, the second idea has quickly received attention from academia and guided modern companies to combine and balance between social responsibility and profit maximization (Bosch-Badia et al., 2013). In this paper, the research team also supports the notion that instead of focusing solely on profit maximization, businesses should integrate a sustainable mindset into their business activities so that they can gain a competitive advantage and grow sustainably in the long run.

However, to this day, researchers have studied the influence of a lot of independent variables based on various perspectives to measure the development of a company. Accordingly, they could be divided into three fundamental groups of factors. The first group includes macro-environment factors related to politics (tariff policy and trade control), social aspects (population and culture), economic aspects (tax, interest rate, supply and demand, and economic situation), technology (innovation, artificial intelligence, and automation) (Aguilar, 1967; Barkauskas et al., 2015; Castañeda-Ayarza & Godoi 2021; Singh et al., 2021). The evaluation of the macro-environment is indispensable because although these factors cannot be changed and controlled, they strongly affect the operational efficiency of a company. The second group involves customers, suppliers, competitors, or substitute products (Porter, 1979). Studying the company's resources, distribution channels, and competitive environment, these are the micro-environment aspects that have a significant impact on a company's operational efficiency. Finally, the last group is the internal factors (within the company) that could be influenced and controlled by the company, divided into two subgroups: human and financial resources. In terms of human resources, on one hand, a lot of researchers say that leadership is the key factor determining a company's development (Baum et al., 2001; Delmar, 1996; Delmar & Shane, 2003). On the other hand, some believe that employees act as a crucial factor (Birley & Westhead, 1990; Chandler & Hanks, 1994).

Regarding financial resources, capital structure, liquidity, firm size, growth rate, and accounts receivable management, are analyzed to determine a firm's development (Salim & Yadav, 2012; Onaolapo & Kajola, 2010; Ganguli, 2013; Aggarwal & Padhan, 2017). Also, these factors are chosen to be evaluated in this study. Empirically, previous studies often focus on identifying the influence of internal factors on profitability, revenue growth, or financial performance instead of a firm's development. Nevertheless, from the analysis above, it could be assumed that any internal factors associated with profitability, growth rate, and financial performance can influence a company's development.

To evaluate the impact of independent variables including capital structure, profitability, firm size, liquidity, accounts receivable management, and tangible asset investment, the research team focuses on constructing the following six hypotheses, corresponding to the six independent variables mentioned:

2.1. Capital Structure

Capital structure is a tool that reflects the financial resources used by the company to conduct its operational activities, expressed by the ratio of liabilities divided by

equity. The relationship between capital structure and a company's development has been studied by many scholars, leading to contrasting results. Salim and Yadav (2012) evaluated capital structure's impact on the performance of 237 listed firms on the Malaysian stock exchange from 1995 to 2011 and found that capital structure and firm's performance are positively correlated. In contrast, other researchers claim that capital structure negatively correlates with a firm's performance (Majumdar & Chhibber, 1999; Abor, 2007; Zeitun & Tian, 2007, Memon et al., 2012). However, according to pecking order theory, firms tend to prioritize making use of retained earnings for investment opportunities, resulting in the negative correlation between capital structure and a firm's growth (Myers & Majluf, 1984).

H1: *Capital structure is negatively correlated with the company's development.*

2.2. Profitability

A company's profitability shows its ability to utilize available resources to achieve maximum business results. Not only does profitability reflect the company's past performance but it also helps forecast the growth potential in the future (Berk & DeMarzo, 2017; Nguyen & Nguyen, 2020b). This factor is usually evaluated based on the return on assets (ROA) and return on equity (ROE) ratios. ROA expresses the efficiency in using assets including capital and debt to make a profit. The higher the index, the more effective the use of assets. Until now, there has been a wide range of studies using ROA to measure the profitability of firms, such as Goddard et al. (2005), Malik (2011), Odusanya et al. (2018), and Yazdanfar (2013). In addition, ROE is also a popular tool to measure profitability and has been used in the studies of Chander and Aggarwal (2008) and Alarussi and Alhaderi (2018). The higher the ROE index, the more effective the use of capital and thus, allow the company to gain a competitive advantage over its competitors in the market. Therefore, profitability, a critical determinant of a firm's performance, strongly impacts a company's development.

H2: *Profitability is positively correlated with the company's development.*

2.3. Firm Size

Firm size, which is often measured by the total asset, is the total production capabilities that the firm possesses or a variety of services that it can provide simultaneously to its customers. In the study "The Determinants of Firm Profitability Differences in EU Food Processing" by Chaddad and Mondelli (2013), it is shown that firm size has a positive correlation with its development, based on the secondary data on the European food industry in a hierarchical linear model. This is consistent with the work of Hitt et al. (1997), Hansen et al. (2002), and Onaolapo and Kajola (2010). Particularly, Pham and Nguyen (2017) used the ANOVA analysis method and the data from 565 companies listed on the Vietnamese stock exchange from 2010 to 2014 and concluded that small-scale companies have the lowest and remarkably lower efficiency than large-scale companies and those with the highest efficiency.

H3: *Firm size is positively correlated with its development.*

2.4. Liquidity

Liquidity, which ability is a company's financial to pay its debt, is calculated by the current assets to total assets ratio. Managing liquidity in businesses helps businesses have a stable and sustainable business environment (Nguyen & Nguyen, 2020a). There is a large body of research showing the positive correlation between the liquidity and profitability of firms, such as the studies of Goddard et al. (2005), Deloof (2003), Almajali et al. (2012), and Aggarwal and Padhan (2017). In particular, Ganguli (2013) explored the influence of liquidity on the growth of firms listed on the Bombay stock exchange from 2007 to 2011 by comparing the performance of 46 firms with high liquidity with the rest of the 500 firms having the biggest market capitalization. The results imply that firms with high liquidity perform more effectively than those of the same size and in the same industry. This is because high liquidity enables them to be less dependent on debt as well as have better-growing potential (Ganguli, 2013).

H4: *Liquidity is positively correlated with the company's development.*

2.5. Accounts Receivable Management

The term 'accounts receivable' refers to customers' debts arising from the sale of goods and services in daily business activities (Joy, 1978). If a company does not sell its products on credit, customers might opt for other substitute products, thereby reducing its revenue and profits. Nonetheless, in case the receivables are too high, which means that there is a high risk of not being able to recover the debt, the company might not have enough capital to reinvest in its production and business activities afterward. Consequently, the company's competitiveness in the market will decrease, leading to a

negative effect on its long-term development. Siminica et al. (2012) analyzed the economic growth of Romania from 2007 to 2008 and two years of recession (2009 and 2010). The results show that accounts receivable management has a positive impact on the performance of a company. This is in line with other studies by Cîrciumaru et al. (2010) and Pouraghajan et al. (2012).

H5: *Accounts receivable management is positively correlated with the company's development.*

2.6. Tangible Asset Investment

Tangible assets or fixed assets, including the main means of production with high value, are a part of many production and business cycles. Tangible asset investment is calculated by the ratio of tangible assets to total assets. Nune et al. (2013) studied the determinants of profitability of Portuguese service companies with 375 observations, based on many panel models and dynamic estimators, and came to the conclusion that a low level of tangible assets comes with higher returns. Likewise, the empirical models of Zeitun and Tian (2007), Weill (2008), and Memon et al. (2012) confirm that the tangible asset investment index negatively affects the performance of the company. This is because companies with higher amounts of tangible assets tend to look for more long-term investment opportunities, leading to less profitability gained.

H6: *Tangible asset investment is negatively correlated with the company's development.*

3. Research Methods and Materials

3.1. Empirical Model

In this research, the authors use STATA version 2016 and apply quantitative research into the regression model using capital structure (CAP), profitability (PROF), firm size (SIZE) and liquidity (LIQD), account receivables management (AR), fixed asset investment (TANG) as the independent variables and the revenue growth ratio (RGR) as the dependent variable. The main regression model is developed as follows (Table 1):

$$RGR_{i,t} = \alpha + \beta_1 \times CAP_{i,t} + \beta_2 \times PROF_{i,t} + \beta_3 \times SIZE_{i,t} + \beta_4 \times LIQD_{i,t} + \beta_5 \times AR_{i,t} + \beta_6 \times TANG_{i,t} + \varepsilon_{i,t}$$

with: α, β_1, β_2, β_3, β_4, β_5 and β_6 are coefficients and ε is error.

In regression analysis, there are three common data types: time series, cross-sectional, and panel data. Time series data is a collection of observations about the values received by a variable at different times. Cross-sectional data are collected for one or several variables at the same time. Panel data, a mixture of the above two types, refer to data containing time series observations of several individuals. According to Hsiao (2005), with the combination of the differences between inter-individual and internal dynamics, panel data has several significant advantages over cross-sectional and time series data, including providing more

Table 1: List of Variables

Variables	Role	Explanation	Measurement
RGR	Dependent variable	Revenue growth ratio	$\frac{(Revenue_t - Revenue_{t-1}) \times 100\%}{Revenue_{t-1}}$
CAP	Independent variable	Capital structure	$\frac{\text{Total liabilities}}{\text{Equity}}$
PROF	Independent variable	Profitability	$\frac{\text{Profit after tax}}{\text{Total assets}}$
SIZE	Independent variable	Firm size	Short-term assets
LIQD	Independent variable	Liquidity	$\frac{\text{Short-term assets}}{\text{Total liabilities}}$
AR	Independent variable	Accounts receivable management	$\frac{\text{Net revenue}}{\text{Accounts receivable}}$
TANG	Independent variable	Tangible assets investment	$\frac{\text{Tangible assets}}{\text{Total assets}}$

accurate conclusions about model parameters, being suitable for investigating more complex behavioral patterns, and simplifying calculations and statistical inference. Therefore, in this study, the authors used panel data to analyze data obtained from financial statements of 599 companies operating in the same field during a five-year period.

From the collected panel data, the authors built a suitable developed linear regression model to evaluate the impact of independent variables on the revenue growth ratio. By using this linear regression model, the relationship between the independent factors and the company's development could be generalized.

3.2. Research Method

This study was built to investigate the factors affecting the company's development including capital structure, profitability, firm size, liquidity, accounts receivable management, and tangible assets investment. To ensure the objectivity, validity, and reliability of the data, the sample collection and processing procedures are given below:

Step 1: Select the Subjects and Scope of the Research

Firstly, the authors examined all Vietnamese construction and real estate companies listed on the three biggest stock exchanges in Vietnam: https://hnx.vn/ (Hanoi Stock Exchange), https://www.hsx.vn/ (Ho Chi Minh Stock Exchange), and UpCom (Unlisted Public Company Market). According to the statistics provided by the State Securities Commission of Vietnam, the total number of companies listed on these stock exchanges until November 31, 2021, was 1640. Among these 1640 companies, 599 companies listed on the stock market are operating in the field of construction and real estate.

At the following stage, the authors chose to collect research data between 2016 and 2020. This was the period when the construction and real estate market matured and became more diverse and potential in terms of size and product structure growth. According to Vietnam's Ministry of Construction (2021), up to now, the total revenue related to the construction and real estate industry accounts for 11% of the GDP; this sector continuously attracts foreign direct investment (FDI), contributing 0.4% of the country's GDP. In addition, this was also the time that businesses were unexpectedly and significantly affected by the COVID-19 pandemic (Ministry of Construction, 2020). Choosing this recent five-year period helps to ensure that the information is up-to-date enough to provide accurate and objective results before assessing fluctuation details and providing a general view of the whole process.

As a result, the authors selected a complete list of 599 companies with full names, stock codes, and securities transactions over a period of 5 years (2016–2020).

Step 2: Collecting Research Data

The authors searched for audited consolidated financial statements of all 599 construction and real estate companies from 2016 to 2020 from three different sources: Cafef (2021), Vietdata (2021) and Finance. Vietstock (2021), the three most reliable sources for financial data.

Next, the authors compared the data collected from the financial statements published in the sources mentioned to ensure the consistency of the statistics. The final results confirmed that 334 companies have met the requirement for information consistency. The total number of reports obtained from all 334 companies is more than 1300 observations.

Then, the authors calculated the values of the corresponding indexes for different independent variables.

Step 3: Processing Research Data

The authors analyzed the research data with the support of STATA version 2016 to increase the reliability of the research model. Firstly, the autocorrelation coefficient was calculated to measure the relationship between the independent variables. Then, regression analysis was performed to evaluate the impact of the independent variables on the dependent variable based on the fixed effects model (FEM). Assuming that each observation has its characteristics, FEM can analyze the correlation between the residuals of each observation with the independent variables, and control and separate the effect of the individual characteristics from the independent variables. Thereby, the real effects of the independent variables on the dependent variable can be estimated.

4. Results and Discussion

4.1. Autocorrelation Analysis

Table 2 displays the results of an autocorrelation analysis of independent variables (CAP, PROF, SIZE, LIQD, AR, TANG) based on the secondary data gathered from financial statements from 2016 to 2020 of 334 Vietnamese construction and real estate companies with a total of 1,496 observations**.**

In general, there is a relatively small degree of correlation between the independent variables; in other words, all the independent variables have a loose correlation with each other. This means there was no autocorrelation phenomenon among six different independent variables, which would prevent the proposed model from regression defects. Furthermore, the majority of the independent variables show negative interactions with each other.

Table 2: Autocorrelation Analysis

	CAP	PROF	SIZE	LIQD	AR	TANG
CAP	1.0000					
PROF	0.0244	1.0000				
SIZE	–0.0166	0.1702	1.0000			
LIQD	–0.0076	0.0731	–0.0999	1.0000		
AR	–0.0156	–0.0895	–0.1032	0.0192	1.0000	
TANG	–0.0111	0.0192	0.0254	–0.0154	0.2108	1.0000

Table 3: Fixed Effects Model

GRW	Coef	Std.Err.	*t*	*P* > |t|	[95% Conf. Interval]	
CAP	0.0047265	0.1711199	0.03	0.978	–0.331075	0.3405281
PROF	–45.67553	61.11163	–0.75	0.455	–165.5995	74.24842
SIZE	–10.99516	13.2355	–0.83	0.406	–36.96817	14.97785
LIQD	0.0813751	1.445415	0.06	0.955	–2.755072	2.917822
AR	–0.7035582	1.27205	–0.55	0.580	–3.1999797	1.792681
TANG	39.38605	81.90453	0.48	0.631	–121.3414	200.1135
_cons	153.338	180.0183	0.85	0.395	–199.9255	506.6015
Sigma_u	74.001919					
Sigma_e	148.50452					
rho	0.1989215 (fraction of variance due to u_i)					
F-test that all in u_i = 0: F(333, 985) = 0.96 Prob > *F* = 0.6724						

In particular, the most significant connection was seen between the ratio of customer receivables and fixed asset investment, with a result of 0.2108. This analysis also shows that firm size and profitability are positively associated, while the firm size and debt management are negatively associated, with indexes of 0.1702 and 0.1032, respectively. The correlation between solvency and fixed asset investment, as well as between the two variables and capital structure, is the weakest among all variables.

4.2. Regression Models

Using the fixed effects model (FEM), Table 3 shows the impact of the independent factors on the dependent variables, based on the data from 334 Vietnamese construction and real estate enterprises with a total of 1,325 observations.

Only 1.6% of the variation in the sales growth rate is explained by the independent variables capital structure, profitability, firm size, solvency, receivable management, and fixed asset investment in this table. This suggests that random error and out-of-model variables account for the majority of the variation in the dependent variable. Furthermore, with the confidence level of 95%, it can be said that the *F*-test value of 0.26 and the Prob value of the *F*-test of 0.9534 indicate that the model has no statistical significance, implying the relationship between independent and dependent variables is not well explained. However, this weak connection is reasonable and expected since the growth rate of Vietnamese construction. Real estate businesses could be explained by other factors ranging from variable costs on site clearance and collateral of banks to disproportionate rates in real estate types. Also, it should be noted that during the research period from 2016 to 2020, this industry is strongly influenced by the macroeconomic environment, such as a high level of FDI in the construction and real estate sectors, the high volatility of FII on the stock market enabled businesses to grow at a significant rate in 2016–2017 and quickly stagnated one year later; as well as the impact of the COVID-19 pandemic on the whole industry since 2019.

In addition, as seen from the table, capital structure, solvency, and investment in fixed assets have a positive relationship with a revenue growth rate, while profitability,

business size, and receivables management have a negative impact on the revenue growth rate. Especially, these factors have almost no correlation with the dependent variable. Overall, six independent variables, including capital structure, profitability, firm size, solvency, receivables management, and fixed asset investment, have a very weak association with revenue growth rate or the dependent variable.

5. Conclusion

This research explores and evaluates the influence of 6 factors including capital structure, profitability, firm size, liquidity, accounts receivable management, and tangible assets investment on the sustainable development of construction and real estate businesses in Vietnam. The results from the factor analysis confirm that these companies' revenue growth rate is barely explained by the mentioned factors, suggesting that their revenue is more likely to be affected by factors outside the model. This is partly in line with the findings of Ball and Shivakumar (2008) that annual accounting information associated with earnings mainly provides backward-looking and expectational information, with limited timely and new information to forecast growth prospects. Hence, these results help with clarifying the relatively low-value relevance of accounting information used in the model for future investment decisions, especially when it comes to evaluating the growth value of the business.

Regarding the nature of this industry, it is worth mentioning external financing in the form of bank loans, a factor influencing the development of Vietnamese construction and real estate companies. Typically, bank loans play a vital role in securing Vietnamese real estate firms' capital, collateralized by the firm's land and property (Bui, 2020; Phan et al., 2019). On the one hand, under positive macroeconomic conditions, these firms manage to maintain their loans by owning enough assets and profitability. For example, with signs of recovering from the COVID-19 pandemic, real estate companies like Novaland are able to access and maintain long-term loans from Vietinbank to support their upcoming projects, thanks to increased consumer demand (VIR, 2021). On the other hand, in case of negative situations such as the recession or pandemic, firms might struggle to maintain loans and face default risk (Phan et al., 2019). Considering the debt problem of these companies could harm the credit system, the National Bank of Vietnam has recently made a statement about tightening up capital flows into the real estate industry in 2022 (National Institute for Finance, 2021, 2022).

The research findings combined with the general information about the industry will be the basis for governmental authorities and business executives to plan appropriate policies and risk management measures. Firstly, the Government must continue controlling strictly the capital flow from banks to the real estate companies in credit channels (Ministry of Construction, 2021). This requires the National Bank and credit institutions to carry out comprehensive inspections of the level of credit granted to large-scale and high-risk projects (Ministry of Construction, 2021). Additionally, there is a need for real estate firms to be aware of the ideal amount of capital and debt to grow sustainably (Vu, 2021). Hence, the Government could consider providing guidance on essential debt ratios for real estate firms including the liability-to-asset ratio and debt-to-equity ratio (Vu, 2021). Similar to China's policy of requiring real estate companies to keep their liability-to-asset ratio less than 70% and their debt-to-equity ratio below 100%, this approach could help firms avoid default risks and optimize their asset and capital structures (Goddard & Ajami, 2022). Considering this industry is easily affected by the funding environment and credit supervision policies, tightening financing supervision is an urgent task for the industry's healthy and sustainable development (Wang & Hu, 2021). In the meantime, it should be noted that for these measures to have a lasting impact on all construction and real estate companies, there has to be a strong relationship between introducing new policies, enforcement, and practice.

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