THE EFFECTS OF LOCAL BUSINESS ENVIRONMENTS ON SMEs' PERFORMANCE: EMPIRICAL EVIDENCE FROM THE MEKONG DELTA

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ABSTRACT

This paper investigates how SME's local business environment affects its performance. Theoretical arguments for business environment and performance go in both directions. That is, on the one hand business environment enhances SME's performance; on the other hand it also impedes its operation. Using these arguments, we hypothesise that both favor treatment of local government for state-owned companies and bribery (or "speed money") are negatively related to SME's performance. Promotion policies of local government for private firm and local labour force have positive effects on SME's performance. We test these hypotheses in a survey data from 63 manufacturing and service SMEs locating in three provinces of the Mekong Delta within the period of 2011 and 2012. Using fixed effect and random effect models, the empirical results release that local government's favour policies for private firms and labour force have positive effects on SMEs' performance. The results revealed that although bribery has positively related to SME's performance, this relation becomes negatively when the level of bribe is high. A major implication is that the study provides better understanding for SMEs in addressing the local environment factors, which significantly affect SMEs' performance. The results of this study can also be used as reference for anyone who is interested in start their own business providing insights into decision-making in starting a business and also for any SMEs which are interested in continuing to sustain and grow. In addition, bribery enables SMEs to use government resources, avoid red tape, and thus foster revenues. High levels of "speed money" increasingly absorbs the returns on SME activities, and distort entrepreneurial spirit and behaviour because favourable relationships with public officials provide entrepreneurs legitimacy and thus decrease the risk for closure.

Keywords: local business environment, labour force, bribery, "speed costs", SMEs

INTRODUCTION

Overall improvement of the business environment is considered a very important element of market transformation success and economic reform in transition

countries. It is also considered one of the most crucial factors in attracting foreign investments and is a key catalyst for economic growth acceleration (Alexandrova, 2004). The business environment, in general terms, consists of the myriad forces that are beyond the control of firm-level management in the near term; thus, it can create both opportunities and threats for firms (Bourgeois, 1980). The role of the business environment in firms' operations is supported by most previous studies, although their findings are mixed. Previous studies have provided empirical evidence that the specific local business environment in which a firm is embedded can make a significant contribution to its performance (e.g., Neneh & Vanzyl, 2012; 2014; Ng & Kee, 2012; Tu, 2012; Chittithaworn, Islam, Keawchana, & Yusuf, 2011; Kennerley & Neely, 2003; Tan, 1996; Tan & Litschert, 1994; Okoroafo, 1993). Other studies have found that these factors have an inverse relationship (e.g., De Jong, Phan, & van Ees, 2012; Chittithaworn et al., 2011; Luo, 1999; Ward, Duray, Keong Leong, & Chee-Chuong, 1995). These mixed results may implicitly suggest that the effect of the business environment on firms may vary by national or regional economic context (Ng & Kee, 2012; Alexandrova, 2004). In particular, firms in developed countries are clearly better off when their business environment is certain. However, the effect of their business environment on firms in transition economies, such as China, Thailand, or Vietnam, may be different (Chittithaworn et al., 2011). The effect may not even be the same in different transition economies. Therefore, we argue that the findings of previous studies addressing the effects of business environment on firms in others countries continue as an ongoing debate and may not be applicable to Vietnam in general or the Mekong Delta (MD) in particular. Such topics in this region are under-explored. Therefore, the objective of this study is to fill this gap by investigating how the local business environment affects SMEs' performance in the MD. The findings of this study provide useful guidance on how local government should improve the business environment by contributing to the competitive advantage of SMEs and enhancing their performance.

The contributions of the paper are twofold. First, we develop a model capturing the relationship between the local business environment and SMEs' performance by extending theoretical arguments on the role of local government policy, "speed money", and the local labour force in SMEs' performance. Second, the study empirically confirms the effects of these factors on SMEs' performance by testing 63 manufacturing and service SMEs located in Can Tho, An Giang and Hau Giang. The study of these SMEs provides new insights into the importance of the local business environment for SME operations and for the SME literature.

THEORETICAL BACKGROUND AND HYPOTHESES

Studies on firm performance have drawn attention from researchers. Studies addressing the determinants of firm performance have focused on three broad factors: firm strategy (Mazdeh, Moradi, & Mazdeh, 2011; Hofer & Schendel, 1978; Porter, 1985), firm structure or internal environment (Chang, Hughes, & Hotho, 2011; LeCraw, 1984; Provan, 1989) and the external business environment (Tan & Liu, 2014; Chang et al., 2011; Collins, 1990). According to the scholars, three perspectives relate to the business environment. The first perspective is a focus on groups external to the organisation that impinge on its activities, including customers, competitors, suppliers, government policies and regulatory agencies. The second perspective focuses on the attributes of external forces, such as complexity, dynamism, and munificence (De Jong, Phan, & van Ees, 2011). The third perspective is concerned with managerial perceptions of environmental attributes, exemplified by Swamidass and Newell (1987). Given that all of these factors and actors can affect the future of the company, top managers must anticipate their effects to take advantage of opportunities, defend from threats, and measure the effects of both on firm performance (Nicolau, 2005). Drawing from the literature and the social context of the MD, in this study, we consider the favourable treatment of state-owned companies, private firm promotion policy, labour availability, and corruption of local government the main components of the business environment in the MD. These may have significant effects on the performance of SMEs in the MD.

We first discuss the effect of the preferential treatment of state-owned companies on SMEs' performance. Transition economies such as Vietnam and China have moved from their previously centrally planned economies, in which most firms were owned by the state and the private sector was not encouraged to develop, towards more market-oriented economies, in which development of the private sector has been considered the crucial catalyst of economic growth. However, state-owned companies continue to be preferred by the government over private ones, including SMEs (Maunganidze, 2013). The government's supports for state-owned companies are implemented in several different forms, such as credit, investment, tax incentives and loss subsidies. These supports impose significant disadvantages on private firms that are in competition with state-owned ones. Preferential treatment of state-owned companies is evidentially a main cause of the sluggishness of these companies that, in turn, hampers the growth of the whole economy (Mazdeh et al., 2011; Ahmad, Ramayah, Wilson, & Kummerow, 2010). Therefore, we propose the following hypothesis:

> H1: Preferential treatment of state-owned companies by the government is negatively associated with SMEs' performance in the MD.

Next, we discuss the effect of private firm promotion policy on SMEs' performance. Historical evidence from Vietnam and China has shown that the increasing promotion of private enterprises by these countries has led to an impressive growth of SMEs. Private firm promotion policies include credit and tax incentives and are associated with, for example, a reduction in complexity of paperwork, reduction of private firms' uncertainties about regulation and technology, and management enhancement for SMEs (Neneh & Vanzyl, 2012). Moreover, it has been reported that the relationship between Chinese firms and their various environmental components is highly complex, heterogeneous, and particularistic, particularly when information is not codified and regulations are not made explicit (Maunganidze, 2013; Boisot & Child, 1988; Child & Lu, 1990). An environment characterised by uncodified information can promote uneconomic forms of opportunism. The environment in which Chinese firms must make strategic decisions is similar to those described by Bird (1989), in which firms lack control over important resources, information, and time to react under incomplete information. Therefore, the policies of the government, which aim to reduce information uncertainty and enhance the managerial capabilities of SMEs, may help SMEs handle the complexity of the business environment more efficiently (Maunganidze, 2013; Neneh & Vanzyl, 2012; 2014). Therefore, these policies improve SME's performance. For these reasons, we propose the second hypothesis:

> H2: The promotion policy of local government for private firms is positively associated with SMEs' performance in the MD.

Labour availability can affect SMEs' performance in the MD. Environmental munificence represents the level of resources available to firms from various sources in the environment and is the extent to which an environment supports growth of organisations within it (for example, Tan & Liu, 2014; Tan, 1996; Okoroafo, 1993). Thus, when investigating 319 manufacturing firms in Singapore, Ward et al. (1995) included quality labour availability as one of three scales that are conceptually related to environmental munificence. The results showed that the responses of low performers to concerns about environmental munificence such as labour availability are quite different from those of high performers. This finding implies that labour availability also affects firm performance (Wang, & Ngoasong, 2012). Several studies have also found that available labour force has a positive effect on overall firm performance (Tan & Li, 1996; 2014; Tan, 1996). Therefore, we propose the third hypothesis:

> H3: The local labour force in the MD is positively associated with SMEs' performance.

Svensson (2005) defined corruption as the misuse of public office for private gain. Corruption defined thusly would capture, for example, the sale of government property by government officials, kickbacks in public procurement, bribery and embezzlement of government funds. In addition, corruption is an outcome—a reflection of a country's legal, economic, cultural and political institutions. Corruption can be a response to either beneficial or harmful rules. Conversely, corruption can also arise because bad policies or inefficient institutions are put in place to collect bribes from individuals seeking to circumvent those policies or institutions (Djankov, Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2003). Therefore, Le Khuong Ninh (2007) and Tu (2012) asserted that "speed money" is one type of corruption. However, several scholars have presented different arguments about the relationship between a type of corruption such as "speed money" and a firm's performance. "Speed money" might improve firm performance, leading to increased investment through two mechanisms (Ramdani & van Witteloostuijn, 2012; De Jong et al., 2012). First, corrupt practices such as "speed money" would initially enable individuals to avoid bureaucratic delay. Second, government employees who are allowed to levy bribes would work harder, particularly in the case in which bribes act as a piece rate. Although the first mechanism would increase the likelihood that corruption would be beneficial to growth only in countries where bureaucratic regulations are cumbersome, the second would operate regardless of the level of red tape. In contrast, Shliefer and Vishny (1993) argued that corruption would tend to lower economic growth due to increased investment costs and a decrease in the marginal production of investment, leading to reductions in firm performance. Eventually, firm performance will decrease due to the higher cost burden. Considering these arguments, we propose the following hypothesis:

> H4: "Speed money" (bribery) is negatively related to SMEs' performance in the MD.

Based on the developed theoretical arguments above, the theoretical framework of the study is presented in Figure 1.
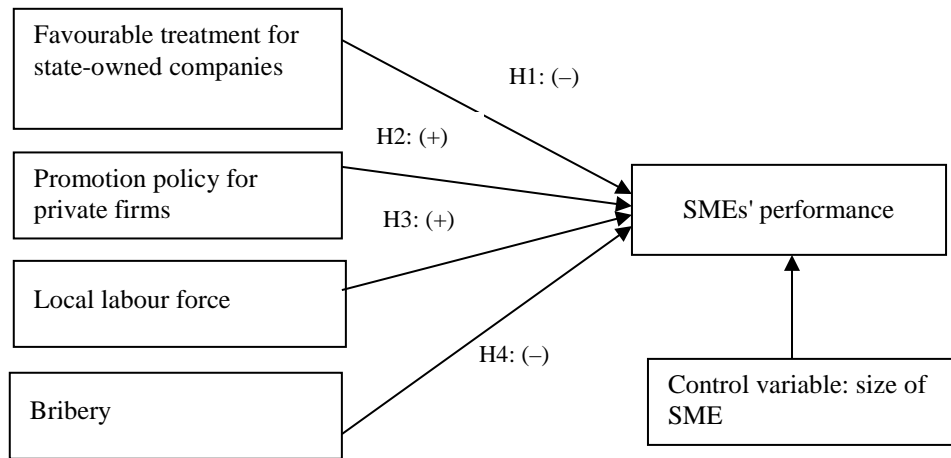
Figure 1. Theoretical framework of the study

RESEARCH METHODOLOGY

Data Collection, Measure and Description

Data collection and sample

Following the approach of Tu (2012), the sampling technique of this study proceeded in three stages. The first stage was the preparatory phase of the field survey: an existing questionnaire was modified, discussed with practitioners and experienced researchers, and compared with other questionnaires. The next step in this stage was pre-testing the questionnaire in Can Tho. This pilot survey noted drawbacks of the original questionnaire, which helped us improve the questionnaire further. The final questionnaire consisted of 31 questions that provided substantial information on which to base the measurement of the dependent and independent variables in the theoretical model.

The second stage was to train selected interviewers, including students from the School of Economics and Business Administration (SEBA), Can Tho University, Vietnam. The requirements for the selected interviewers were to have experience in conducting fieldwork and implementing surveys. The interviewers were trained in the questionnaire by experienced SEBA researchers who explained each question. Furthermore, the interviews were implemented in the local dialect of Vietnamese within the MD area, in which interviewees can respond more easily, thus making their answers more precise.

In the final stage, the steps of the intensive interview were conducted between September and December 2013. Based on the SME list from the Vietnam Chamber of Commerce and Industry (VCCI), we contacted managers of 150 SMEs identified in 3 of the 13 provinces/cities of the Mekong Delta by telephone to explain the purposes of the survey. These provinces/cities included Can Tho, An Giang, and Hau Giang. The reason for using these areas was three-fold. First, according to the VCCI, the density of SMEs is the greatest in these provinces/cities and the number of registered SMEs is increasing significantly. Second, Can Tho is located in the central area of the region, whereas An Giang and Hau Giang are located in the upper and the lower Mekong Delta regions, respectively. These provinces have different natural conditions and competitive advantages. Each can well represent other provinces in the MD that share similarly natural conditions and competitive advantages. Third, because of efficiency cost, we concentrated on these three provinces/cities in the MD. Eventually, we received agreement from 103 managers of SMEs located in the selected provinces/cities to join the interviews (35 for Can Tho, 30 for An Giang and 28 for Hau Giang). At the beginning of the interview, the interviewers showed their university student card and guaranteed the full anonymity of the company and information provided. During the interview, the main topics, such as revenue, costs, profits, institutional and business environment including "speed money", level of preferential treatment of state-owned companies, labour availability, private firm promotion policies, and market-penetration costs, were discussed. The managers were asked to provide the information for the mentioned aspects concerning their operations within the period 2011–2012. The questionnaire was conducted only if the manager was available to answer personally and was willing to respond to the questions with complete and correct information. Moreover, if the managers refused to answer or were unwilling to respond to "sensitive" questions due to an issue with disclosing the SME's confidential information, we apologised and proceeded to the next SME. In such cases, therefore, the questionnaires did not collect complete information.

Taken together, this approach offered a satisfactory response rate. Of the 150 prospective SMEs contacted, 103 useable responses were received. Occasionally, this sample included missing observations for particular items. For the regression analysis in Stata, all observations with missing values on any questionnaire item were deleted automatically. This resulted in a conservative dataset with 63 full observations. The resulting response rate obtained was 42%. This response rate is considered adequate for analysis and reporting (Aidis & van Praag, 2007). Therefore, our final sample was 63 SMEs who responded in the period 2011–2012. This sample included 32 manufacturing firms (11 firms for Can Tho, 10 in An Giang, and 11 in Hau Giang) and 31 servicing firms (15 firms in Can Tho, and 8 each for An Giang and Hau Giang).

Measures

The information gained from the survey allows us to measure dependent variables, independent variables and a control variable.

Dependent variable

The dependent variable is the SME's performance, which reflects the results of a SME's operation in a given period. Following previous studies (Majumdar, 1997), this variable is measured by the ratio of the SME's profit to revenue (in percentage); its value ranged from 0.09 to 0.42.

Independent variables

Favourable treatment of state-owned companies is defined as the level of preferential treatment by the government of state-owned companies. In transition economies such as Vietnam and China, state-owned companies play a main role in the economy; thus, compared with SMEs, they always receive favourable treatment from the government. The level of preferential treatment of state-owned companies by the government is measured on a five-point Likert scale ranging from 1 to 5. A higher value signifies a higher-level treatment of state-owned companies by the government.

Promotion policy for private firm is defined as the level of encouragement of the local governments for the development of private firms. This variable is measured on a five-point Likert scale ranging from 1 to 5. A higher value signifies a higher level of government promotion for a private firm.

Local labour force is defined as the qualification level of the local labour force available in the city or province where the firms are located. In developing countries such as Vietnam, the percentage of people trained professionally at colleges or universities is low (approximately 27%). Thus, the skills of less-educated people are mostly trained at local vocational education or training centres. If a region has several centres, the low-skilled workers in the region have many opportunities to be trained. Therefore, the qualification level of the local labour force is appropriately measured by the number of the local vocational education or training centres.

Bribery ("speed money") is defined as the unofficial costs that firms pay to government officials to make their business activities easier and more successful. For example, firms may pay such costs to government officials to obtain business contracts with the government, to obtain permissions from the government more easily, or to lower the legal costs paid to the government such as tariff costs and

other fees. This variable is measured by the natural logarithm of annual "speed money" firms suffer.

Control variable

Several previous studies on firm performance have shown that firm size is a vital element of firm performance. Theoretically, the size of a firm can affect a firm's performance in many ways. The key features of a large firm are its diverse capabilities, its ability to exploit economies of scale and the formalisation of procedures. These characteristics, by making the implementation of operations more effective, can allow larger firms to generate larger returns on assets and sales (Majumdar, 1997). It is thus necessary to control for this factor in studies in firm performance. In this study, firm size is measured by the natural logarithm of revenue.

Econometric Model: Panel Data Models

This study employs the so-called panel data method, which refers to the pooling of observations across sections of firms over several periods. Panel data are able to overcome the shortcomings of cross-sectional data, which are often used in firm performance studies.

The two models widely used in panel data analysis are fixed effects and random effects models. Each of these has different strengths and shortcomings. Choice of the appropriate model is primarily based on the characteristics of the data. Because the data are collected over two years (2011–2012), one-way fixed/random effect specifications are employed in this study. The following section introduces the two models and explains why one model was chosen over the other.

Fixed-Effects Model (FE): Least squares dummy variable approach

The most restrictive model used in panel data analysis is a pooled OLS model with N*T observations. Similar to the OLS model used in cross-sectional analysis, this model specifies constant coefficients (intercept and slopes). However, if individual and period-specific heterogeneities were present, OLS estimates would be biased if the omitted variables were correlated with the included explanatory variables (Cameron & Trivedi, 2005, p. 699). In panel data analysis, this problem can be solved or minimised by introducing dummy variables for every firm to account for the effects of those omitted variables representing individual heterogeneities (Meurs, 1991). This approach is called a "one-way fixed effects model" where, y_{it} = the performance measure of firm *i* at

time t; x_{it} = a $K \times 1$ vector of individual time-varying dependent variables: smoothing costs, level of preferential treatment of state-owned companies, labour skills, private firm promotion policies, market-penetration costs, and revenue. i indexes the individual (firm) in a cross section, and t indexes time. The parameter δ_i represents individual-specific effects that capture individual heterogeneities. The econometrics packages specify a constant, α, and (N–1) dummy variables to capture the individual heterogeneities (δ_i). The idiosyncratic residual, ε_{it}, represents the effects of all remaining omitted variables that vary across individuals and periods.

Similar to the OLS model, the FE model is able to yield unbiased results only if the assumptions of no autocorrelation, no heteroscedasticity, no correlation between the included explanatory variables, x_{it} and the error term, ε_{it}, and normality of the residuals all hold. First, the autocorrelation problem, which arises if the residuals are correlated with one another, can be detected by using the Durbin-Watson test. This procedure tests the null hypothesis of no autocorrelation against the alternative hypothesis of autocorrelation. If there is autocorrelation, the problem can be overcome by introducing a first-order autoregressive errors term, AR(1), into the model (Reiman & Hill, 2001, pp. 127−128). Second, the heteroscedasticity problem, which arises if the residuals do not all have the same variance, may result in incorrect standard errors (Hill, Griffiths, & Judge, 2001, p. 238). This problem can be detected by using the White Heteroscedasticity test, which tests the null hypothesis of no heteroscedasticity against the alternative hypothesis of heteroscedasticity of some unknown general form. In practice, testing heteroscedasticity in panel data is complicated, so most econometric software packages, such as Eview 5.0, do not offer this test procedure. However, some packages do provide it (Arellano, 2003, p. 8). Nonetheless, in the FE model, dummy variables are introduced to control for omitted and unobserved individual-specific effects; thus, this problem is less likely to occur. We therefore ignore the assumption of no correlation between the included explanatory variables, x, and the error term, ε, in the FE models. Third, the normality of residuals is a vital assumption; it can be detected by using the Jarque-Bera Test, which tests the null hypothesis of normality against the alternative hypothesis of no normality using the so-called 'White diagonal standard errors correction' procedure. This procedure corrects standard errors if heteroscedasticity exists. Moreover, using this correction procedure does not produce unbiased results, even without heteroscedasticity. Therefore, we employ this correction procedure to eliminate the potential heteroscedasticity problem without testing whether it exists in the model. Fourth, correlation between the included explanatory variables, x_{it}, and the error term, ε_{it}, primarily arises if the omitted variables are correlated with the explanatory variables, x_{it}, because the effects of omitted variables are absorbed into the error term, ε_{it}.

To summarise, the main advantage of the FE model is that it allows for correlations between the omitted individual and period-specific variables with the included explanatory variables. However, the fixed-effect model continues to have a number of shortcomings. One of the most shortcomings of the FE model is that by introducing dummy variables for every individual, the degree of freedom decreases by the number of dummy variables and the power of the statistical tests thus decreases. This shortcoming may disappear in the random-effects model.

Random- Effects model (RE): An error component model

In the FE model, the effects of omitted individual-specific variables (δ_i) are treated as fixed constants over individual. In the RE model, these variables, such as u_{it}, are treated as random variables (Hsiao, 1986, p. 33).

To obtain better estimates the generalised least squares estimator (GLS), which applies to a transformed model with appropriately transformed error term, is employed. GLS yields standard errors are appropriate for interval estimation and hypothesis testing (Hill et al., 2001, p. 360). The GLS model can be obtained as the OLS of a constant (Baltagi, 1995).

Similar to the OLS and FE models, the RE model is able to yield unbiased results only if the assumptions of no autocorrelation, no heteroscedasticity, no correlation between the included explanatory variables, x_{it}, and the error term, ε_{it}, and the normality of the residuals all hold. The statistical techniques and procedures employed to test the assumptions of no autocorrelation, no heteroscedasticity, and normality of residuals and to correct the problems in the RE model are the same as those used in the FE model. However, the error term, u_{it}, contains the effect of omitted individual specific variables (δ_i). Thus, the RE model is not able to control for the omitted and unobserved individual-specific effects. As a result, there is more likely to be a correlation between the error term and the included explanatory variables in the RE model than the FE model. However, if there is clear evidence that the estimates of the FE and RE models are not significantly different, this assumption could also be ignored in the RE model (as in the FE model).

To summarise, the main disadvantage of the RE model relative to the FE model is that it does not allow for correlations between the omitted individual-specific variables (δ_i) and the included explanatory variables, x_{it}. In other words, the RE model is biased if correlations exist. However, compared with the FE model, the RE model has several advantages. One such advantage is that without introducing dummy variables for every individual and time period, the RE model is able to

save the degrees of freedom, thereby maintaining the power of the statistical tests.

The choice between the FE and RE models is based on the characteristics of the data. If the omitted individual-specific variables (δ_i) are not correlated with x_{it}, the calculations of the RE model would not be significantly different from those of the FE model. In this case, the RE model would be preferred because it is able to save the degrees of freedom. In contrast, if the RE model is biased due to the correlations of δ_i with x_{it}, the FE should be chosen. The F-test will be employed to test for the choice between the FE and RE models. This procedure tests the null hypothesis that the RE model would be consistent and efficient against the alternative hypothesis that the RE model would be inconsistent and the FE model thus preferred.

EMPIRICAL RESULTS

Description, Specification and Empirical Test

Tables 1 and 2 report the descriptive statistics and the correlation coefficients of pair variables, which enable us to detect whether there is multi-collinearity among independent variables. As shown in Table 1, the interviewed SMEs gained on average an annual profit of 17.32% of revenue. The highest ratio of profit to revenue is 91%, whereas the lowest one is only 0.75%. On a scale ranging from 1 to 4, the level of favourable treatment by the government of state-owned companies is on average 3.08, demonstrating that this preferential treatment remains high in the MD. In contrast, the private firm promotion policy of the local government is evaluated to be relatively low. The average of the private firm promotion index is 2.40 on a scale ranging from 1 to 5. The number of local vocational education or training centres in a province in the MD is on average 2.40. As shown in Table 1, a SME must pay an average of 3.88 million VND to a government official to make their business easier and more successful, which is approximately 0.20% of revenue. The highest speed cost a firm pays is 20 million VND, whereas the lowest one is 0.74 million VND. Each SME interviewed on average obtains revenue of 6.055 million VND. The highest revenue is 21 million VND, whereas the lowest revenue is 1.383 million VND.

Table 1 shows that there is not a high correlation between pairs of independent variables. However, the difficulty with examining only pairwise correlations is that they may not reveal multicollinearity relationships involving more than two of the independent variables (Hill et al., 2001, p. 190).

Table 1
Summary statistics and correlation matrix of the variables

	Variables	R^2	Mean	S.D.	1	2	3	4	5
1	SME performance (%)		17.3	21.9					
2	Bribery/"speed money" (log)	0.30	3.61	1.11	0.60				
3	Favour treatment for state-owned companies	0.33	3.08	0.82	–0.67	–0.46			
4	Promotion policy for private firm	0.31	2.43	0.64	0.77	0.46	–0.44		
5	Local labour force	0.17	4.26	2.32	0.40	0.19	–0.31	0.10	
6	SME size (log)	0.11	15.3	0.73	–0.09	0.05	–0.05	0.20	–0.25

Note: R^2 is the R^2 of the so-called auxiliary regressions. In the regressions, the left-hand variable is an explanatory variable and the right-hand variables are all of the remaining explanatory variables.

This problem can be overcome by introducing so-called "auxiliary regressions", in which the left-hand variable is one of the explanatory variables and the right-hand variables are all of the remaining explanatory variables. As shown in the second column of Table 1, the R-squared values of the auxiliary regressions are relatively low, all being smaller than 0.35. The result demonstrates the non-existence of multicollinearity. Therefore, all of the independent variables are included in the models.

The results of the FE and RE models are presented in Table 2. In this table, the F-test is employed to test the choice between the FE and RE models; it suggests that the estimates of the RE model are unbiased, so the RE models are preferred over the FE models in this study. Consequently, the present study focuses only on interpreting the results of the RE model. As mentioned in the research method section, the estimators of the RE models are the best linear unbiased estimators (BLUE) only if these four assumptions all hold: no autocorrelation, no heteroscedasticity, no correlation between the included explanatory variables, x_{it}, and the error term, ε_{it}, and the normality of residuals.

Table 2

The results of fixed and random effect models − Dependent variable: SME performance

	Fixed effects model	Random effects model
Favour treatment for state-owned companies	−2.0143	−2.6457
	(1.1909)	(2.1647)
Promotion policy for private firm	45.1394***	29.0434***
	(1.6383)	(3.1727)
Local labour force	1.7272**	2.3222***
	(0.8345)	(0.8219)
Bribery (log)	0.5203**	1.8181**
	(0.2463)	(0.8978)
Size (log)	−0.1675	−5.2554***
	(1.9075)	(1.8605)
Constant	−110.5481***	19.0126
	(29.9921)	(32.8305)
R-squared	0.7919	0.7639
Adjusted R-squared	0.7809	0.7513
S.E. of regression	3.0318	3.7595
Sum squared residual	229.7991	763.2170
Durbin-Watson stat	3.8710	2.0529
F-statistic	90.2994	68.5398
Prob (F-statistic)	0.0000	0.0000
Observations (2 years)	126	126
F-Test (Random/fixed effect test)		
– F		1.9210
– F–critical value		1.9453
– Result (Biased/unbiased)		Unbiased

: ***, **, *, indicate significance level at the 1%, 5% and 10% level ($p < 0.01$, 0.05, 0.10), respectively. White diagonal standard errors and covariance are presented in parentheses.

$F = \dfrac{(SSE_R - SSE_U)/(N-1)}{SSE_U/(NT-N-K)}$, F–critical value $= F_{(N-1),\ [N(T-1)\ -K]}$. K is the number of independent variables in the model. SSE_R is the SSE of the random-effect model and SSE_U is the SSE of the fixed-effect model.

As previously explained, we can employ the so-called "White diagonal standard errors correction" procedure to eliminate the potential heteroscedasticity problem without detecting its existence. The assumption of no correlation between the included explanatory variables and error term would be ignored in the RE models if there is statistical evidence that there is no difference between the estimates of the FE and RE models. Therefore, the two remaining assumptions must be tested. First, as shown in column 3 of Table 2, the Durbin-Watson value of the RE model is 2.05. Because the value is greater than the critical upper-bound value

(d_U) for the Durbin-Watson test at the significance level of 5%, being approximately 1.86, the null hypothesis of no autocorrelation is accepted. Hence, the assumption of no autocorrelation holds in the RE model. Second, the result shows that the p-values of the Jarque-Bera test for the two FE models are equal to 0.37. This result means that the null hypothesis of the normality of residuals is accepted; thus, the residuals are normally distributed. To summarise, it is concluded that the estimates of the RE model are reliable and unbiased.

Regression Outcomes and Discussion

Favourable treatment of state-owned companies

The result does not support H1 ($p > 0.05$), which predicted that the level of favourable treatment by the government of state-owned companies is negatively associated with SMEs' firm performance. The favourable treatment by the government of state-owned companies is found not to have an effect on SMEs' performance for the following reasons. First, state-owned firms always rely on an allowance from the government budget; they are therefore sluggish and lack incentive for creating alternative strategies or fostering technology and innovation capabilities to generate and sustain their competitive advantages over SMEs. Second, although the preferential treatment of state-owned companies by the government remains high, the support of the government of private firms has been dramatically increasing. Therefore, state-owned companies no longer obtain significant competitive advantages over SMEs because the differential supports that the two forms of companies receive from the government are not as high as in the past under the centrally planned economy. This can partly explain the fact that the contribution of SMEs in Vietnam to economic growth is higher than that of state-owned companies. In particular, the industrial output of SMEs was 46.3% (increasing from 39% in 2011) of the total output in 2012, whereas the contribution of state-owned enterprises accounted for only 40% (decreasing from 46.9% in 2011) (Phan, Truong, & Vo, 2012).

Promotion policy for private firm

The result significantly supports H2, which suggests that the private firm promotion policy is positively associated with SMEs' performance in the MD ($p < 0.01$). Local authorities launch the policies and laws that encourage private investments in their region, which creates numerous opportunities for the development of SMEs in the MD. If a certain city or province had applicable policies promoting private firms, the performance of SMEs in that city or province would be improved. Thus, the local government in the MD needs to define and implement efficient policies that are able to promote the development

of SMEs, which in turn significantly contribute to overall economic growth. This is in line with the SME literature suggesting that improvements in the institutional environment are necessary for improving SME performance, leading to increased investment (Maunganidze, 2013; Okoroafo, 1993). Taken together, the government's policies, which aim to reduce information uncertainty and to enhance the managerial capabilities of SMEs, help SMEs handle the complexity of the business environment more efficiently (e.g., Maunganidze, 2013; Neneh & Vanzyl, 2012; 2014; Child & Lu, 1990).

Local labour force

H3, predicting a positive relationship between labour availability and SMEs' performance, is significantly supported ($p < 0.01$). It indicates that SMEs obtain high profit when they are located in cities or provinces where there are several training centres or local vocational education organisations. This result supports the findings of previous studies. For example, several scholars showed that the level of resources available to firms from various sources in the environment affect the extent to which an environment supports the growth of organisations within it (Tan, 1996; Okoroafo, 1993; Ward et al., 1994). According to them, labour availability in particular is the critical resource for improving firm performance. In other words, the present finding emphasises again that labour availability positively affects SME's performance or firm performance (Tan & Liu, 2014; Wang & Ngoasong, 2012). Hence, local authorities should encourage and support the established training centres or educational institutions. Again, the findings of the current study confirm that the local workforce – i.e., the quality of labour – plays a crucial role contributing directly to SME performance (Wang & Ngoasong, 2012).

Bribery/"Speed money"

The result of the random effect model in Table 2 shows that "speed money" has a significant effect on SMEs' performance but that this effect is positive. This result is opposite to the prediction of H2. There are some possible explanations for this result. First, business and other interactions between SMEs and the local government are low compared with the interactions of state-owned companies and local government. As a result, the amount of money a SME grants to a local official to accomplish things is very small in relation to profit (approximately 0.20% of the profit as mentioned above). SMEs are thus not highly elastic with respect to this cost. The benefit that a SME receives by paying the speed cost to accomplish tasks may be higher than this cost. This figure may also demonstrate that the corruption problem in the MD remains low and under control. Second, SMEs are normally willing to provide some government officials some incentives to obtain business contracts with the government, whose benefit would be very

high. However, the "speed cost" becomes a serious problem for the overall economy when it becomes an "unwritten law", and it may support bad firms that obtain advantages via the speed money, thereby indirectly eliminating well-performing firms. Therefore, although this study finds a positive association between corruption and SMEs' performance, the local government needs to have a strong commitment to reduce or eliminate illegal activities as soon as possible because they will have dangerously negative effects on SMEs and the whole economy when they become serious and out of control. This finding again confirms that bribery facilitates SME performance, which is consistent with bargaining theory predictions. That is, small- and medium-sized firms are more likely to pay bribes because they have fewer resources to tap than have their larger counterparts in the bribery game (Svensson, 2003; 2005).

Control variable

The result concerning size of SME in the RE model is supported at the statistically significant level of 1% ($p < 0.01$). This result reflects the fact that higher SME revenue results in lower SME performance. This is completely true in the present study because we measure the dependent variable by the ratio of profit to revenue; when a SME's revenue increases, this ratio decreases. Therefore, we consider revenue a control variable in the RE model. This finding is in line with findings of previous studies (Tu, 2012; Majumdar, 1997). These studies indicated that the key features of a large firm are its diverse capabilities, its ability to exploit economies of scale and the formalisation of procedures.

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

Conclusions

We investigate the effects of the external environment – local government policies and corruption – on SMEs' performance in the MD. In particular, the government policies considered in this study include those associated with preferential treatment of state-owned companies, private firm promotion policy, and labour availability, whereas corruption is perceived as "speed money" measured by the amount of money that SMEs unofficially pay government officials to accomplish tasks. The most important contribution of this paper is the examination of how the external environment and corruption in the MD jointly affect the performance of SMEs operating in this area. To this end, a two-step estimation procedure was employed to analyse panel data of 63 SMEs in a two-year period (2011–2012) in the MD to estimate the effect of the local business environment on SMEs' performance.

Private firm promotion policy and labour availability are found to have positive effects on SMEs' performance. These results reflect that private promotion policies and labour availability are critical determinants of SMEs' performance in the MD. These findings contrast with preferential treatment of state-owned companies, which is found to be unrelated to SMEs' performance. For the corruption of local government officials, the empirical result suggests a positive association between corruption and SMEs' performance. However, this positive association is found in the context of corruption remaining low and under control in the MD. The association will become negative when bribery increases. The local government therefore needs to note and implement corruption-reducing solutions to secure sustainable development of SMEs and the economy.

Implications

A major implication is that these findings provide a better understanding for SMEs in addressing the local environment factors that significantly affect SMEs' performance. Studying the factors that affect SMEs' performance is critical to understanding business continuity and growth and, hence, to supporting economic development within a region – in this case, the MD. The results of this study can also be used as a reference for anyone who is interested in starting their own business – the results will provide insights into decision-making in starting a business – and for any SME that is interested in continuing to operate and grow. In addition, the study has an important implication for how "speed money" (bribe) enables SMEs to use government resources, avoid red tape, and thus foster revenues. High levels of "speed money" increasingly absorb the returns from SME activities and distort entrepreneurial spirit and behaviour (Tu, 2012; De Jong et al., 2012; Le Khuong Ninh, 2007). In addition, bribes facilitate SME performance through acquiring higher levels of social capital because building such social capital will have a positive effect on performance through at least two different interdependent channels of influence. First, bribes increase trust and establish a shared belief of reciprocity (De Jong et al., 2012; Graeff, 2005). Through bribes, managers of SMEs obtain favourable treatment that will increase their revenues due to the higher chance of winning government projects or obtaining loans (Tu, 2012). Second, bribes are investments in networks that overcome the liabilities of "newness" or "smallness" (Aldrich, 1979). Favourable relationships with public officials provide entrepreneurs legitimacy and thus decrease the risk of closure. Taken together, bribery facilitates SME performance, which is in line with bargaining theory (Svensson, 2003; 2005). The latter stresses that small- and medium-sized firms are more likely to pay bribes because they have fewer resources to tap than have their larger counterparts in the bribery game. Another practical implication of the study is that local government should play a leading role in serving the needs of SMEs by

training the labour force on how to access the incentives available to them because the local labour force has a positive relationship with SME performance.

Limitations and Future Research

This study has a number of limitations that offer opportunities for future research. First, the business environment has additional aspects – firm strategy (Tan & Liu, 2014; Chang et al., 2011; Hofer & Schendel, 1978; Porter, 1985), firm structure or internal environment (Maunganidze, 2013; Chang et al., 2011; LeCraw, 1984) – that need to be included in the model. Second, the selected sample primarily focuses on the three provinces/cities. The empirical findings may not apply to other SMEs in Vietnam because the characteristics of each region most likely differ (Tu, 2012). Future research may extend the database to address this issue. Third, our study includes many types of SME businesses, namely manufacturing and service SMEs; we did not focus on a specific business type of SME in the MD. Thus, it could be that samples in further research focus only on SMEs with a specific business type, for example manufacturing or service, which would allow for a cross-validation of the results presented in this paper (Ahmad et al., 2010).

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