Environmental Science and Pollution Research (2022) 29:53540–53552
https://doi.org/10.1007/s11356-022-19528-w

RESEARCH ARTICLE

SME financing role in developing business environment and economic growth: empirical evidences from technical SMEs in Vietnam

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Received: 9 December 2021 / Accepted: 25 February 2022 / Published online: 14 March 2022

Abstract

Distinguishing the significance of business environments for technical small and medium-sized enterprises (SMEs), this study examines the connection between business environments, GDP growth, and SMEs' financing choices in Vietnam. The study considered the agency theory as a theoretical base to explain how information asymmetry between SMEs and lenders influences SMEs' financing choices and encompasses the effects on business environment and GDP growth of Vietnam. For this binary logistic regression, text is applied. Global Entrepreneurship Monitor and World Bank data were analyzed. The findings of the study are robust and showed that SME financing (e.g., formal and informal) under the financial infrastructure and tax regulation may enhance formal credit choice and reduce informal credit choice. This enhances the depth in the business environment of technical SMEs and found significant effects on GDP growth. For the first time, this research examines the impact of information asymmetry and agency theory on restaurant financing choices. The research has significance for industry practitioners and governments interested in SMEs' financial viability. On the recent topicality, study also presents policy implications for key stakeholders.

Keywords SME financing · Business environment · GDP growth · Technical SMEs · Financing policies

Introduction

Small and medium-sized companies (SMEs) provide the mainstream opportunity for jobs to earn income for local communities. Insufficient competition from large companies

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and lack of skilled staff are major challenges for small and medium-sized businesses (Huang et al. 2021b; Van 2019). SME financing is critical to meet the financial needs, as well as entertainment and tourism businesses. Most hospitality and tourist SMEs lack sufficient permanent assets (land, buildings) to get external financing (Li et al. 2021b; Nguyen et al. 2020). Because the tourism and hospitality sectors are highly dependent on the external business climate, SMEs face more risks. High operational risks can restrict access to funding and therefore stifle SMEs' growth (Chien et al. 2021b; Quynh and Huy 2018). SME financing has been widely researched due to its economic significance (Huang et al. 2021a; Xuan et al. 2020). The importance of SMEs has been recognized in the tourism and hospitality literature, especially in the restaurant industry. External business sensitivity, significant operating jeopardies, and fierce rivalry, particularly in the restaurant industry, need careful business decisions (Kim Chi et al. 2019; Liu et al. 2021b). However, decision-making by SME owners in macro-environments is still less investigated in the context of SMEs. Moreover, previous SME research has focused on official loan availability rather than informal lending by family and friends. This study's goal is to test the connection SME financing role in promoting the business environment and GDP of the country (Oanh et al. 2021). The study investigates how information asymmetry affects small and medium-sized business financing decisions. Notably, this study is one of the primary studies to intend the recent topicality (Bui et al. 2021; Sadiq et al. 2021c).

One of the major focuses of economic and financial study is the incentives of owner and manager risk management behavior. A conflict arises when an agent's self-interest is balanced against the principal's primary interest. Asymmetry of information between the agent and principal may exist to demonstrate how the agent performs responsibilities and to minimize asymmetry costs, including money, time, and power (Othman et al. 2020; van Song et al. 2020). According to the Agency Theory, borrowers (agents) and lenders have asymmetric information (principal). Consequently, much of the information asymmetry is the unwillingness of lenders to lend to businesses that they deem hazardous. In such situations, small and medium-sized businesses may struggle to get financing (Chau et al. 2020; Liu et al. 2021a). Asymmetry of information creates a moral hazard for lenders when businesses are too engaged (Le et al. 2018; Xueying et al. 2021). The lenders conceal the risks, which may aggravate SMEs' lack of access to finance. Because banks cannot access the loan market, SMEs are more reliant than large corporations (Sun et al. 2020c; Zhao et al. 2021). However, the knowledge gap between banks and SMEs worsens their position. SMEs have less transparency than banks, affecting business reporting and operations (Chien et al. 2021f; Yaw 2020). Hence, the study aims to test the role of SMEs financing on business environment and GDP growth of Vietnam.

We examine these connections using econometrics and using core questionnaires completed from Vietnam market. As a consequence of our findings, we may conclude that environmental, social economic, and entrepreneurial intention correlates positively with economic performance in Vietnam were studies. There is a strong and positive correlation between assertive environmental and socio-economic approach, environmental and socio-economic issue management, and environmental and socio-economic performance, which we have identified in depth. Keep in mind that we use outside statistics to measure environmental and socio-economic success. Environmental and socio-economic risk mitigation does not seem to be related, according to our results. However, only environmental and socio-economic management have a favorable consequence when using an econometric approach. In particular, we shed light on the factors that influence environmental and socio-economic approaches and SME outcomes in Vietnam.

Our contribution lies in the following aspect. There are still significant data gaps in SME finance which are being addressed by this research, and further efforts should be made to improve data collection and evidence on SME financing. Demand-side surveys, in particular, have hampered cross-country comparisons due to differences in coverage, methodology, and criteria. Additional standardization of surveys may result in more meaningful analysis, and the Vietnam supports new efforts in this area. Finally, although small and medium-sized businesses have a diverse array of financing tools, non-debt financing options are often under-researched or not specific to SMEs. This impairs policymakers' ability to track trends and should be another area of focus for data improvement efforts. Another critical issue is the data's granularity. Because of the diversity of the SME community, the value of disaggregated SME financial data for policymaking and analysis has been recognized for a long time. The Vietnam is investigating the availability of broken data, including the frequency with which it is collected, the reason for which broken data is collected, and the data sources. This would further the long-term aim of collecting and publishing more comprehensive data on businesses based on their size, age, industry, ownership status, geographical location, and demographic factors such as gender.

The study includes section one as introduction, section two is entitled with review of literature, section three explains methodology of investigation, section four covers results and discussion, and section five presents the conclusion and policy implications.

Literature review

Several studies on financial options and funding for SMEs have been performed in the techno-environment (Chien et al. 2021e; Diep and Anh 2020). The study also examined the impact of financing options on the financial performance of SMEs in the hotel industry in Italy. Additional studies also examine in empirical fashion drivers of finance and capital structure, focusing on internal factors such as profitability, personnel numbers, asset tangibility, and liquidity affecting enterprises (Chien et al. 2021d; Le et al. 2020). Over the last years, global SME surveys have begun to reflect additional data on the banking industry. To demonstrate this, Thai (2019) utilized the World Bank Enterprise Survey (WBES) from 2002 to 2010, competitive indicators for non-structural banks. Its results are similar for both structural and non-structural variables. Chien et al. (2021c) and Ha and Nguyen (2020) utilized a smaller 33 country sample and found similar findings. Both studies utilize an equivalent binary variable when an SME has access to financing to assess its financial condition. Micro-level barriers to SME funding impact company operations and development (Hoang and Shin 2020; Sadiq and Zhang 2021) . The World Bank Economic Survey (WBES) showed that small and medium-sized enterprises are more likely than big to focus on banking in low-level economic and institutional development nations (Cong and Thu 2021; Xiang et al. 2021a).

Given the difference in economic size, the use of this measure is dubious. To study self-discouragement and refusal, In the latest wave of WBES, Le et al. (2021) and Tan et al. (2021) categorized credit constraints encompassing 69 developing countries. These results, however, relate exclusively to non-structural metrics rather than concentration measures. Using a large US dataset, Sadiq et al. (2021b) and Vu and Tran (2020) found that low-risk borrowers are less self-decent in less competitive banking markets.

Small and medium-sized enterprises may encounter unfavorable challenges and moral hazards when formal lenders rely only on insufficient management status and project quality data from SMEs. As a result, conventional lenders may not see SMEs as acceptable or secure funding candidates. Official lenders may have more information about small and medium-sized enterprises than informal lenders like relatives and friends. In addition to the commercial activities of SMEs, interpersonal links allow informal lenders to get extra information about the motivation, individuality, and abilities of entrepreneurs. Small and medium-sized enterprises (SMEs) and informal lenders may learn more about the management and organizational practices of each other.

Although the level of asymmetry of information in the formal and non-formal funding of SMEs has differentiated, no effort was made to examine whether the macro-environmental information provided affects SMEs' formal and informal financing choice. For instance, while little effort has been made to analyze formal and informal SME funding, these current studies in developing countries have been undertaken for general small and medium-sized enterprises, rather than focusing on restaurant SMEs. The study also investigated factors of the financing patterns (formal, informal, or both), which mostly explored demographic variables, such as level of education, sex, and work experience, as well as business size, location, and profitability and did not influence macro-environmental effects. Therefore, the following study assessment divides funding sources into two distinct components: official and informal funding to more fully capture the impact of macro-environmental factors on SME financing.

In general, the above study, the hypothesis confirms that bank rivalry improves the availability of small and medium-sized enterprises' credit. The SCP hypothesis or the Market Power hypothesis for companies in less competitive banking markets sees or experiences higher levels of financial constraints, such as ineffective access, rejection of the application, discouragement, lending, and relatively large dependence on investment capital. Another research focuses on the unfavorable effect on SMEs of bank competition. Huang et al. (2021c) and Nguyen et al. (2022) utilized the cash investment sensitivity model, showing that an increased concentration in 14 European countries as a proxy for weaker banking sector competitiveness reduces SMEs' dependence on the internal investment fund, shows that banks compete based on the Boone national indicator (Hsu et al. 2021; Tsai et al. 2021), and is reducing lending to meet SME loan demand, which has a greater or lower tangible impact on SMEs via a sample of six Latin American countries. However, the use of the Boone indicator is not ideal at the national level, since, unlike Europe, countries like Brazil and Mexico have a very large sample where the competitiveness of regional banking diverges.

These prospective financing opportunities may encourage small and medium-sized enterprises to request formal external capital given favorable macro-environmental conditions. However, a poorer macro environment with lower financial infrastructure or unsatisfactory fiscal laws may increase the information gap between lenders and small and medium-sized enterprises. Such conditions may raise the likelihood of SMEs being denied external financing and prohibit them from obtaining formal support (Ehsanullah et al. 2021; Vu Thi et al. 2018). The study thus indicates a favorable link between the health of macro settings and the formal financing sources of small and medium-sized restaurants, based on asymmetry (contained in the theory of agencies). This means that robust or healthy macro circumstances will

encourage formal lenders to fund small and medium-sized restaurant businesses.

Data and methodology

Study data

Two secondary data sources were used in this research. First, from a 2018 edition of the Global Entrepreneurship Monitor (GEM), this research gathered data on the small and medium-sized technical owners in Vietnam choices to seek official and informal funding, providing the newest data for the public. Technical SMEs are the first in our categories of SMEs in Vietnam. The group focuses mostly on technical material and does not engage itself excessively or worry itself with other elements of the training process, such as implementation. Technical SMEs are involved in providing content expertise to ensure that all content details are accurate. These SMEs typically operate in groups and, the bigger a project, the more you may anticipate these specialists to participate in Vietnam. Technical SMEs include representatives of OEMs, engineers, scientists, attorneys, medical workers, and qualified experts. This group is supposed to have proven expertise in the field of content, and these SMEs are typically certified, graduated, or otherwise qualified. Only in this special edition were the funding decision data accessible, secondly in the "Doing Business" database of the World Bank, and finally, for our control parameters, we collected data from the World Bank databank.

Variables of study

This research focuses on six factors of the decision-making of financing: (1) series or other monetary organizations; (2) secluded depositors or capital risk; (3) administration programs, grants, or contributions; (4) family members; (5) neighbors or friends; and (6) employers or coworkers. These variables are elements linked to the expectations of the restaurant owners of financing via particular channels rather than the actual choice on funding. This research utilized expectations because observations of the actual financing choices of the restaurant owners were extremely limited (i.e., 65 for each financing channel). All six variables were coded to binary variables, 1 indicating that the responder selected the source of the object; otherwise, the answers were coded to 0.

Next, the funding choice was classified by summing up several sets of factors into formal or informal loans. Furthermore, banks or other financial organizations; private investors or venture capital; and public programs, contributions, and grants were seen as formal loans, while family members, friends or neighbors, and employers or employees were deemed to be informal sources of loans (INF). The research consisted of three values each measuring the expectation of SME owners to receive formal (FOR) or non-formal (INF) values (i.e., 0 = not expected, 1 = slightly expected, 2 = highly anticipated, and 3 = fully expected).

Study model measurements

Multinomial logistic regression is the key data analysis technology in this research, since finance choices are both singular level and different level. The data analysis is performed using version 26 of the IBM Social Science Statistical Package (SPSS). In this study, the odds ratio formulation for Model 1 is as follows:

$$\mathrm{GDP}_{i,t} = \beta_0 + \beta_0 \mathrm{CRED} + \beta_0\ \mathrm{Tax} + \beta_0 \mathrm{INSOL} + \beta_0 \mathrm{BE} + \beta_0 \mathrm{GINI} + \beta_0 \mathrm{FINEXP} + \varepsilon_{i,t} \quad (1)$$

$$\text{Financing expactations} = \ln\left[\frac{p\ (\text{Financing Choice})}{(1-p\ (\text{Financing Choice}))}\right] \quad (2)$$

Access to appropriate technology, the exorbitant cost of product development projects, a lack of efficient marketing methods, and inadequate competitive analysis are major obstacles for SMEs to compete. Further limitations include the difficulty to satisfy the need for various technical skills, information gaps between marketing and manufacturing activities, and the absence of software implementation funding such as ERP systems (Xiang et al. 2021b).

SME managers are always suffering from restrictions on developed nations such as poor expertise, lack of qualified employees, low level of management experience, lack of access to foreign markets, intolerable laws, inefficient incentive programmers, and lack of finance. In Vietnam, small and medium-sized enterprise managers are under great pressure to cut costs, enhance product quality, and provide products and services on time (Zheng et al. 2021). In addition, SMEs in the development sector typically operate in an unfriendly environment (Li 2020).

Measurement model estimation

The binary logistic regression technique is used to predict the results of the research. Logistic regression is a classification problem learning method utilized by allocating data to a discrete classroom. To map various probability predictors, the Sigmoid activation function would be employed to transfer the data with any value to a value of 0 to 1. The following can be written:

$$f(x) = \ln\left[\frac{1}{1+e^{(x)}}\right] \quad (3)$$

In the example, there are two categories, no injury as 0 and no injury as 1; therefore, the output is rounded up to two classes 0 or 1. Rather than the average squared error used for continuous response, logistic regression was performed using the cost function of cross-entropy or log loss. For $y = 1$ and $y = 0$, the cost function is written:

$$\text{cost}\left(h_0(x), y\right) = -\log\left(h_0(x)\right) \quad \text{if} \quad Y = 1 \tag{4}$$

$$\text{cost}\left(h_0(x), y\right) = -\log\left(1 - h_0(x)\right) \quad \text{if} \quad Y = 0 \tag{5}$$

The ideal method to the creation of output units is to let the tree to develop until it includes just few information or only the same type of data. Then, the tree is used to safeguard the model from curse of dimensionality to eliminate nodes of low value for the binary logistical estimation method. In contrast, the median estimation gives the 50th median of the conditional distribution for the explained straight-line function of independent variables. Similarly, the other quantile estimations calculate the model's variables based on any quantile for the conditional distribution of either 25th or 75th quantiles. Therefore, if an analysis is made using the 25th quantiles, the 25th quantile suitably describes the conditional distribution of the explained variable (Padhan et al. 2020; He et al. 2019; Bashir et al. 2021) controlling for unobserved country heterogeneity. Consequently, the fixed effect longitudinal regression equation below is considered:

$$\text{Quant}_\theta = \left(y_i \middle/ x_i\right) = \acute{x}_i \;\; \beta_\theta \tag{6}$$

In this context, the significant challenge with the fixed effect longitudinal quantile regression is the inclusion of substantial fixed effects (αi) set for the unexpected variable challenge (Chetverikov et al. 2016). In contrast, the approximators are unreliable when the number of individual units is endless. However, the number of observations for each cross-sectional unit is fixed. The inferior methods used for reducing the unobserved fixed effects are not feasible in the quantile regression equation. Therefore, the literature on fixed effects longitudinal quantile regression is comparatively limited (Anwar et al. 2021).

$$\min \sum_{yi \geq \acute{x}_{i\beta}} \theta \left| y_i - x_i\beta \right| + \sum_{yi \leq \acute{x}} \left(1-\theta\right) \left| y_i - x_i\beta \right| \tag{7}$$

Moreover, the conventional econometric equations cannot estimate the total effect of the independent parameters on the dependent variables (Narváez et al. 2021; Xiang and Qu 2020). The quantile estimation can estimate the stimulating effect of extreme figures, where the least-squares estimation approach cannot approximate the influence of extreme figures and thus gives a possible mean impact. The equation of the quantile estimation is given below:

$$\text{FE}_{2it} = \delta \text{FOR}_t^{\alpha 1} \; \text{INF}_t^{\alpha 2} \text{GIN}_t^{\alpha 3} \text{CTRL}_t^{\alpha 4} \text{INS}_t^{\alpha 5} \text{GDP}_t^{\alpha 6} \mu_t^i \tag{8}$$

Co-integration analyses are used for the long-term correlation between carbon dioxide, human capital, economic growth, trade openness, bio-capacity and financial development (Angrist and Pischke 2019; Shahzad et al. 2020). Furthermore, we applied the longitudinal ordinary least square, fully modified ordinary least square, and the dynamic ordinary least square (DOLS) approximation approaches. Hence, the longitudinal quantile could be specified as based on (Feng and He 2020; Mao and Ma 2021).

$$\text{FE}_{2\text{it}} = \alpha_0 + \alpha_1 \, \text{FOR}_{it} + \alpha_2 \, \text{INF}_{it} + \alpha_3 \, \text{GIN}_t + \alpha_4 \, \text{CTRL}_{it} + \alpha_5 \, \text{INS}_{it} + \alpha_6 \, \text{GDP}_{it} + \mu_t^i \tag{9}$$

The Pesaran cross-sectional test rejects the null hypothesis, demonstrating ample cross-sectional dependency of the parameter applied in the study crosswise, and all nations deployed varied panels (Junnonyang 2021; Kasim et al. 2019; Shrestha et al. 2020). Consequently, the dual analysis aids in selecting the suitable unit root analysis. We applied the longitudinal ordinary least square for the long-run cointegration correlation amongst carbon dioxide pollution, human capital, economic growth, trade openness, bio-capacity, and financial development. The ensuing longitudinal quantile could be stated as follows:

$$\theta_{it}\left(\tau \middle/ x_{it}\right) = \beta_i^\tau + \beta_i^\tau FOR_{it} + \beta_i^\tau INF_{it} + \beta_3^\tau GIN_t + \beta_4^\tau CTRL_{it} + \beta_5^\tau INS_{it} + \beta_6^\tau GDP_{it} + u_t^i \tag{10}$$

Quantile regression also grows the concept of univariate quantile estimation to estimate the conditional quantile functions based on additional covariates.

$$\begin{aligned}\theta_{0.10}\left(\text{EP}_{2it}\right) = {} & \alpha_{0.10} + \alpha_{0.10,1} \, \text{FOR}_{it} + \alpha_{0.10,2} \, \text{INF}_{it} + \alpha_{0.10,3} \, \text{GIN}_t \\ & + \alpha_{0.10,4} \, \text{CTRL}_{it} + \alpha_{0.10,5} \, \text{INS}_{it} + \alpha_{0.10,6} \, \text{GDP}_{it} + \mu_t^i\end{aligned} \tag{11}$$

Ultimately, the analysis for the equality of the slope coefficient shall be carried out to determine if there is a meaningful difference amongst the slope coefficients of the varied quantiles, such as the quantile regression equation could be stated as given below when thinking about the inter-quantile estimation amongst $\tau = 0.10$ and $\tau = 0.50$.

$$\begin{aligned}\theta_{0.50}\left(\text{FE}_{2it}\right) = {} & \alpha_{0.50} + \alpha_{0.50,1} \, \text{FOR}_{it} + \alpha_{0.50,2} \, \text{INF}_{it} + \alpha_{0.50,3} \, \text{GIN}_t \\ & + \alpha_{0.50,4} \, \text{CTRL}_{it} + \alpha_{0.50,5} \, \text{INS}_{it} + \alpha_{0.50,6} \, \text{GDP}_{it} + \mu_t^i\end{aligned} \tag{12}$$

The significant concern with fixed effect quantile regression is that adding a substantial number of fixed effects (α_i) triggers incidental variables concern. The approximator is considered unreliable when the number of individual units becomes limitless. However, the number of observations for each cross-sectional unit is fixed (Kumar et al. 2019). The actual reason the literature on fixed effects longitudinal

quantile regression is comparatively limited is that the inferior methods to reducing the unobserved fixed effects are not feasible in the quantile regression equation. Hence, Fitzenberger (1998) suggests the right approach for handling such challenges, where authors handle the latent fixed effects as variables to be simultaneously approximated alongside the covariate impacts for varied quantiles. Moreover, the different features of this approach are the introduction of penalty terms in the minimization to tackle the calculus challenge of approximating a large quantum of variables precisely, where the variables are estimated as follows:

$$\begin{aligned}\theta_{0.50}(\mathrm{FE}_{2it}) - \theta_{0.10}(\mathrm{FE}_{2it}) = {} & \alpha_{0.50} - \alpha_{0.10} + \alpha_{0.50} - \alpha_{0.10}(\mathrm{FOR}_{it}) \\ & + \alpha_{0.50} - \alpha_{0.10}(\mathrm{INF}_{it}) + \alpha_{0.50} - \alpha_{0.10} \\ & (\mathrm{GIN}_{t}) + \alpha_{0.50} - \alpha_{0.10}(\mathrm{CTRL}_{it}) \\ & + \alpha_{0.50} - \alpha_{0.10}(\mathrm{INS}_{it}) + \alpha_{0.50} - \alpha_{0.10}(\mathrm{GDP}_{it}) + \mu_t^i \end{aligned} \quad (13)$$

Furthermore, the interrelation coefficients applying the quantile regression depicted in Eqs. 5 and 8 provide the inter-quantile estimation, demonstrating the variances in the approximated quantile of $\tau = 0.10$ and 0.50. In contrast, we analyze the equality of the slope of each coefficient applying the Wald test. Therefore, the null hypothesis for equality and other slope coefficients for $\tau = 0.10$ vs 0.20, $\tau = 0.10$ vs 0.50, $\tau = 0.10$ vs 0.70, and $\tau = 0.10$ vs 0.95 are analyzed.

Results and discussion

Empirical outcomes

In Vietnam, 95% of industrial units (3.4 million) are tiny, with manufacturing accounting for 40%. These industries employ more people than agriculture and account for 40% of all industrial output. These units account for 35% of Vietnam exports. Vietnam SMEs are critical to the Vietnam economy in this climate. Their ability to create jobs, boost exports, and make Vietnam more flexible requires the attention and cooperation of policymakers. Overall, SME output grew by 8.6% in 2003–2004. Exports have risen considerably as the SME sector has grown and become more active. In 2002–2003, there was a 20.73% increase. However, some SMEs have become "sick units." There were some reservations. According to the RBI, 17.8% of all SMEs may be experiencing difficulties. Deficiencies and issues such as the ones mentioned above aid in the identification of "sick" companies. Vietnam accounted for 99% of the 2.4 million SMEs registered in the early 2000s. Since the mid-1990s, SMEs have accounted for about three-quarters of Vietnam increasing industrial production value (Das, 2016). Table 1 shows descriptive statistics.

Table 1 Descriptive statistics

Unit	SME formal financing	SME informal financing	Business environment	GDP growth
Min	12.98	10.90	30.77	44.02
Max	3576.90	1113.5	1.09	5482.3
Kurt	27.01	4.09	2.05	1.9943
SD	313.46	45.19	22.54	40.11
Mean	3510.7	6709.12	7001.44	313.67
Var	1.15	1.01	3.13	2.75

SMEs continue to dominate the largest industry, accounting for more than 70% of gross value added in the food, paper, and printing industries, more than 80% in tanning, leisure, sports equipment, plastics, and metalworking, and more than 90% in woodworking and furniture. Approximately three out of every four new employments are currently generated by small and medium-sized companies throughout the country. Over 85% of the workforce in manufacturing, 90% in retail, and over 65% in construction are employed by small and medium-sized companies. Vietnam overall export value exceeded $430 billion in 2003, and it placed fourth in total import and export values worldwide (see Figure 1)

Vietnam SMEs have made incredible strides in science and technology, and they are now the driving force behind new technology and innovation. Pearson's findings on generic bivariate correlations are shown in Table 2. The positive connection between MAS and profitability may be explained by several factors. Employers may utilize masculine traits to recognize, promote, and reward top earners. Men's cultures require that supervisors be powerful, decisive, and aggressive. Despite this, companies prefer to compensate people on an equal footing rather than on equality (see Figure 2). Finally, high-need managers, according to Ojogiwa (2021), Sun (2019), and Tiep et al. (2021), are more ambitious and ready to take measured currency risk.

UAI lowers ROA, indicating that eliminating uncertainty reduces profitability. In other words, cultures that accept uncertainty benefit corporations. Managers in communities that allow uncertainty have higher expectations of (Baloch et al. 2020; Sun et al. 2020b; Thuy et al. 2021) performance that are more willing to demonstrate commitment tolerance and accept the risks associated with business environment and GDP (see Tables 2 and 3). Enterprises with low UAI values will see more opportunities than enterprises with high UAI values. As a result, businesses that accept cultures are more likely to dominate in new markets. The results, therefore, support "sand the wheels." Companies appear to have to pay bribes, etc., which reduces profits. BUSFREE also has a statistically significant positive coefficient in the regression. SMEs are more lucrative in countries where starting,

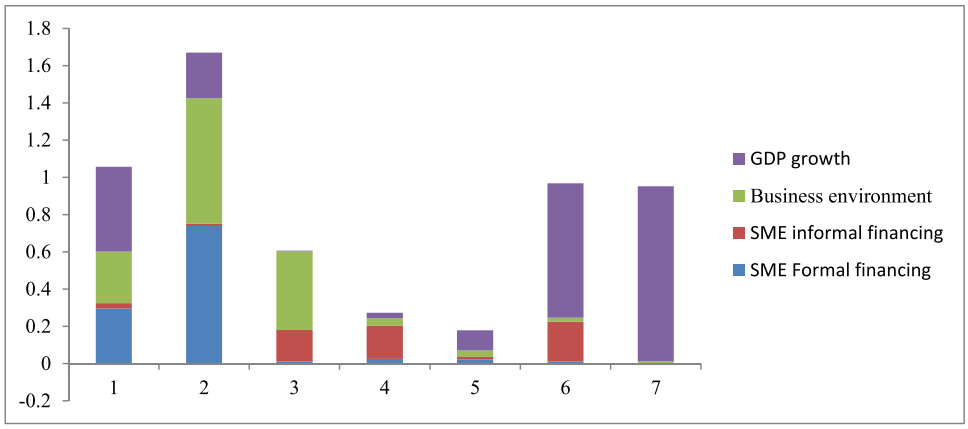

Figure 1 SME financing related with the constructs under sample period

Table 2 Correlation estimates

	FOR	INF	BE	Gini	GDPG
SME formal financing	1				
SME informal financing	0.0518*	1			
Business environment	0.2138*	0.1636*	1		
Gini	0.0282*	0.2536*	0.0178*	1	
GDP growth	0.2079*	0.2631*	0.3712*	0.33957*	1
Significance at p-value < 0.05					

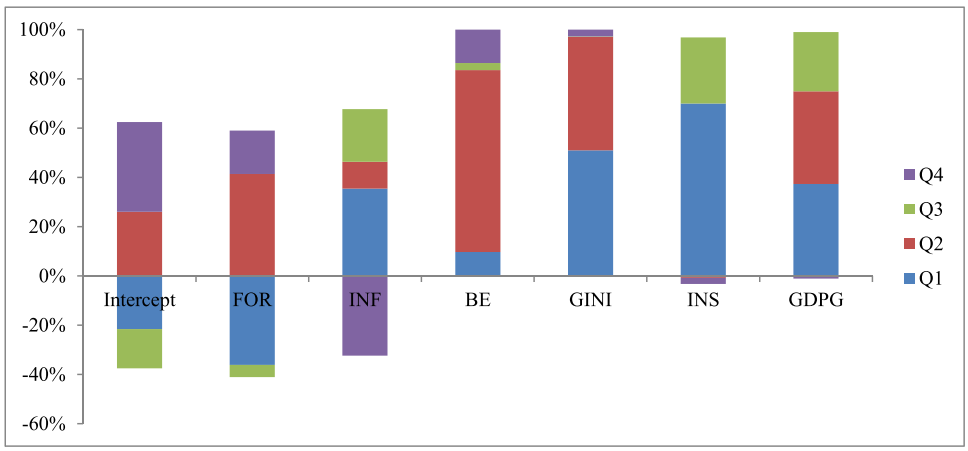

Figure 2 Empirical estimate output at level 3

running, and closing a business are easier. Finally, GETCR has a significant impact on ROA. This improves legal rights and loan information accessibility for European SMEs. This finding is consistent with previous studies showing that this climate improves loan availability and reduces financing costs, particularly for small companies.

This section re-estimates Tables 3 and 4 specifications while adding new economic factors one by one. First, we add a crisis dummy variable to the criteria. We use two methods to define the crisis: IMF database information on systemic financial crises. A country-specific financial crisis indicator is now possible. So, if we adopt a more generalized definition used in the literature and assume that all crises started in 2008 for all samples, it is conceivable that the crisis did not begin in 2008. So, even if a country has no systemic banking problem, we presume it was impacted by the global crisis in 2008. In general, no one factor seems to influence small and medium-sized business profitability. Table 4 shows the results utilizing the CRISIS IMF dummy provided by the authors with crises 2008.

The study shows how SMEs choose to invest in DECs to gain a competitive advantage. Due to their ability to turn information into value-added offerings, DECs are critical to a company's success in the KBV framework. Although studies have demonstrated that innovation and flexibility are important factors in an SME's export performance,

Table 3 Binary logistic regression output

Estimating the nexus between constructs	
Level 1 ($n = 334$)	
Intercept	GDP growth
FOR	−0.01267
INF	−0.01112
BE	−0.01714
GINI	−0.01128
Control	−0.03547
INS	−0.00442
GDPG	−0.01464
	0.045457
Level 2 ($n = 113$)	
Intercept	0.002401
FOR	−0.01359
INF	0.023098
BE	0.015034
GINI	−0.00187
Control	0.008062
INS	0.010565
GDPG	0.007694
Level 2 ($n = 60$)	
Intercept	−0.0097
FOR	−0.01453
INF	0.009735
BE	0.001236
GINI	0.351090
Control	0.724518
INS	0.290446
GDPG	0.885908
Significance at p-value < 0.05	

Table 4 Robustness estimates findings

	Business environment		GDP growth	
	B (Wald)	EXP (B)	B (Wald)	EXP (B)
Intercept	0.097	1.07	0.904	1.05
FOR	0.453	1.04	0.967	1.02
INF	0.735	1.13	0.542	1.02
GINI	0.519	1.22	0.407	1.26
Control	0.724	1.79	0.585	1.53
INS	0.446	1.147	0.559	1.59
GDPG	0.908	1.18	0.934	1.08

there is no evidence that using DECs is a profitable strategy. Exporting SMEs are resource-constrained, and any investment in core skills reduces their profitability; thus, marginal costs and benefits must be carefully assessed.

To better understand the connection between DECs based on knowledge and profitability, our survey analyzes the diversification strategy and the MD and PD goals of the business. MD and PD are major strategic choices for exporting small and medium-sized enterprises. However, little is known as to whether exporting SMEs may benefit from MD and PD while implementing their DECs. However, other research indicates that smaller enterprises struggle to manage the diversification "capacity growth." In this connection, we examine how MD and PD of an exporting business impact the profitable use of DECs in the export of SMEs and add two more literature criteria (Alemzero et al. 2020b; Sun et al. 2020a; Alemzero et al. 2020a). Table 5 shows the important links between GDP and the number of SMEs. Every metric is up. However, micro and small companies, they range from 0.65 to 0.7. Strong links, according to previous studies.

All SMEs have similar results, although the coefficients are higher. The link between GDP and the number of medium-sized companies may be substantial. Also, the coefficient of association varies from 0.8 (export) to 0.85 (import) (business investment and government spending). Thus, both GDP and its components, as well as the number of small and medium-sized firms, are positive. Corporate investment is also larger, which is anticipated.

In Vietnam, the focus in the mid-2000s was placed on strengthening the functioning conditions of SMEs. The Chinese SME Promotion Act, which came into effect in 2003, was a milestone in SME policy and law. It outlined the role and duties in the national economy of the different SME government entities. Under this act, the state would actively support small businesses, enhance the quality of services for small businesses, create an environment in which firms can compete fairly, and commit to supporting the development of small businesses with more effective policies, particularly in financial and tax areas (Agyekum et al. 2021) and (Zhang et al. 2021).

Besides scientific achievements, our analysis has ramifications for SMEs in terms of both asset preservation and value generation. A strategic and process-level examination of risk management strategies might be a first step towards business model management. This should include a complete objective evaluation, including redefining objectives, targets, and KPIs to reflect SME motivation. The correct approach to generating value is to build an invitation management philosophy around SME themes, at both the tactical and operational levels. This may include reviewing the service offerings and setting objectives for the development of novel SME generated business prospects in banking, capital management, and project finance. Typically, experts enhanced measurement and monetization of environmental and socioeconomic risks and possibilities, both operationally and strategically. Furthermore, banks should pay more

Table 5 Quantile regression analysis

Variables	0.1	0.25	0.5	0.5	0.9	OLS
FOR	0.0765***	0.0654***	0.0354***	0.0352***	0.0346***	0.066***
	−0.001	−0.01	−0.003	−0.002	−0.002	−0.002
INF	0.02***	0.0166***	0.0136***	0.0133***	0.02***	0.0138***
	−0.0056	−0.045	−0.035	−0.036	−0.0056	−0.035
GINI	0.430***	0.441***	0.421***	0.425***	0.430***	0.421***
	−0.0401	−0.0402	−0.0201	−0.0212	−0.0401	−0.0201
INS	−3.24e−05***	0.045***	0.045***	0.048***	−3.34	0.045***
	−2.26E−03	−4.54E−02	−2.00E−03	−2.00E−02	−2.26E−03	−3.00E−03
GDPG	0.024***	0.323***	0.665***	0.611***	0.024***	0.335***
	−0.012	−0.002	−0.001	−0.002	−0.012	−0.001
PCI	0.0276***	0.00897***	0.0586***	0.0586***	0.0276***	0.0586***
	−1.98E−02	−1.54E−02	−1.10E−02	−1.10E−02	−1.98E−02	−1.10E−02
Constant	−5.002	−5.021	−3.021	−3.001	−5.002	−3.021
	−0.552	−0.232	−0.235	−0.268	−0.567	−0.256
Observations	472	472	472	472	472	472

attention to cultural nuances, especially those of the most visible participant groups, such as customers, nongovernmental organizations, the media, and independent norm-makers. This may include quality objectives, key players, institutionalizing stakeholder dialogues, implementing dialogue-derived initiatives, and regularly evaluating outcomes. Although our findings show policymakers have a little role in SMEs unification, this must be evaluated in the light of data collecting. For example, the TCFD and NGFS were in both the formative stage at the end of the assessment. One would think that opinions of policy makers' function would have altered by now. A typical corporate profit maximization attitude may have predominated at the time of the study, explaining our findings on a negligible role for stakeholders in SMEs integrating. As previously said, attitudes may have shifted.

Discussion

Vietnam stressed its aggressive support for SME development by 2006 throughout the current reform string. The main task of the administration during the period was to implement an SMB law to improve policy and development actions, remove institutional barriers, create a level playing field, foster scientific and technological innovation, and update and optimize industrial structures to improve the overall quality and competitiveness. As a consequence of these reforms and efforts, Vietnam SMEs grew quickly in size, number, financial position, and profitability. Throughout this period of promotion legislation, two factors played a significant role. Firstly, the fast development of municipal enterprises. Many municipal companies were small to medium-sized and were therefore a key driver of the development of Chinese SMEs. The second factor was the rapid growth of the non-public sector, particularly the rapid development of SMEs in the private sector.

The strategic development of Vietnam SMEs depends on the authors' survey. Approximately 1200 organizations from different sectors, categories, and venues were contacted and asked to participate. These organizations were selected from various directories available in the Vietnam Industry Confederation, the Vietnam Auto Component Manufacturers Association, the Vietnam Trade Chambers Federation, and the Industry Department. Included were a cover letter explaining the research objectives and the instructions for the questionnaire. The SMEs focus on TPM and the culture of the organization to improve productivity at all levels. The results indicate that Vietnam SMEs are less focused on IT applications. Therefore, Vietnam SMEs should pay considerable attention to the effectiveness of IT applications at different operational levels to boost competitiveness. The amount of money that is spent at home and through FDI varies, depending on the business, the firm, and all sectors. For example, Chien et al. (2021a), Iqbal et al. (2021), and Li et al. (2021a, b) noted that automation, market research, and staff welfare are key investment objectives for organizations in the Vietnam automotive industry of Vietnam.

In today's global economy, SMEs and entrepreneurs are critical to countries' efforts to achieve equitable development. Assuring small businesses have an adequate supply of financing in the appropriate forms and amounts is critical to their development and success. It is even more critical to have access to finance during times of crisis, such as the one now afflicting the world as a result of the COVID-19 pandemic, to react to the immediate and severe effect on SMEs. At the time of writing, the crisis's consequences were still being felt, and the long-term impact on SMEs'

access to finance was unknown. Governments around the globe develop policies to assist externally financed SMEs. In light of the sector's lengthy history of difficulties, this environment needs more evidence-based support for correcting SME financing regulations.

The introduction of a business index shows how readily a new company in the nation can be assessed, which means that institutional development promotes new companies. This may indicate a better business climate when a company index begins, where new entrants in the restaurant sector, in particular, may be recruited. This may lead to many additional participants, but also severe financial competition. This high degree of competition in the industry may thus decrease the likelihood of selecting official funding and instead urge SME owners to seek informal financial support. In such a competitive climate, banks and financial institutions are likely to demand high-quality investors' ideas. The previous study indicates that SME hospitality investors frequently do not provide banks with thorough and competent funding. This may harm the probability of these new entrants getting official funding. In the future study, more empirical data and related arguments should be encouraged.

This research theoretically enhances our knowledge of agency theory in formal and informal financing options for small and medium-sized enterprises. As shown in the present research, knowledge from the organism's microbusiness environment may reduce information asymmetry in the funding process. If more official loans are available, the need for informal loans will be decreased. This study adds to SME financing research and examines the differential impact on formal and informal restaurant loans under various macro business conditions. Developed financial infrastructure and fiscal legislation have been recognized as important components of macro business circumstances to improve expectations for restaurant operators of formal financing. These results may indicate that the demand for non-informal loans would diminish when expected formal loans from a developed environment with plenty of external loans. This research also represents the first effort at the deconstruction of small eateries, concentrating not only on official financing but also on informal assistance. The objective of this research is to add to small business literature by expanding understanding of the financing choices process for small and medium-sized enterprises.

Conclusion and policy implications

In contrast, the establishment of a business index has a beneficial impact on the official financing of SMEs in the restaurant sector and on their informal financing. The introduction of a business index shows how readily a new company in the nation can be assessed, which means that institutional development promotes new companies. This may indicate a better business climate when a company index begins, where new entrants in the restaurant sector, in particular, may be recruited. This may lead to many additional participants, but also severe financial competition. This high degree of competition in the industry may thus decrease the likelihood of selecting official funding and instead urge SME owners to seek informal financial support. In such a competitive climate, banks and financial institutions are likely to demand high-quality investors' ideas. The previous study indicates that SME hospitality investors frequently do not provide banks with thorough and competent funding. This may negatively impact the probability of government funding for these new entrants. In the future study, more empirical data and related arguments should be encouraged.

This research theoretically enhances our knowledge of agency theory in formal and informal financing options for small and medium-sized enterprises. As shown in the present research, knowledge from the organism's microbusiness environment may reduce information asymmetry in the funding process. If more official loans are available, the need for informal loans will be decreased. This study adds to SME financing research and examines the differential impact on formal and informal restaurant loans under various macro business conditions. Developed financial infrastructure and fiscal legislation have been recognized as important components of macro business circumstances to improve expectations for restaurant operators of formal financing. These results may indicate that the demand for non-informal loans would diminish when expected formal loans from a developed environment with plenty of external loans. This research also represents the first effort at the deconstruction of small eateries, concentrating not only on official financing but also on informal assistance. This research seeks, therefore, to add to the literature of SMEs by improving their knowledge of the financing process for SME owners.

The present research also has managerial implications for formal and informal loans for SMEs in the restaurant sector to policymakers. The results show that policymakers should carefully examine how their countries use official and informal loans to create financial strategies for small enterprises (in particular, restaurant SMEs). Policies should focus mostly on developing countries' financial infrastructure and tax regulations that may promote formal lending to small and medium-sized enterprises since informal financing is more expensive and unable to provide adequate funding, as stated before. The results of this research will also attract SME owners on the typical expectations of official and informal financing owners of SMEs, in particular in the restaurant sector. Although these owners seek funding from all available sources, their company choices may take the particular business climate studied in the present study into

consideration. For example, owners should strive, under relatively poor macroeconomic conditions, to minimize the knowledge asymmetry issue, which may restrict their possibilities of access to formal funding sources. However, if the financial markets are appropriately established and expanded, official funding should be favored over non-informal ones.

There are many drawbacks to this research. The research utilized, first of all, binary, self-reported funding solutions. Future research can utilize a real financial data set to properly assess funding alternatives from the viewpoint of capital structure. Secondly, the dependent variables were split between 0 and 1 levels and resulted in comparatively fewer data at 2 and 3 levels. Future research should gather a greater content and high-value dataset that may enhance the building's validity and statistical assessments. Third, this research focuses on information for restaurant owners, since the collection of data by other small enterprises in hospitality and tourism is restricted. However, companies have larger sales volumes.

The evolving economic implications of the COVID-19 epidemic have significantly altered global development expectations, after many years of significant progress in SME financing. Not only is the pandemic a first-of-its-kind public health emergency. Additionally, it sows the seeds of a global economic disaster, puts tremendous strain on communities, and creates great problems for international leaders. Small businesses and entrepreneurs are at the heart of these transformations and are severely impacted, not least in terms of their ability to access cash flow finance and longer-term investment. Additionally, in the next years, weak trade and investment flows, as well as supply chain reorganization, may harm loan availability and other forms of financing for SMEs. Simultaneously, the extent to which SMEs can use digital technology, particularly in terms of external funding, remains to be seen. It is critical, therefore, to continue monitoring SME financing trends and expanding the evidence base.

Author contribution Nguyen Van Song: conceptualization, writing — original draft. Tran Thi Hoang Mai: writing — literature review. Tran Duc Thuan: software. Tran Ba Uan: visualization. Dinh Van Tien: methodology. Nguyen Thi Minh Phuong: supervision. Thai Van Ha: data curation. Nguyen Dang Que: editing.

Availability of data and materials The data that support the findings of this study are attached.

Declarations

Ethical approval The authors declare that they have no known competing financial interests or personal relationships that seem to affect the work reported in this article.

Consent to participate It can be declared that there are no human participants, human data, or human tissues.

Consent for publication Not applicable

Competing interests The authors declare no competing interests.

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