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The Impact of Capital on Growth of Small and Medium Enterprises: Evidence from Vietnam

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Abstract

Small and medium businesses (SMEs) play a critical role in the economy, yet they are plagued by a shortage of finance. Determining the influence of cash sources both inside and outside the firm is critical to the company's survival and growth. As a result, the purpose of this research is to determine the impact of capital on the growth of SMEs in Vietnam. The key factors of this research are equity and liabilities, which are two proxies for a firm's capital. The data is based on the results of a survey conducted every two years from 2005 to 2015, which included over 2,600 SMEs in 20 processing and manufacturing industries in ten provinces and cities, including Hanoi, Hai Phong, Ho Chi Minh City, Ha Tay, Phu Tho, Nghe An, Quang Nam, Khanh Hoa, Lam Dong, and Long An. The findings show that characteristics such as equity capital, total workforce growth rate, and male entrepreneurs have a positive impact on enterprise growth, whereas liabilities, firm age, and export have a negative impact on enterprise growth. The study has demonstrated that equity has a positive impact while liabilities have a negative impact on the growth of Vietnamese SMEs.

Keywords: SMEs Growth, Equity, Liability, Bayes, Vietnam

JEL Classification Code: B26, G21, C11

1. Introduction

Small and medium-sized firms (SMEs), according to the OECD (2005), are self-contained businesses that are often defined by criteria such as the number of employees and capital invested. The number of employees in SMEs in the European Union is fewer than 250. In several other nations, the number of employees is fewer than 200. In the United States, SMEs employ less than 500 people. Small firms often have fewer than 50 employees, although micro-businesses may have as low as 10, or as few as 5, employees (OECD, 2005). SMEs in Vietnam must have fewer than 200 employees, less than or equal to 300 billion VND in revenue, and less than or equal to 100 billion VND in capital. According to the International Finance Corporation (IFC), different countries define SMEs differently.

The WBG (2019) has a similar opinion: The World Bank Group is inconsistent in the classification that defines SMEs and in the application of definitions to target its support. The classification criteria will be different for different sectors, depending on the governing body or the Government of the country. Based on 267 definitions from different organizations of 155 countries around the world, Gonzales et al. (2014) concluded that there is no universal definition for the world's micro, small and medium enterprise (MSME), and the variables most used to define MSME are a number of employees, turnover, and capital. SMEs are at the heart of the search for growth in most countries in the world today. According to the WBG (2019), SMEs play an important role in most economies, especially in developing countries, representing about 90% of businesses and more than 50% of jobs worldwide, contributing up to 40% of GDP and creating 7/10 jobs in emerging economies. In the whole block of countries in the Organization for Economic Cooperation and Development (OECD), there are 99% of SMEs, accounting for nearly 60% of added value (OECD, 2019). SMEs have

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been the main source of job creation worldwide for the past two decades (Mateev & Anastasov, 2010).

Despite playing an important role, SMEs have to face many difficulties, especially in the current situation of the COVID-19 pandemic that has shocked the global economy. According to ADB (2014), WBG (2019), access to finance is one of the most important challenges for the creation, survival, and development of small businesses, a barrier limiting the growth of SMEs in the OECD and most emerging economies and developing countries. OECD (2019) also has a similar view, challenges in accessing finance still exist for micro-enterprises, startups, and innovative ventures with new business models. Becchetti and Trovato (2002) assert that credit constraints, lack of external debt, and equity are the main obstacles to the growth of SMEs. SMEs face greater constraints on finance (lack of financial resources) than in any other aspect of an organization (Storey, 1994; Beck & Demirguc- Kunt, 2006; Binh et al., 2020). SMEs start-ups in general are not able to raise enough capital due to their low credit ratings and limited access to primary markets to issue shares and borrow money. Results of the Vietnam Provincial Competitiveness Survey 2019 conducted by the Vietnam Chamber of Commerce and Industry (VCCI), with the support of the United State Agency for International Development (USAID) shows that up to 35% of SMEs have the biggest difficulty in accessing capital. Meanwhile, SMEs contribute about 45% of the country's GDP. In the period from 2010 to 2017, SMEs contribute 12.4% of State budget revenue annually (VCCI, 2019).

Many scholars have examined the topic of SME expansion around the world, although the research has primarily focused on Europe and America. Many studies, on the other hand, have differing viewpoints on the criteria for assessing variables as well as study findings on business growth. In Vietnam, empirical research on SMEs focuses on capital structure, access to capital, operational efficiency, and so on, rather than measuring the impact of capital sources and environmental factors on SMEs' growth. Because SMEs face numerous challenges in obtaining capital, the tendency of banks applying the Basel agreements, and the fact that the world is experiencing an economic crisis as a result of the COVID-19 pandemic, SMEs are finding it increasingly difficult to continue operations and grow. Research results can be a necessary reference source in issuing management policies, supporting enterprises and business management strategies of enterprises.

2. Literature Review

2.1. Growth Concept and Growth Measurement

According to Penrose (2009), growth can be understood in many ways, it is a change in quantity, such as an increase in output, exports, and sales, or an increase in size, or a quality improvement. Janssen (2009) argues that the growth of a company is primarily sales growth, which in turn leads to investments in factors of production to adapt itself to the new state. The often asked and still debated question, can a company achieve "Too Big" to effectively handle both: size and management or coordination? (Penrose, 2009). Penrose (2009) also argues that there is no reason to assume that as firms grow larger, they will become less efficient. According to Coad and Tamvada (2011), growth determines the survival of the business. Growth reduces the likelihood of small firms closing down. Up to now, although it has undergone many debates, there is no unified or generally accepted theory of enterprise growth. Growth cannot be fully explained from a single perspective. Growth is a complex process, influenced by many interrelated macro and micro domains.

According to Penrose (2009), a company's size should be determined by its total assets (including personnel). They looked at how entrepreneurs think about growth and came up with a list of elements such as increased sales, increased staff numbers, increased profitability, increased assets, developing competencies, practicing effective organization, and establishing a professional sales process. According to Freel and Robson (2004), determining business growth should be based on factors that are relatively objective and measurable, such as sales growth, total assets, and employment growth. From 2000 to 2005, Mateev and Anastasov (2010) conducted empirical research on 560 SMEs in Central and Eastern Europe. The study uses three growth models: sales revenue growth, labor growth, and total asset growth. Although corporate growth can be measured in many different ways, however, many authors have similar views on growth indicators, including market share, assets, profits, capital investment. output, employment, firm resources, and sales (Rafiki, 2019).

2.2. Factors Affecting Business Growth

2.2.1. Capital

Economists use the term capital to refer to the amount of equipment and structures employed in the production process, according to Mankiw (2021). This type of capital can be owned by enterprises, or it can be borrowed from households, banks, and other financial institutions. Other than equipment and facilities, a company's capital assets can include cash and investments, which are recorded on the balance sheet (Amadeo, 2020). Using data from UK SMEs, Watson and Wilson (2002) discovered that retained earnings were the most desired source of funding, followed by loans, and finally fresh stock issuance. According to the findings of Rand et al. (2015), residual profit is the largest source of capital for Vietnamese SMEs, accounting for 35 percent

of new investments from 2011 to 2013, and 39 percent of new investments from 2013 to 2015. The source of capital, according to Hwang et al. (2019), might be internal or foreign. It can also come from the public (government) or private (banks or investment businesses) sources, as well as from non-formal organizations.

Capital is a crucial determinant for corporate output in terms of growth theory. Classical, neoclassical, and current economic growth theories all identify capital as one of the variables that drive firm expansion. Capital is extremely important to enterprises. To obtain the factors of land, labor, and technology, capital is required initially. According to the OECD (2019), ensuring that small firms have access to the right kinds of funding in the right amounts is essential for development and growth. ADB (2014) concluded that access to financing issues is a long-term impediment to SME growth in many OECD nations, as well as in most emerging market economies, as SMEs frequently have limited access to both loans and equity. The inability of a company to obtain external funding can have a significant impact on its ability to grow. New ventures can more efficiently employ their existing resources to continuously improve, upgrade, and develop novel goods and processes if they have enough financial backing (Rafiki, 2019; Zarrouk et al., 2020). While external money is frequently required, Haynes and Brown (2009) suggested that internal investment is vital for small business success. SMEs' expansion is hampered by financial constraints, poor access to bank financing, and regulatory concerns.

Based on the study of firms in the Italian manufacturing industry, Becchetti and Trovato (2002) found that external finance affects firm growth, and credit constraints, lack of foreign debt, and Equity capital is the main impediment to the growth of SMEs. Heshmati (2001), using data on Swedish micro and small firms, found that cash indebtedness positively affects sales growth. Mateev and Anastasov (2010) further confirmed that sales growth of SMEs mainly relies on internal capital but needs access to external capital to increase total assets. While that, the empirical evidence of the debt factor has a negative effect on the growth of SMEs. The dependence of SMEs on debt financing leads to the repayment of principal and interest, thus reducing cash flow. The decrease in cash flow means that companies have more difficulty in meeting commitments with creditors and reducing internal financing, thus having a negative impact on the investment activities of the business (Serrasqueiro et al., 2018).

Thus, the previous authors had different views on the impact of capital on the growth of SMEs. Vietnamese SMEs in the general trend is also under a lot of pressure and difficulty in accessing loans, therefore, based on the perspectives of researchers and the reality in Vietnam, the study sets out two hypotheses to supplement in addition to examining the impact of capital on business growth:

H1: *Equity is the main factor affecting the growth of Vietnamese SMEs.*

H2: *Liabilities have an impact on the growth of Vietnamese SMEs.*

2.2.2. Other Determinants

According to Storey (1994), the most important and well-studied element in the growth of SMEs is firm size. Evans (1987) used data on US manufacturing firms to study the impact of firm size and age on firm growth and discovered that firm growth reduces as firm size and age increase. Similarly, Yasuda (2005), Coad and Tamvada (2011) argued that size and age had a detrimental impact on business growth. Morone and Testa (2008), on the other hand, found that revenue growth is positively associated with business size. According to Abdulsaleh and Worthington (2013), there is a growing realization that the size of a business is related to its growth. Larger companies must have more internal resources and better access to external resources, hence size has a positive relationship with growth. Researching on Vietnamese SMEs, Nguyen (2020) also stated that the company's performance is significantly affected by the size and age of the company. Larger companies are more likely to grow faster while company age tends to negatively affect company performance.

Both male and female entrepreneurs want their businesses to develop, but women are more inclined to set business growth limits and are more concerned about the risks involved with rapid expansion. According to Goffee and Scase (1985), many female entrepreneurs are hesitant to develop their businesses since it will put additional demands on their time and lifestyle, thereby jeopardizing their family relationships. Men's major family obligations of being a good service provider, on the other hand, are congruent with running a thriving business (Unger & Crawford, 1992). Female entrepreneurs who are conscious that they lack the means and experience to seek business growth and are constrained by family duties, according to Lee-Gosselin and Grise' (1990), will intentionally limit growth goals to fit these constraints.

According to Storey (1994), six criteria are important among small businesses: firm age, firm size, sector, legal structure, location, and ownership. Motivation, the entrepreneur's education, and experience, the age, and size of the company, location, technology, and economic conditions are all non-financial elements that affect business growth, according to some authors. Firm age and size,

according to Becchetti and Trovato (2002), have an impact on firm growth.

Rafiki (2019) did a study on SMEs' sales growth in Saudi Arabia, and the findings revealed that, in addition to financial considerations, the size of the company, the expertise of the manager, and training had a substantial impact on the firm growth. Mateev and Anastasov (2010) studied SMEs in Central and Eastern Europe found that total assets tend to increase sales revenue and that a rise in the number of employees boosts total assets growth.

In terms of international interactions, Brenner and Schimker (2015) examined a panel sample of 178 German SMEs from 1992 to 2007, finding that exports and average growth have a strong and negative relationship. Exports have a beneficial impact on firm growth, according to Coad and Tamvada (2011), especially for young firms and female-owned businesses.

According to Gimeno et al. (1997), education is the most essential aspect of resources for entrepreneurs, and it has a positive impact on business decisions since it helps boost business growth chances. A well-informed owner or management can deal with challenges more effectively and hence be more successful (Hall & Wahab, 2007) or support corporate growth (Honjo, 2004). There are, however, opposing viewpoints. Becker (1964) distinguished between general human capital and specific human capital. Human capital, which includes years of education and work experience, is not directly tied to a certain job. Importantly, distinctive human capital cannot readily be transferred to different situations. As a result, specialized human capital may not be linked to the high expected returns accessible in other employment options. Particular human capital may not be connected with company growth due to the low opportunity cost of specific human capital (Shepherd & Wiklund, 2006). Rafiki (2019) also discovered that an entrepreneur's educational degree has no bearing on the company's growth.

In general, the research hypotheses related to non-financial factors affecting the growth of SMEs include:

H3: *The total workforce growth has an impact on the growth of Vietnamese SMEs.*

H4: *Export factors have an impact on the growth of Vietnamese SMEs.*

H5: *The enterprise age has an impact on the growth of Vietnamese SMEs.*

H6: *Entrepreneur's gender has an impact on the growth of Vietnamese SMEs.*

H7: *Entrepreneurial education and training have an impact on the growth of Vietnamese SMEs.*

H8: *Production and business industries have an impact on the growth of Vietnamese SMEs.*

3. Data and Research Methods

3.1. Data

The study uses the data set by the Central Institute for Economic Management (CIEM), the Institute of Labor Science and Social Affairs (ILSSA), the World Development Economics Research Institute of the United Nations University (UNU-WIDER) and the Faculty of Economics (DOE) of the University of Copenhagen collaborated on the investigation. Collected data is carried out every 2 years from 2005 to 2015 including over 2,600 SMEs in 20 industries operating in the field of processing and manufacturing in 10 provinces and cities including Hanoi, Hai Phong, Ho Chi Minh, Ha Tay, Phu Tho, Nghe An, Quang Nam, Khanh Hoa, Lam Dong, and Long An. The number of surveyed enterprises in 2005, 2007, 2009, 2011, 2013 and 2015 respectively is 2,821; 2,635; 2,655; 2,512; 2,542; and 2,647 enterprises. To obtain panel data, the data is merged from 2005 to 2015 according to the business identification code (id) to ensure the consistency and continuity of each operating business. The total number of businesses after merging the id code is 2,127 enterprises.

3.2. Research Methods

This paper uses the Bayesian method to examine the impacts of capital on the growth of Vietnamese SMEs. Bayesian techniques take advantage of all available information, providing intuitive inferences to solve complex problems based on the nature of probabilities and parameters, suitable for decision making.

Dependent variable:

Representing the growth of the enterprise is the annual growth rate of total assets compared at year t with t–1, the period from 2005 to 2015. The variable is calculated by the natural logarithm (lngta). The value lngta is the difference between the natural logarithm of total assets in year t and year t–1.

Explanatory variable:

An explanatory variable is a group of variables that affect the growth of an enterprise, including:

lnequity: Total equity at the end of the year, natural logarithm.

lnlia: Total liabilities at the end of the year (representing capital borrowed from outside the enterprise) are calculated by the natural logarithm.

Group of control variables:

lngtl: The growth rate of the full-time labor force is compared at year t with year t–1, natural logarithm.

y_est: Firm Age (year of establishment of the enterprise).

ex: Export factor is a binary variable which has the value 1 if firm exports its products, otherwise 0.

gender: Entrepreneur's gender: is a dummy variable, with a value of 1 if male, 0 if female.

Education and training level of entrepreneurs: dummy variables. $z_1 = 1$ for university/higher than university, $z_2 = 1$ for college/vocational secondary, $z_3 = 1$ for trained occupation without a degree, and otherwise 0.

Business industry: dummy variables. $d_1 = 1$ if the firm is in the paper industry; $d_2 = 1$ for the garment industry; $d_3 = 1$ for the food and beverage industry; $d_4 = 1$ for manufacturing metal products; $d_5 = 1$ for the wood industry; $d_6 = 1$ for furniture/jewelry/musical equipment/watches/toys and medical equipment; and otherwise 0.

Model:

$$\begin{aligned}\text{lngta}_{it} &= \beta_1 + \beta_2\,\text{lngtl}_{it} + \beta_3\,\text{lnequity}_{it} + \beta_4\,\text{lnlia}_{it} \\ &+ \beta_5\,\text{ex}_{it} + \beta_6\,\text{y\_est}_{it} + \beta_7\,\text{gender}_{it} + \beta_8\,z_{1i} \\ &+ \beta_9\,z_{2i} + \beta_{10}\,z_{3i} + \beta_{11}\,d_{1i} + \beta_{12}\,d_{2i} + \beta_{13}\,d_{3i} \\ &+ \beta_{14}\,d_{4i} + \beta_{15}\,d_{5i} + \beta_{16}\,d_{6i} + \varepsilon_i\end{aligned}$$

4. Results

To select the appropriate a priori information for a large sample size, the article will analyze the sensitivity through five simulations of normally distributed a priori information as follows (Table 1).

To choose the best simulation based on Log BF, Log (ML), and DIC criteria, a Bayesian coefficient test, and a Bayesian model test will be used. The paper will use convergent diagnosis tests such as autocorrelation, normal distribution, stability, and the Max Gelman-Rubin Rc test to test the posterior estimate of Bayesian inference validity. The study uses a priori mean values ranging from –0.5 to 0.5 to check the certainty of the parameter spaces of the posterior simulations. A higher Log BF, a higher Log (ML), and a lower DIC are used to select the best-suited simulation. Table 2 reveals that the first simulation is appropriate.

Table 1: Likelihood Model

	lngta ~ N (μ, δ)
Prior Distributions	
Simulation 1	$\alpha_i \sim N\,(0, 1)$ $\delta^2 \sim$ Invgamma (0.01, 0.01)
Simulation 2	$\alpha_i \sim N\,(0, 10)$ $\delta^2 \sim$ Invgamma (0.01, 0.01)
Simulation 3	$\alpha_i \sim N\,(0, 100)$ $\delta^2 \sim$ Invgamma (0.01, 0.01)
Simulation 4	$\alpha_i \sim N\,(0, 1000)$ $\delta^2 \sim$ Invgamma (0.01, 0.01)
Simulation 3	$\alpha_i \sim N\,(0, 10000)$ $\delta^2 \sim$ Invgamma (0.01, 0.01)
i = 1, 2, 3, 4, 5	

Source: Authors' calculation.

Table 3 shows the Bayesian estimation findings, which are based on the above-mentioned selection technique. If the Max Gelman-Rubin Rc value is less than 1.1, MCMC convergence, an important indication, is approved for Bayesian analysis. The study performed a visual test on the MCMC convergence of lngta after Bayesian estimation. The diagnostic graph will be used to perform autocorrelation, normal distribution, and stability tests. The generated histograms reveal a minimal level of autocorrelation, whereas the Tracking charts show a strong connection. Density histograms and frequency distribution histograms can be used to plot normal distributions. As a result, MCMC convergence is maintained. The sensitivity test is also performed in the paper. When the normal priors for all parameters are adjusted from –0.5 to 0.5 with 0.1 spacing, the posterior estimators show no significant differences in posterior means, MCSEs, or credible intervals. As a result, the findings can be considered reliable.

The Bayesian method's estimation findings (Table 3) suggest that equity has a beneficial effect on firm growth. This outcome is in line with prior research findings regarding equity capital's primary importance (Haynes & Brown, 2009; Mateev & Anastasov, 2010; Rand et al., 2015; Watson & Wilson, 2002). Internal funding effectively reduces borrowing costs and enhances net profit in small businesses, according to the findings, which are backed up by empirical evidence (Haynes & Brown, 2009). Because access to financial markets and providing external resources are more difficult for small enterprises, Sarno (2008) discovered that employing more internal sources of finance will lower the cost of expansion. In the case of Vietnam, due to liquidity restrictions and credit access barriers, the debt ratio of Vietnamese enterprises is extremely low (Rand, 2007). Thus, a low debt-to-asset ratio also means that the results of new investment capital for most businesses are mainly from residual profits (Rand et al., 2015). And therefore, the source of investment equity is the main factor affecting the growth of Vietnamese SMEs.

Unlike equity, the liability factor has a negative impact on the growth of the business. This result contradicts the conclusions of some researchers (Becchetti & Trovato, 2002; Heshmati, 2001). However, the conclusion coincides with the findings of some authors (Serrasqueiro et al., 2018).

Table 2: Results of a Bayesian Factor and Model Test (Length)

	Chan	lngta			
		Avg DIC	Avg log (ML)	Avg log (BF)	P(M/y)
Simulation 1	3	1.20e+04	**–6.04e+03**	**1**	1.0000
Simulation 2	3	1.20e+04	–6.06e+03	–18.3218	0.0000
Simulation 3	3	1.20e+04	–6.08e+03	–36.7329	0.0000
Simulation 4	3	1.20e+04	–6.10e+03	–54.9319	0.0000
Simulation 3	3	1.20e+04	–6.11e+03	–73.6920	0.0000

Table 3: Bayesian Simulation Results

lngta						
	Mean	Std. Dev.	MCSE	Median	Equal-Tailed	
					[95% Cred. Interval]	
lngtl	0.10452	0.02495	0.00014	0.10465	0.05525	0.15316
lnequity	0.16373	0.01022	0.00006	0.16373	0.14364	0.18372
lnlia	–0.03600	0.00837	0.00005	–0.03594	–0.05254	–0.01977
ex	–0.13993	0.05254	0.00031	–0.14020	–0.24288	–0.03655
y_est	–0.00470	0.00147	0.00001	–0.00471	–0.00756	–0.00179
gender	0.05914	0.02880	0.00017	0.05920	0.00283	0.11566
z1	–0.17486	0.04394	0.00025	–0.17504	–0.26125	–0.08964
z2	–0.08827	0.04022	0.00023	–0.08833	–0.16624	–0.00863
z3	0.07454	0.03854	0.00022	0.07453	–0.00110	0.14997
d1	–0.26239	0.08562	0.00049	–0.26257	–0.43022	–0.09392
d2	–0.13034	0.07195	0.00042	–0.13053	–0.27170	0.01039
d3	–0.12464	0.03752	0.00022	–0.12462	–0.19835	–0.05109
d4	–0.18573	0.04059	0.00023	–0.18581	–0.26552	–0.10582
d5	–0.14289	0.04938	0.00029	–0.14338	–0.23938	–0.04647
d6	–0.20889	0.05386	0.00031	–0.20917	–0.31345	–0.10345
_cons	–0.57920	0.07161	0.00041	–0.57918	–0.71860	–0.43881
var	0.81874	0.01724	0.00010	0.81850	0.78544	0.85371
Number of obs		4,535				
Avg acceptance rate		1				
Avg efficiency: min		0.9835				
Max Gelman-Rubin Rc		1				

Based on basic economic theory, the negative effect of debt on the growth of SMEs is significant. Because small growth companies can face high costs of external borrowing. Asymmetric information problems, according to Stiglitz and Weiss (1981), can be particularly severe for smaller businesses, leading to adverse selection, moral hazard, and even credit allocation. Smaller businesses, according to Stiglitz (1985), may find it difficult to secure finance since their profits are unclear and volatile. Furthermore, Berger and Udell (1990) discover that smaller businesses may have inadequate collateral, which is commonly required for debt funding, particularly for hazardous businesses.

Because SMEs lack credibility with creditors, lenders raise the cost of capital to mitigate lending risk (Easley & O'Hara, 2004).

Due to the significant expenses associated with public affairs (Lee et al. 1996) and the risk premium that any possible equity provider might claim due to asymmetric information difficulties, outside equity financing is even more expensive than debt financing for practically all small businesses (Myers & Majluf, 1984). Because of the law of asymmetric information, borrowing by Vietnamese SMEs carries a number of hazards, including high-interest rates and hidden charges. Interest rates are one of the reasons why businesses do not borrow money (Rand et al., 2015). Due to the pressure to pay principal and interest, internal financial resources are limited, which has a negative impact on growth investment.

The export factor's negative impact on SME growth is difficult to comprehend because when businesses trade with other nations, they have more market access options and can draw powerful resources from abroad. However, there have been studies that show that exports have a detrimental impact on growth, such as Brenner and Schimkery (2015). In fact, export activities in emerging nations with weak economies, such as Vietnam, necessitate the procurement of raw materials from overseas, resulting in higher costs. According to the results of a 2015 survey of Vietnamese SMEs, 1.9 percent of non-exporting businesses bought input materials from overseas markets, whereas the rate for exporters was substantially higher at 20%. Exporters account for nearly twice as many informal payments as non-exporters. Non-exporting enterprises have an average profit per employee of 36.9 million VND, whereas exporting firms have an average profit per employee of 30.4 million VND (Rand et al., 2015). As a result of the company's reliance on imported resources, high expenses, and poor profits, it has a negative impact on investment capital (which is primarily derived from retained earnings), which has a negative impact on the company's growth.

The estimated findings for the variable labor growth rate reveal that it has a positive impact on the enterprise's growth rate. This result contradicts Evans (1987), Coad and Tamvada (2011). Morone and Testa (2008), and Abdulsaleh and Worthington (2013), on the other hand, concluded that income growth is positively related to company size, which is consistent with the findings of this study. According to the findings of a 2015 survey of Vietnamese SMEs, labor productivity rises with the size of the company. Enterprise labor productivity, on the other hand, increased by 1.7 percentage points between 2013 and 2015, while the overall workforce increased by 1.7 percentage points (Rand et al., 2015). On the other hand, Vietnamese SMEs invest very little in science and technology, with only 3% investing in research and development, human resource development, inventions, and investment in other businesses (Rand et al., 2015). Thus, the increase in the labor force along with the increase in productivity shows that the growth rate of the total labor force is in the same direction as the growth of the enterprise.

According to the expected outcomes, male entrepreneurs have a positive impact on firm growth. Goffee and Scase (1985), Unger and Crawford (1992), and Lee-Gosselin and Grise (1993) all came to the same conclusion (1990). Due to Vietnam's traditional culture, Goffee and Scase (1985) are true in their opinion that businesswomen do not want to expand since it will place demands on their time and lifestyle that may threaten their marital and family connections.

Regarding the educational and training levels of entrepreneurs, the estimated results show that the group of businessmen with educational and vocational qualifications from a university/higher than university/college/vocational secondary school has a negative impact on the growth of Vietnamese SMEs, while the group with vocational training without a degree has a positive impact. This finding contradicts the views of many prior researchers, who feel that higher levels of education and training have a positive impact on business success. The findings, however, are in line with those of Becker (1964), Shepherd and Wiklund (2006), and Rafiki (2019).

According to statistics from the 2015 Vietnamese SMEs survey report, the younger generation has a higher average level of education and training. The average age of a medium-sized business owner is higher than that of a micro- or small-sized business owner. Meanwhile, elder entrepreneurs, according to Le and Nguyen (2009), have easier access to credit. Perhaps this is also one of the reasons why the group with occupational training but no qualification has a positive impact on business success. Senior business people in long-established conventional professions, on the other hand, who have specialized qualifications and substantial experience in the field, are frequently not in the group of high and very high education.

In terms of firm age, the anticipated results reveal that there is a negative link between the age of the business and its growth. This finding is in line with prior research by Evans (1987), Yasuda (2005), and Coad and Tamvadaet (2011). In truth, Vietnamese SMEs have only invested a small percentage of their revenue in the development of new machinery and technology, as well as human resource development, in recent years. Young companies, on the other hand, expand quicker than older organizations, according to Coad and Tamvadaet (2011). This finding is in line with Nguyen (2020) on Vietnamese SMEs, who found that the company's age had a negative impact on its performance.

As a result, the anticipated results are appropriate for Vietnam's current situation.

In terms of the industrial sector, all six industries associated with the binary variable in the model had a negative impact on business growth. The industries included in the model, as mentioned in the preceding section, are those in which many enterprises operate. It could be owing to financial constraints, a lack of investment in technology development and human resource training, and, on the other hand, competition from other enterprises in the same industry, all while capital expenditure is limited. Because investment is mostly based on internal capital, it will certainly have an impact on the company's growth. As a result, the estimated results are appropriate for the current situation.

5. Conclusion

In conclusion, the study found that equity has a beneficial impact on the growth of Vietnamese SMEs, whereas liabilities have a negative impact. The overall labor force growth rate, male entrepreneurs, and the group with vocational training without a degree have a positive impact on business growth for the control variable group. Export factor, firm age, businessmen with university/higher than university/college/vocational secondary, production and business industries of paper, apparel, food and beverage, fabricated metal products, wood, furniture/jewelry/musical equipment/watches/toys/medical equipment are among the factors that have a negative impact.

The research has theoretical as well as practical implications. Theoretically, the research contributes to the growing body of knowledge on the effects of equity and debt on SMEs' growth. In practice, the study is a reference source for business managers developing production and business operation strategies, financial institutions with plans to support businesses, and economic organizations collaborating in production and business activities. It can also be a source of documents for scientific research.

According to the findings of the study, the utilization of loans by Vietnamese SMEs is still limited. As a result, business leaders must pay closer attention to the use of financial leverage and the utilization of external loans to expand their companies. On the part of financial institutions, a more advantageous policy for firms borrowing capital is required. Investing in innovation and technology transformation is critical for SMEs. In the current environment, firms in the import-export sector face numerous challenges and high operational costs, while integrating with the rest of the world necessitates attracting big resources from industrialized countries. As a result, this region requires greater attention and facilitation.

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