

Relationship Between Bribery and Export Decisions in Vietnam: Bargaining Power and Institutional Constraints

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Abstract

This paper uses firm-level data from the Vietnam Small and Medium-sized Enterprises Surveys from 2005 to 2015 to examine the effects of bribery on export decisions. We separate bribery behavior into two types: “greasing” bribery and “rent-seeking” bribery. Our empirical results provide evidence to support the hypothesis of “greasing the wheel” by pointing out positive effects of greasing bribery on export decisions. By contrast, rent-seeking bribery has negative effects on firms’ export decisions. Moreover, under the moderation of bargaining power (proxied by firm size), bribery has stronger impacts on export decisions of larger-sized firms. Institutional constraints, including policy uncertainty and unfair competition, weaken the effect of bribery on export decisions.

Keywords: greasing bribery, rent-seeking bribery, export decision, bargaining power, institutional constraints

JEL Codes: O12, O17

1. Introduction

Bribery is a world-wide issue of concern, especially in developing countries where corruption is common, the legal system is underdeveloped (Cuervo-Cazurra, 2006), and public officials receive low paid (Nguyen et al., 2015). Many scholars have studied bribery issues including Svensson (2003), Fisman & Svensson (2007), De Jong et al. (2012), and Nguyen et al. (2016). Firms often do not have much choice except to pay bribes in order to survive (Zhou & Peng, 2012). Paying bribes can be seen as a social norm (Nguyen et al., 2016) or the only way to afford public officials' needs (Nguyen et al., 2020a). There are two main reasons why firms decide to pay bribes. Firms pay bribes to accelerate government activities or procedures in what is known as "greasing" bribery. Alternatively, paying bribes helps firms obtain government contracts or resources in what is referred to as "rent-seeking" bribery. These two types of bribery have different impacts on the economy.

Numerous papers have examined the causes of bribery (Martin et al., 2007; Collin et al., 2009), but only a few have studied the aftereffects of bribery or pointed out contrasting effects of bribery on firms. For example, Zhou and Peng (2012) and Zhou et al. (2013) produce conflicting results about the effects of bribery on firm growth. Some papers point out the difference between costs and benefits of bribery for informal firms (Nguyen et al., 2014) and entrepreneurial firms (Zhou & Peng, 2012). Nguyen et al. (2020a) emphasize that the results depend on firms' bargaining power. According to Bliss and Tella (1997) and Zhou and Peng (2012), firms with weaker bargaining power need to pay bribes in order to survive. Conversely, firms with stronger bargaining power earn more benefits from bribery such as shortened waiting times and simplified administrative procedures (Rose-Ackerman, 1978; Nguyen et al., 2020a), which encourages firms to export more. Besides bargaining power, we also consider institutional constraints as factors affecting the relationship between bribery and export decisions, since institutional quality plays an important role in long-term development (North, 1990). According to Fisman

and Svensson (2007), in countries with weak and poor institutions, firms must pay more and face more barriers created by public officials, which might affect a firm's export motivation. On the other hand, Leff (1964) and Leys (1965) argue that bribery to public officials acts as a lubricant to "grease the wheel of trade" in the case of an economy with weak institutional quality. Therefore, we develop hypotheses about the moderation effect of bargaining power and institutional constraints on bribery.

According to Spencer and Gomez (2011), bribery is a strategic choice for firms, therefore, we study the relationship between bribery and firm strategy with a focus on firm export decisions because exporting is an international strategy (Cassiman & Golovko, 2011) and it influences a firm's international competitiveness (Ito & Pucik, 1993). There are many papers with contradictory results on whether bribery has positive or negative effects on firm export decisions. For example, unlike Bernard and Jensen (2004) who point out that firms enhance their positions in international markets through bribing public officials and deciding to increase exports, Hundley and Jacobson (1998) argue that raising their status in domestic markets through bribery make firms focus more on the domestic market rather than the export market.

We apply a probit methodology using firm-level data from the Vietnam Small and Medium Enterprises Survey covering 2005 – 2015, carried out by the Center Institute for Economic Management of Vietnam (CIEM), to investigate the relationship between bribery and export decisions. We also consider the change of this relationship under moderation effects. This paper concentrates on three main questions: (i) is there a relationship between bribery and firms' export activities in Vietnam; (ii) how is this relationship moderated due to bargaining power; and (iii) how is this relationship moderated if firms operate in a weak institutional environment?

Our paper provides a clear conclusion on the relationship between bribery and export decisions. To the best of our knowledge, this is the first

paper to examine the relationship between bribery and export decisions under the moderation effect of bargaining power and institutional constraints. Our empirical results support a positive impact of bribery on export decisions, but the impact of the two types of bribery on export decisions is different. While rent-seeking bribery seems to have no effect on firm export decisions, firms paying greasing bribes are more likely to export. Also, the marginal effect of bribery becomes greater with larger-sized firms and with firms facing no institutional constraints.

The remainder of our paper is presented as following: Section 2 discusses related papers and hypotheses development. Section 3 describes the data used for analysis. Section 4 presents our model specification. Section 5 presents our empirical results along with commentary. Section 6 offers conclusions and policy implications.

2. Related Literature and Hypothesis Development

2.1 Theoretical Basis

We base our theoretical framework on a combination of institutional theory (Peng et al., 2008; Krammer et al., 2018) and resource-based theory (Krammer et al., 2018). While resource-based theory focuses on firms' internal capabilities, institutional theory relates to organizational structure and government policy (Oliver, 1991). Social standards, politics, and legal systems are constructed by these institutions and affect a firm's decision-making process (Meyer & Rowan, 1977). Yi et al. (2018) studies the relationship between bribery and international transactions by using institutional theory. The level of corruption affects firm export decisions (Krammer et al., 2018), mergers, and acquisitions (Tunyi & Ntim, 2016). We not only use these two theories to explain export decisions, but also contemplate the moderation effect of a firm's internal capability (bargaining power) and institutional environment related to the relationship between bribery and export decisions.

2.1.1 “Grease the Wheel” and “Sand the Wheel” of Economic Development

Many researchers have debated the influence of bribery on economic development and have developed two hypotheses regarding the positive or negative influence of bribery: the “grease the wheel” and the “sand the wheel” development hypotheses. In the first hypothesis bribery is seen as a lubricant to “grease the wheel” of growth by boosting bureaucratic efficiency (Bardhan, 1997). In developing countries where the government often controls the economy and public officials receive low pay (Klitgaard, 1988), bribery is an incentive for officials to cut red tape, thus helping firms overcome cumbersome regulations and reduce the cost of waiting in the queue for public services (Leff, 1964; Lui, 1985). Moreover, in the competition to get permission to access scarce public resources, bribery helps to allocate these resources to the most efficient investment projects since firms that pay the highest bribes are believed to be the most efficient (Bardhan, 1997; Leff, 1964). Regarding investment efficiency, bribery serves as a tool to reduce investment hazards such as expropriation or disturbance from bureaucratic systems (Leff, 1964). Therefore, firms suffer from less risky investment and the quality of investment will increase (Méon & Sekkat, 2005). Overall bribery plays a role in the reduction of costs of waiting for public services, the allocation of scarce resources, and the increase in investment quality; thus, according to this view, bribery promotes economic development.

On the other hand, supporters of the “sand the wheel” hypothesis argue that bribery negatively affects economic development. Since bribery creates an incentive for low-paid officials to speed up administrative procedures, some corrupt civil servants can delay the provision of services in order to obtain bribes (Myrdal, 1968). This might lead to an increase in firm costs due to unexpected delays. Moreover, public officials have a motivation to secure their benefits (bribery) by causing distortions (Kurer, 1993) such as preventing new officials from approaching key positions. Regarding investment quality,

bribery leads to false resource (such as capital) allocation by giving capital from potentially efficient projects to non-productive projects where there are abundant chances to obtain bribes (Xu, 2016). It not only causes a waste of resources (Nye, 1967) but also prevents other effective firms or projects that do not bribe from being treated equally; thus, bribery could become an obstacle to economic development.

2.1.2 Empirical Analysis on the Influence of Bribery on Economic Development

Researchers have come up with different empirical evidence regarding the influence of bribery on economic development. Olken and Pande (2012) contend that the economic efficiency losses from corruption rely upon on whether the deadweight loss from taxation needed to raise revenues is smaller than that imposed by the bribes public officials collect. In this spirit, there may be either efficiency costs or efficiency gains from corruption. At the macro level, there are conflicting findings pertaining to the effects of corruption on economic growth. While Mauro (1995) provides evidence for a negative link between corruption and growth, Aidt (2009) demonstrates little influence of corruption on the growth rate of GDP per capita. Aidt (2009) argues that the marginal effects of corruption on economic growth depend on the institutional environment, a growth-maximizing level of corruption, and the growth-corruption regimes.

Regarding influences on firms, Svensson (2003) shows that firms earn more profits if they participate in bribe-paying behavior in the case of Uganda. However, the author also notes that the average level of bribes is significantly greater, while bribes grow relatively slowly with profits. Thus, the impacts of corruption on firm activities may be modest. Other papers, such as Wei (2000) and Malesky and Samphantharak (2008) reveal that corruption leads to uncertainty that negatively influences firms' foreign direct investment and investments, respectively. Firms are also willing to change their production choices or pay higher trucking costs to avoid corruption (Sequeira &

Djankov, 2010). By examining the net effects of corruption on firm decisions, Svensson (2003) and Fisman and Svensson (2007) demonstrate that there are adverse influences of bribes on firm activity. Zhou and Peng (2012) and Zhou et al. (2013) argue that there are conflicting findings on the effects of bribes on firm growth. The effects of bribes depend on a firm's bargaining power (Nguyen et al., 2020b), the type of bribery (Nguyen et al., 2020a), or a firm's ownership structure (Nguyen et al., 2020a).

2.2 Bribery and Export Decisions

The main analysis in our paper considers the effect of bribery on firms' export decisions. Prior scholars agree that bribery brings special benefits to firms such as access to essential resources with lower prices (Lee & Weng, 2013); thus, receiving more advantages (Ito & Pucik, 1993; Salomon & Shaver, 2005). Moreover, firms that pay more bribes earn more benefits than the ones paying fewer bribes. Bertrand et al. (2007) suggest that firms that pay fewer bribes might suffer from stricter regulations from public officials, and thus must spend more time and effort in fulfilling requirements. On the other hand, bribery helps firms to overcome barriers from weak institutions. Olney (2016) suggests that entering international markets is one way to avoid corruption costs. By developing a theoretical framework, Olney (2016) provides another view to analyze the increase in exports based on bribery.

The discussion above implies that bribery can create competitive advantages and increase firm efficiency. Firms that do not pay bribes or pay few bribes receive fewer benefits, leading to export failures. This leads to the following hypothesis:

H1: Firms' bribery of public officials is positively associated with export decisions.

Our paper separates bribery into two types: greasing bribery and rent-seeking bribery. The following analysis focuses on developing

hypotheses related to the relationship between these two types of bribery and export decisions.

2.2.1 Greasing Bribery and Export Decisions

Greasing bribery is recognized as informal payments to public officials to gain benefits from facilitating government activities. Firms pay bribes to speed up administrative procedures, access limited services, and avoid being annoyed by public officials (Nguyen et al., 2020b). Informal payments to public officials act as a lubricant to “get things done” more easily (Acemoglu & Verdier, 1998; Svensson, 2005). According to Svensson (2003), exporters are more likely to bribe public officials, while Diaby and Sylwester (2015) claim that firms active in international markets have a greater tendency to pay bribes when compared to firms in less-competitive environments.

On the other hand, exporting firms are faced with myriad sophisticated requirements, such as the concession of licenses and the need to fulfill complex requirements, which limits a firm’s export capacity when dealing with poor and weak institutions. Based on the greasing-the-wheel hypothesis, greasing bribery may help firms bypass institutional inefficiencies that create additional costs of exporting (Johnson et al., 2000). These bureaucratic procedures can be sped up with greasing bribery because it acts as an incentive for public officials to quickly respond to firms’ demands (Méon & Sekkat, 2005). Bassetti et al. (2015) provide empirical evidence supporting the grease-the-wheel-of-trade hypothesis (Leff, 1964; Lui, 1985) in Eastern countries’ family firms.

The discussion above points to evidence in support of the grease-the-wheel hypothesis, especially in economies with low institutional quality. Therefore, we propose the following hypothesis:

H1a: Firms’ greasing bribery of public officials is positively associated with export decisions.

2.2.2 Rent-seeking Bribery and Export Decisions

In contrast to greasing, rent-seeking bribery helps firms to gain an advantage over their competitors (Bliss & Tella, 1997; Ades & Di Tella, 1999). Scholars such as Bailes (2006) considers it as “real bribery,” while Argandoña (2005), and Rose-Ackerman (2006) refer to this behavior, respectively, as “real corruption” and “grand corruption.” Firms pay rent-seeking bribery to obtain government contracts or access to limited resources (Ades & Di Tella, 1999; Galang, 2012). Moreover, a firm’s status in domestic markets will increase by illegally reducing costs, which happens when a firm pays rent-seeking bribery to avoid taxes and regulatory fines (Alon & Hageman, 2013) or controlling pollution (Hassaballa, 2015).

Rent-seeking bribery can be seen as a game where firms pay bribes to illegally seek benefits (Nguyen et al., 2020b) and non-bribe-paying firms are eliminated from fair competition. Additionally, in this game, the number of transactions or winners are unknown due to secrecy and competition. Thus, rent-seeking bribery is more uncertain than greasing bribery.

We predict that rent-seeking bribery might reduce exports for firms in emerging markets for several reasons. As rent-seeking bribery helps firms to overcome legal barriers and enhance their status in domestic markets (Olken & Barron, 2009), the motivation to expand their businesses to international markets will decrease (Lee & Weng, 2013). A higher position in the domestic market reduces the incentive to exploit international markets. Ito and Pucik (1993) and Hundley and Jacobson (1998) provide empirical evidence on the relationship between a firm’s domestic status and export decisions, while firms with peripheral positions in the domestic market tend to expand their businesses into foreign markets. Murphy et al. (1993) states that preferential treatment related to bribes, such as “increasing returns,” makes firms pay more attention to their home markets.

Based on the discussion above, the high uncertainty of rent-seeking bribery reduces a firm's incentive to utilize international markets, leading to a decrease in exports. We suggest the following hypothesis:

H1b: Firms' rent-seeking bribery is negatively associated with export decisions.

2.3. Moderation Effect of Bargaining Power

Bargaining power related to bribery has been studied by several scholars such as Bliss and Tella (1997) and Fisman and Svensson (2007). We believe that bargaining power (proxied by firm size) can affect the relationship between bribery and export decisions. According to Rose-Ackerman (1978), larger firms earn more benefits from bribery than the smaller firms. First, larger firms possess better technological and financial abilities, so they create more jobs and contribute a greater amount of tax revenue to local budgets. Second, larger firms tend to have more political relationships (Zhou & Peng, 2012) and these relationships prevent firms from being forced to bribe (De Jong et al., 2012) and grants them access to more fruitful opportunities (Nguyen et al., 2017). To sum up, larger firms with stronger bargaining power are likely to look for more benefits and more profitable opportunities (Galang, 2012). Thus, we come up with the following hypothesis:

H2: The effect of bribery on export decisions is greater in larger firms.

2.4 Moderation Effect of Institutional Constraints

We not only focus on bargaining power, but also wonder how the relationship between bribery and exports is moderated when firms face institutional constraints. Johnson et al. (2000) state that the emergence of the informal economy happens when the institutional environment is weak and deficient. Bureaucratic incompetence raises export costs and limits firms' abilities. This incompetence is created from poor organizations, complex regulations, licenses, and export barriers (Bassetti et al., 2015). Hence, it is difficult for firms to survive in international markets.

Previous studies lead us to theorize that institutional constraints create more burdens for firms engaged in export activities when firms are forced to pay bribes. Therefore, we propose the following hypothesis:

H3: The effect of bribery on export decisions is weaker if there are institutional constraints.

3. Data Description

Our paper employs data from Vietnam's Small and Medium Enterprises Survey covering manufacturing firms compiled by CIEM in the period of 2005 – 2015. The survey is planned and carried out in a collaboration between the CIEM of the Ministry of Planning and Investment (MPI), the Institute of Labor Science and Social Affairs (ILSSA) of the Ministry of Labor, Invalids and Social Affairs (MOLISA), the Development Economics Research Group (DERG) of the University of Copenhagen, and UNU-WIDER. The original purpose is to conduct a representative survey of non-state manufacturing enterprises which includes establishments in both the formal and informal sectors of the economy. The sample is selected based on this objective (Berkel, Rand, Tarp, & Trifković, 2020).

The firms in the sample come from ten provinces. These ten provinces jointly account for around 30 percent of the non-state manufacturing enterprises in Vietnam. In each province, a two-step sampling method is employed to first select districts within each province using proportion to size sampling, and then select firms within each district from the list of formal/registered non-state and household manufacturing firms (which included 164,468 firms in 2005). Information on informal manufacturing firms is collected using a snowball technique. In each district, the surveyors select firms that are not on the “formal” list but are visually present for interview (on-site identification). Additionally, the enumerators are also asked to find as many additional informal firms as possible within each chosen site (block enumeration).

The key dependent variable is export activity, which is a binary variable that equals 1 if the firm engages in export activity, and 0 otherwise. The key independent variables are also dummy variables used to indicate bribery, greasing bribery, and rent-seeking bribery. Additionally, we use the natural logarithm of the share of annual sales used to pay bribery, greasing bribery, and rent-seeking bribery, respectively. Comparing the differences in terms of bribery used and firm characteristics between export and non-export firms, firms that are involved in export activities tend to bribe more than the non-export firms.¹ A total of 55% of export firms pay bribes while 42% of non-export firms pay bribes. The average number of employees (firm size) in export firms is significantly greater than those of non-export firms. Moreover, the profits and average labor wages are higher in export firms. Finally, while 61.28% of export firms engage in innovative activities, only 41.41% of non-export firms do the same. These results are consistent with those of Silvente (2005) such that the difference in firm performance is caused by export status.

The set of control variables includes variables that would likely affect a firm's export decision such as: firm size, proxied by the number of employees in a firm; firm age; gender of the manager/owner; educational level of the manager/owner; and state-owned enterprise, which equals 1 if the firm is a state-owned firm, and 0 otherwise. Additionally, we follow Tomiura (2007) and use a dummy variable for a firm's innovation activities, which equals 1 if a firm carries out innovation activities and 0 otherwise. Moreover, we create a variable for a firm's size that takes value of 1 if it is a micro firm, and 2 if it is a small firm. We divide firms into groups by Decree 56/2009/ND-CP, based on the number of employees: firms with fewer than 10 employees are considered micro firms; firms with 10 to 100 employees are considered small-sized firms; and firms with between 100 to 199 employees are considered medium-sized firms. Regarding institutional constraints, we use a dummy

¹ See Table A.1. for a detailed comparison of differences between export and non-export firms.

variable which equals 1 if the firm faces either policy uncertainty or unfair competition. The summary statistics are reported in Table 1.²

Table 1: Summary Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
export	15,712	0.06	0.24	0	1
DBri	15,646	0.43	0.50	0	1
DGBri	15,646	0.32	0.50	0	1
DRBri	15,646	0.04	0.20	0	1
lnBri	10,174	0.03	0.12	0	2.29
lnGBri	12,746	0.03	0.12	0	2.29
lnRBri	15,204	0.004	0.05	0	1.79
lnfirm	15,646	2.04	0.98	0	5.29
firmage	15,646	14.59	8.37	3	35
innovation	15,646	0.43	0.50	0	1
mana_gender	15,646	0.98	0.60	0	2
mana_educ	15,646	4.50	0.75	1	5
SOE	15,646	0.00	0.04	0	1
size	15,646	1.31	0.46	1	2
constrt	15,646	0.17	0.39	0	1

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

² Examining the correlation matrix of all variables in our paper (unreported), most of the coefficients are under 0.4. Coefficients which are higher than 0.4 belong to variables representing bribery and the amount of bribery. Therefore, our estimation results will not have any problem with multicollinearity. Beside the correlation matrix, we also use VIF (variance inflation factor) to test the multicollinearity of our model. The results indicate that all VIF values are smaller than 2, which leads to a similar conclusion that our model will not suffer from multicollinearity.

4. Model specification

Our benchmark model is specified as the following equation:

$$Export_{ijt} = \beta_0 + \beta_1 Bribery_{ijt} + \beta_2 CONTROL_{ijt} + v_j + \lambda_t + \varepsilon_i \quad (1)$$

where subscripts i, j , and t denote firm, sector, and year, respectively. v_j and λ_t represent sector and year fixed effects. $Export_{it}$ is the export decision of firm i which equals 1 if the firm engages in export activity and 0 otherwise. $Bribery_{ijt} = \{DBri, DGBri, DRBri, lnBri, lnGBri, lnRBri\}$ is the set of bribery related variables. $DBri, DGBri, DRBri$ each equal 1 if a firm pays a bribe, greasing bribe, and rent-seeking bribe, respectively. The variables $lnBri, lnGBri, lnRBri$ are equal to the natural logarithm of the share of annual sales used to pay bribes, greasing bribes, and rent-seeking bribes, respectively. $CONTROL_{it}$ represents the set of control variables. These include: firm size proxied by the number of employees in a firm ($lnfirm$); firm age ($firmage$); gender of the manager/owner ($mana_gender$); educational level of the manager/owner ($mana_educ$); and SOE is a dummy variable equal to 1 if the firm is state-owned. $Innovation$ is a dummy variable which equals 1 if the firm carries out innovation activities. The variable $size$ is equal to 1 if the firm is a micro firm (fewer than 10 employees) and 2 if the firm is a small firm (between 10 and 100 employees). The dummy variable for institutional constraints ($constr$) equals 1 if the firm faces either policy uncertainty or unfair competition.³

As $Export_{it}$ is a binary variable, we utilize a probit model to estimate equation (1). All marginal effects at the mean level are reported. Since the data covers multiple time periods, we use year fixed effects, λ_t , to capture the macroeconomic factors which may change over time and influence all firms. First, we test the relationship between bribery and export decisions.

³ During the survey, a firm was asked “Do you identify political policy uncertainty as one of the 3 most important constraints to growth?” and “Do you identify too much competition/unfair competition as one of the 3 most important constraints to growth?”.

Then, to examine the moderation effect of bargaining power and institutional constraints, we re-estimate equation (1) with data divided into groups: sub-sample by size (micro and small firms), and a sub-sample by institutional constraints (firms facing at least one constraint and firms facing no constraints).⁴

5. Estimation results

5.1 Main Results

Table 2 displays the benchmark estimation results. All results in this section are performed with year fixed effects and industry fixed effects. Column (1) is the estimation of *export* on *DBri*. The coefficient of *DBri* is positive, which means that bribery has a positive effect on a firm's export probability. The export probability for firms involved in bribery is 10% higher than for firms not engaged in any bribery. Next, columns (3) and (5) illustrate the impact of greasing bribery and rent-seeking bribery on export decisions, respectively. The estimated coefficient of *DGBri* is positive, while the coefficient for *DRBri* is negative, which provides evidence to support our H1a and H1b hypotheses. These results are similar to previous studies (Leff,

⁴ Regarding this subsample analysis, there are reasons to explain our selection. First, we have a good reason for believing that the model for groups is significantly distinct. In the Section 3, we provided the detailed discussion that the model for two groups (the firm size (Micro versus Middle-sized group) and institutional constraints (firms with versus without institutional constraints) are substantially different. Second, according to Wang and Ware (2014), the subsample analysis as we did in the paper can provide information about what are the differences between groups. The subsample analysis is the sound method to detect moderators (Wang & Ware, 2013). The data can generate risk differences between groups, and only the small sample size leads to the "nonsignificant" result in a specific group. If we test for interaction, we will not find a significant interaction based on the risk difference because the risk difference estimates are identical for both subgroups (Bombardier et al., 2000; Wang and Ware, 2014). Furthermore, our article only considers the case of two subgroup analysis, thus we can mitigate the risks related to multiplicity issues. Wang and Ware (2014) also contend that failure to find significant interactions does not demonstrate definitively that the treatment effect seen overall applies to all subjects. Tests for interaction often have limited power. The empirical findings of study by Tsai and Yang (2014) support this discussion. The similar approach can be found in the study of Ha, Nam and Thanh (2021) and Ha, Le, and Mai (2021).

1964; Lui, 1985). Additionally, columns (2), (4), and (6) report the results of estimations using the amount bribery. The coefficients of *lnBri* and *lnGBri* are significant and positive, which suggests that the more bribery used, the higher the chance of firms to export. However, the coefficient of *lnRBri* in column (6) is not significant. Our results are consistent with Nguyen et al. (2017) and Nam et al. (2021), which shows that greasing bribery is positively associated with a firm's decision to engage in export activities. Moreover, the coefficients of the control variables are also significant. The effect of firm size (proxied by *lnfirm*) is significant and positive. This is consistent with earlier evidence such as Engemann et al. (2014) or Mateut (2014). Firms engaged in innovative activities (*innovation*) also proves to have a positive and significant relationship to a firm's export probability, similar to the results from Tomiura (2007).⁵

⁵ After estimating the model, we carry out linktest to test the fitness of the variables used in our benchmark estimations. Because the coefficients of $\hat{\mu}$ are all significant, and the coefficients of $\hat{\mu}^2$ are all insignificant, we can conclude that the set of variables we used in our paper is suitable. Also, we not only investigate these relationships using a probit model, but also with a logit model to compare the results between two types of models. The signs of the estimated coefficients of the bribery variables remain the same as with those from the probit model, but the marginal effects are only slightly different. Therefore, we compare two types of models by AIC, BIC and Pseudo R2 criteria to choose the better model applying to the rest of our estimation process. All three criteria show the same conclusion that we should choose the probit model to apply to the rest of our estimations.

Table 2: Relationship between Bribery and Export Activities: Benchmark Estimation Results

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable: Export					
DBri	0.10** (0.040)					
lnBri		0.64*** (0.170)				
DGBri			0.14*** (0.041)			
lnGBri				0.62*** (0.146)		
DRBri					-0.22** (0.088)	
lnRBri						0.47 (0.427)
lnfirm	0.69*** (0.021)	0.69*** (0.028)	0.69*** (0.021)	0.71*** (0.025)	0.70*** (0.021)	0.71*** (0.021)
firmage	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.000)
innovation	0.21*** (0.044)	0.24*** (0.056)	0.21*** (0.044)	0.26*** (0.052)	0.22*** (0.044)	0.22*** (0.045)
mana_gender	0.02 (0.041)	0.04 (0.053)	0.02 (0.041)	0.03 (0.049)	0.01 (0.041)	0.03 (0.042)
mana_educ	0.24*** (0.049)	0.28*** (0.068)	0.23*** (0.049)	0.21*** (0.059)	0.24*** (0.049)	0.24*** (0.050)
SOE	-0.25 (0.319)	-0.35 (0.454)	-0.23 (0.317)	-0.49 (0.430)	-0.21 (0.322)	-0.20 (0.326)
Constant	-4.79*** (0.268)	-4.73*** (0.355)	-4.76*** (0.267)	-4.62*** (0.316)	-4.75*** (0.266)	-4.72*** (0.270)
Observation	15,554	10,032	15,554	12,662	15,554	15,083
Pseudo R2	0.313	0.324	0.314	0.329	0.313	0.317

Notes: *** p<0.01, ** p<0.05, * p<0.01; coefficients reported as marginal effects; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

This paper provides empirical evidence to support our hypothesis that firms' greasing bribery of public officials serves as the oil that greases the wheels of trade, as pioneered by Leff (1964) and Lui (1985). Our study indicates that bribe-paying firms are more likely to bypass difficulties arising from involvement in exporting activities, such as licenses, taxes, regulations, or services. The findings are important for formulating future policies. While any form of bribery is detrimental to the development of the business sector in developing countries characterized by weak or poor institutions, the existence of corruption is prevalent and cannot be eradicated by any policies in the near future. Therefore, taking into account the influence of various forms of bribery, as shown in this study, is necessary for formulating relevant policies that promote export activities in SMEs. Our study does not encourage firms to engage in illegal activities like bribery, but rather reveals the fact that weak and poor institutions in developing countries cause firms to pay bribes in order to enter foreign markets.

5.2 Sub-sample Estimation

Next, we divide the data into sub-samples by firm size to investigate the moderation effect of bargaining power (proxied by firm size) in the relationship between bribery and export decisions. Panel A in Table A.2 of the appendix implies that bribery has a larger impact on small firms than on micro firms. The marginal effects of *DBri* for micro firms (column (1)) and small firms (column (2)) are 0.02 and 0.08, respectively, and are statistically insignificant. Similarly, the results for *DGBri* and *DRBri* also point out that two types of bribery hardly have any impact on micro firms, but significantly affect small firms. This supports hypothesis H2 that the effect of bribery on export decisions is greater in larger firms. Additionally, Panel B of Table A.2 displays the marginal effects of the amount of bribery on export decisions. For micro firms the marginal effects of *lnBri* and *lnGBri* are estimated to be 0.48 and 0.35, respectively, but are statistically insignificant. The marginal effects for small firms are both significant and of greater magnitude (0.81

and 0.87, respectively). However, the coefficients of *lnRBri* in both micro and small firms are insignificant.

Table A.3 of the appendix explains the differences between two groups of firms: firms facing at least one institutional constraint and firms facing no institutional constraints. The results support hypothesis H3 that the level of impact of bribery on a firm's export decision is weaker if there are institutional constraints. The signs of the significant coefficients remain the same with those from the benchmark model. The marginal effects on the bribery variables on export decisions are likely to be smaller for firms suffering from at least one constraint than firms facing no constraints.

To sum up, all hypotheses discussed in Section 2 are supported by our empirical results presented in Sections 5.1 and 5.2. The results related to bribery (in general) and greasing bribery stay unified across all estimations, even when considering the moderation effects. Results related to rent-seeking bribery in all estimations have a negative sign, but the coefficients are largely insignificant when considering the moderation effects.

5.3 IV Estimation

In this paper we believe that there potentially exists a simultaneous relationship between bribery and a firm's export decision. The reasons that exports influence bribe payment decisions are as follows. First, within export intensive markets, there is a higher risk of paying bribes to resolve customs procedures (Nguyen et al., 2020b) as compared to those serving the domestic market only (Svensson, 2003; Jensen et al., 2010). Second, exporting firms imply strong bargaining power relative to public officials; therefore, they are able to refuse to pay bribes or they can negotiate benefits from the bribes paid or the payment amount (Nguyen et al., 2020a). Based on our discussion, it is necessary to resolve the endogeneity problem to avoid the biased estimates. We follow Fisman and Svensson (2007) and apply a sector-location average approach. Since our database only covers firms in the manufacturing sector, we use firms' bribery amounts averaged across firms within the same locality

excluding the firm itself, which can serve as an appropriate instrument (Qi & Ongena, 2019). The regression results using the IV method are reported in Table A.4. Overall, compared to our simple probit regression in Table 2, our hypothesis concerning the effect of bribery on the export decision remains stable, but the marginal effects on the bribery variables become larger when using the instruments.

5.4 Further Analysis

In addition to the main results, we also conduct analysis interacting bribery and firm size and institutional constraints. We create interaction variables between the various bribery measures (*DBri*, *DGBri*, *DRBri*, *lnBri*, *lnGBri*, and *lnRBri*) with *lnfirm* and present the results in Panel A of Table A.5 in the Appendix. The conclusions of our paper remain unchanged. The interaction between *lnGBri* and *lnfirm* is significant, which implies that larger firms use greasing bribery to exploit international markets more easily. On the contrary, the interaction between rent-seeking bribery and firm size implies that firms using bribery to earn domestic contracts want to concentrate more on the domestic market. Additionally, we also create variables to study the interaction between bribery and institutional constraints, the results of which are reported in Panel B of Table A.5. Although the interaction variables are not significant, the set of bribery variables are significant, and the signs remain stable with those from the benchmark results.

Finally, we check the robustness of our results by using a probit model with random effects. The results are presented in Table A.6 in the Appendix. The estimated coefficients in Columns (2) and (3) are similar to those reported in the baseline model in Table 2. Although the marginal effects in Columns (4) and (5) are different from the previous results, the signs on the coefficients are still consistent. Overall, the estimation results with random effects display consistent signs for all coefficients on the bribery variables and support hypotheses H1, H1a, and H1b.

6. Conclusions

This paper poses a simple question regarding whether bribery encourages or discourages firms' export decisions in Vietnam. By using firm-level data during the period from 2005 to 2015 collected by CIEM, we provide empirical support for our hypotheses, especially the "grease-the-wheel-of-trade" hypothesis. We defined two types of bribery – greasing bribery and rent-seeking bribery – and their different effects on firms' export decisions. Moreover, the effect of bribery on firms' export decisions is larger for larger firms, which presumably have stronger bargaining power. The effect becomes weaker if there are institutional constraints because these constraints create barriers to prevent firms from exploiting benefits when firms pay bribes. Acemoglu and Verdier (1998) engage in a similar discussion when they posit that more frequent regime changes and legislative incoherence in emerging countries become major risks to investors. In the same line of discussion, corrupt officials in areas with weak and poor institutions tend to protect their illegal income by creating distortions in the markets. Furthermore, greedy and corrupt officials in weak and poor institutions cause innovative firms to face a wider variety as well as a higher number of bribes (Fisman & Svensson, 2007).

Some policy implications can be drawn from our analysis in this paper. In developing countries featuring weak and poor institutions, the classification of two types of bribery helps highlight some suggestions. While any form of bribery adversely influences the development of the business sector, in developing countries like Vietnam characterized by weak and poor institutions, the prevalence of corruption is not likely to be eradicated by any policies in the near future. Therefore, acknowledging the influence of the various forms of bribery as shown in this study is essential to formulating relevant policies that promote export activities in SMEs. In the long term, the government in Vietnam should concentrate on the reasons why firms accept resorting to paying bribes, which reflects inefficiencies in the bureaucratic system, namely loopholes in the laws and regulations, as well as imbalance in the supply and

demand of bureaucratic services, which often leads to long delays and high informal costs. The government needs to implement administrative reforms and promote transparency, as well as policies encouraging the establishment of joint projects between public agencies and private companies. Furthermore, in Vietnam, the government should create fair competition between firms. Moreover, we also recommend that political stability and transparency play important roles in the procedure of developing a better operating environment. To boost the rate of firms' export decisions when corruption is prevalent, the government should concentrate on resolving institutional issues. In the long run, a better institutional system plays a critical role in the fight against corruption.

Although we have presented robust results, this study has some limitations. Although we classified two different effects of greasing and rent-seeking bribery, the empirical results show that some coefficients related to rent-seeking bribery are insignificant. On the other hand, when considering bargaining power, there are other factors such as a firm's legality and political networks. Furthermore, this paper only discusses the relationship between bribery and export decisions for manufacturing firms, not exporting firms or the export sector itself. Therefore, we suggest the next paper should concentrate on rent-seeking bribery, consider other types of moderation effects, and focus on the export sector.

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Appendix

Table A.1: Comparison of Export and Non-export Firms

	Export	Non-export	T-test (P-value)
DBri	55%	42%	0.000
DGBri	57%	31%	0.000
DRBri	6%	4%	0.067
lnBri	0.04	0.02	0.000
lnGBri	0.06	0.03	0.000
lnRBri	0.008	0.004	0.034
Firm size	35.17	9.60	0.000
Firms profit per month (1,000s VND)	980,521	278,065	0.002
Labor wage per month (1,000s VND)	3439	3243	0.000
Innovation	61.28%	41.41%	0.000

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Table A.2: Sub-sample Estimation Results by Firm Size

Panel A						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable: Export					
	Micro	Small	Micro	Small	Micro	Small
DBri	0.02 (0.080)	0.08 (0.051)				
DGBri			0.03 (0.082)	0.16*** (0.050)		
DRBri					0.03 (0.197)	-0.28*** (0.098)
lnfirm	0.68*** (0.101)	0.66*** (0.039)	0.67*** (0.101)	0.66*** (0.040)	0.68*** (0.102)	0.67*** (0.040)
firmage	-0.00 (0.001)	0.00 (0.000)	-0.00 (0.001)	0.00 (0.000)	-0.00 (0.001)	0.00 (0.000)
innovation	0.24*** (0.088)	0.18*** (0.053)	0.24*** (0.088)	0.18*** (0.053)	0.24*** (0.088)	0.18*** (0.054)
mana_gender	-0.09 (0.084)	0.06 (0.051)	-0.09 (0.084)	0.06 (0.051)	-0.09 (0.084)	0.05 (0.051)
mana_educ	0.18** (0.071)	0.23*** (0.068)	0.18** (0.072)	0.23*** (0.068)	0.18** (0.071)	0.23*** (0.068)
SOE		0.24 (0.331)		0.24 (0.330)		0.28 (0.337)
Constant	-4.26*** (0.447)	-4.64*** (0.384)	-4.25*** (0.442)	-4.65*** (0.381)	-4.26*** (0.444)	-4.59*** (0.382)
Observations	10,450	4,592	10,450	4,592	10,450	4,592
Pseudo R2	0.147	0.135	0.148	0.138	0.147	0.137

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Panel B

VARIABLES	Dependent Variable: Export					
	(1)	(2)	(3)	(4)	(5)	(6)
	Micro	Small	Micro	Small	Micro	Small
lnBri	0.48 (0.301)	0.81*** (0.272)				
lnGBri			0.35 (0.228)	0.87*** (0.257)		
lnRBri					0.59 (0.513)	0.11 (0.528)
lnfirm	0.55*** (0.132)	0.65*** (0.051)	0.58*** (0.102)	0.71*** (0.049)	0.70*** (0.103)	0.66*** (0.040)
firmage	-0.00 (0.004)	-0.00* (0.000)	-0.00 (0.000)	-0.00 (0.000)	-0.00 (0.001)	0.00 (0.000)
innovation	0.25** (0.113)	0.23*** (0.068)	0.24** (0.097)	0.25*** (0.064)	0.27*** (0.088)	0.18*** (0.054)
mana_gender	-0.09 (0.109)	0.09 (0.065)	-0.07 (0.091)	0.07 (0.062)	-0.07 (0.085)	0.07 (0.052)
mana_educ	0.22** (0.090)	0.32*** (0.106)	0.16** (0.078)	0.23*** (0.091)	0.17** (0.071)	0.25*** (0.071)
SOE		0.27 (0.438)		0.19 (0.418)		0.27 (0.348)
Constant	-4.06*** (0.544)	-4.80*** (0.566)	-4.05*** (0.487)	-4.81*** (0.501)	-4.18*** (0.442)	-4.59*** (0.393)
Observations	6,989	2,704	8,981	3,193	10,300	4,318
Pseudo R2	0.160	0.145	0.150	0.151	0.151	0.133

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Table A.3: Sub-sample Estimation Stratified by Firms Facing Institutional Constraints

Panel A						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable: Export					
	No constraint	At least 1 constraint	No constraint	At least 1 constraint	No constraint	At least 1 constraint
DBri	0.10** (0.045)	0.08 (0.089)				
DGBri			0.14*** (0.046)	0.12 (0.091)		
DRBri					-0.22** (0.098)	-0.18 (0.207)
lnfirm	0.70*** (0.024)	0.66*** (0.047)	0.70*** (0.024)	0.66*** (0.047)	0.71*** (0.024)	0.67*** (0.048)
firmage	-0.00 (0.002)	0.00 (0.000)	-0.00 (0.002)	0.00 (0.000)	-0.00 (0.002)	0.00 (0.000)
innovation	0.23*** (0.049)	0.13 (0.103)	0.23*** (0.049)	0.13 (0.103)	0.24*** (0.049)	0.13 (0.103)
mana_gender	0.03 (0.046)	-0.02 (0.095)	0.03 (0.046)	-0.02 (0.095)	0.02 (0.046)	-0.02 (0.094)
mana_educ	0.21*** (0.053)	0.41*** (0.121)	0.20*** (0.053)	0.41*** (0.121)	0.21*** (0.053)	0.42*** (0.122)
SOE	-0.41 (0.381)	0.34 (0.527)	-0.39 (0.380)	0.36 (0.515)	-0.36 (0.384)	0.36 (0.529)
Constant	-4.68*** (0.298)	-5.38*** (0.643)	-4.64*** (0.296)	-5.40*** (0.639)	-4.62*** (0.296)	-5.38*** (0.642)
Observation	12,659	2,863	12,659	2,863	12,659	2,863
Pseudo R2	0.321	0.307	0.322	0.308	0.321	0.308

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Panel B						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable: Export					
	No constraint	At least 1 constraint	No constraint	At least 1 constraint	No constraint	At least 1 constraint
lnBri	0.76*** (0.214)	0.46* (0.239)				
lnGBri			0.72*** (0.189)	0.43* (0.221)		
lnRBri					0.68 (0.437)	-0.48 (0.804)
lnfirm	0.71*** (0.032)	0.65*** (0.056)	0.72*** (0.030)	0.66*** (0.052)	0.72*** (0.024)	0.69*** (0.048)
firmage	-0.00 (0.000)	-0.00 (0.007)	-0.00 (0.000)	-0.00 (0.006)	-0.00 (0.002)	0.00 (0.000)
innovation	0.27*** (0.063)	0.14 (0.119)	0.26*** (0.058)	0.25** (0.113)	0.24*** (0.049)	0.14 (0.105)
mana_gender	0.06 (0.061)	-0.04 (0.114)	0.06 (0.056)	-0.08 (0.107)	0.04 (0.047)	-0.01 (0.097)
mana_educ	0.26*** (0.075)	0.38** (0.149)	0.17*** (0.063)	0.42*** (0.151)	0.21*** (0.054)	0.39*** (0.121)
SOE	-0.64 (0.516)	0.98 (0.860)	-0.69 (0.497)	0.37 (0.751)	-0.35 (0.385)	0.35 (0.545)
Constant	-4.70*** (0.397)	-5.00*** (0.799)	-4.54*** (0.348)	-5.37*** (0.805)	-4.62*** (0.302)	-5.24*** (0.639)
Observation	7,955	2,070	10,222	2,418	12,265	2,796
Pseudo R2	0.336	0.311	0.337	0.329	0.324	0.320

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Table A.4: IV Estimation

Panel A						
VARIABLES	(1)	(2)	(4)	(5)	(7)	(8)
	Export	DBri	Export	DGBri	Export	DRBri
DBri	0.30*** (0.090)					
DGBri			0.11 (0.113)			
DRBri					-0.08 (0.286)	
Infirm	0.70*** (0.025)	0.05*** (0.004)	0.71*** (0.029)	0.11*** (0.004)	0.72*** (0.026)	0.02*** (0.002)
firmage	0.00 (0.000)	-0.00* (0.000)	0.00 (0.000)	-0.00 (0.000)	-0.00 (0.000)	-0.00*** (0.000)
innovation	0.20*** (0.045)	0.03*** (0.008)	0.20*** (0.046)	0.02*** (0.007)	0.20*** (0.046)	0.02*** (0.003)
mana_gender	0.02 (0.043)	-0.00 (0.007)	0.02 (0.043)	-0.00 (0.007)	0.01 (0.043)	-0.00 (0.003)
mana_educ	0.21*** (0.048)	0.01** (0.005)	0.22*** (0.049)	0.02*** (0.004)	0.22*** (0.049)	0.00 (0.002)
SOE	0.21 (0.316)	0.07 (0.093)	0.26 (0.322)	-0.01 (0.097)	0.26 (0.331)	0.09 (0.077)
Bri_ivb		0.97*** (0.013)				
GBri_ivb				0.87*** (0.016)		
RBri_ivb						0.97*** (0.044)
Constant	-4.78*** (0.266)	-0.15*** (0.030)	-4.72*** (0.267)	-0.28*** (0.028)	-4.70*** (0.267)	-0.06*** (0.015)
Observations	15,270	15,270	15,270	15,270	15,270	15,270
Pseudo R2	0.0110	0.0110	0.787	0.787	0.595	0.595

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Panel B

VARIABLES	(1) Export	(2) Bri	(4) Export	(5) lnGBri	(7) Export	(8) lnRBri
Bri	0.33 (2.778)					
lnGBri			0.68 (0.456)			
lnRBri					-0.45 (1.556)	
lnfirm	0.76*** (0.040)	0.01*** (0.002)	0.72*** (0.029)	-0.00** (0.001)	0.73*** (0.024)	0.00 (0.000)
firmage	-0.00 (0.000)	-0.00 (0.000)	-0.00* (0.000)	-0.00** (0.000)	-0.00 (0.000)	-0.00 (0.000)
innovation	0.28*** (0.073)	-0.01** (0.004)	0.25*** (0.053)	-0.00* (0.002)	0.21*** (0.046)	0.00 (0.001)
mana_gender	0.04 (0.068)	-0.00 (0.004)	0.02 (0.051)	0.00 (0.002)	0.03 (0.044)	0.00 (0.001)
mana_educ	0.30*** (0.093)	0.01*** (0.002)	0.20*** (0.059)	0.01*** (0.001)	0.22*** (0.049)	0.00 (0.000)
SOE	0.47 (0.492)	0.02 (0.049)	0.23 (0.406)	-0.02** (0.009)	0.29 (0.353)	0.01 (0.025)
Bri_ivr		3.76*** (1.128)				
GBri_ivr				1.01*** (0.069)		
RBri_ivr						1.01*** (0.158)
Constant	-5.42*** (0.653)	0.04** (0.018)	-4.66*** (0.325)	-0.02*** (0.007)	-4.66*** (0.270)	-0.00 (0.003)
Observations	6,084	6,084	12,477	12,477	14,821	14,821
Pseudo R2	0.925	0.925	0.837	0.837	0.560	0.560

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Table A.5: Estimation Results with Interaction between Bribery and Firm Size/Institutional Constraints

Panel A						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Export						
DBri	-0.04 (0.120)					
DBri*lnfirm	0.05 (0.039)					
lnBri		-0.46 (0.801)				
lnBri*lnfirm		0.47* (0.282)				
DGBri			0.15 (0.120)			
lnGBri*lnfirm			-0.00 (0.038)			
lnGBri				-0.88 (0.618)		
lnGBri*lnfirm				0.64*** (0.231)		
DRBri					0.28 (0.303)	
DRBri*lnfirm					-0.15* (0.087)	
lnRBri						1.35 (0.971)
lnRBri*lnfirm						-0.40 (0.385)
lnfirm	0.67*** (0.029)	0.67*** (0.029)	0.69*** (0.028)	0.68*** (0.026)	0.71*** (0.021)	0.71*** (0.021)
firmage	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.000)
innovation	0.22***	0.24***	0.21***	0.26***	0.22***	0.22***

	(0.044)	(0.056)	(0.044)	(0.052)	(0.044)	(0.045)
mana_gender	0.02	0.04	0.02	0.03	0.01	0.03
	(0.041)	(0.053)	(0.041)	(0.049)	(0.041)	(0.042)
mana_educ	0.24***	0.28***	0.23***	0.21***	0.24***	0.24***
	(0.049)	(0.067)	(0.049)	(0.058)	(0.049)	(0.050)
SOE	-0.26	-0.36	-0.23	-0.46	-0.20	-0.19
	(0.320)	(0.448)	(0.317)	(0.429)	(0.320)	(0.328)
Constant	-4.73***	-4.69***	-4.77***	-4.58***	-4.76***	-4.72***
	(0.273)	(0.354)	(0.270)	(0.315)	(0.267)	(0.271)
Observations	15,554	10,032	15,554	12,662	15,554	15,083
Pseudo R2	0.313	0.325	0.314	0.330	0.314	0.317

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Panel B

VARIABLES	Dependent Variable: Export					
	(1)	(2)	(3)	(4)	(5)	(6)
DBri	0.10** (0.042)					
DBri*constrt	0.00 (0.068)					
lnBri		0.76*** (0.205)				
lnBri*constrt		-0.33 (0.296)				
DGBri			0.14*** (0.043)			
DGBri*constrt			0.01 (0.071)			
lnGBri				0.66*** (0.184)		
lnGBri*constrt				-0.09 (0.264)		
DRBri					-0.22** (0.097)	
DRBri*constrt					0.01 (0.217)	
lnRBri						0.67 (0.449)
lnRBri*constrt						-1.06 (0.975)
lnfirm	0.69*** (0.021)	0.69*** (0.028)	0.69*** (0.021)	0.71*** (0.025)	0.70*** (0.021)	0.71*** (0.021)
firmage	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.001)	-0.00 (0.000)	-0.00 (0.000)
innovation	0.21*** (0.044)	0.24*** (0.056)	0.21*** (0.044)	0.26*** (0.052)	0.22*** (0.044)	0.22*** (0.045)
mana_gender	0.02 (0.041)	0.04 (0.054)	0.02 (0.041)	0.03 (0.049)	0.01 (0.041)	0.03 (0.042)
mana_educ	0.24*** (0.049)	0.29*** (0.068)	0.23*** (0.049)	0.21*** (0.059)	0.24*** (0.049)	0.24*** (0.050)

SOE	-0.25 (0.319)	-0.36 (0.452)	-0.23 (0.317)	-0.49 (0.430)	-0.21 (0.322)	-0.21 (0.324)
Constant	-4.79*** (0.268)	-4.74*** (0.355)	-4.76*** (0.267)	-4.62*** (0.316)	-4.75*** (0.266)	-4.72*** (0.270)
Observations	15,554	10,032	15,554	12,662	15,554	15,083
Pseudo R2	0.313	0.324	0.314	0.329	0.313	0.317

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.

Table A.6: Estimation Results with Random Effects

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable: Export					
DBri	0.09 (0.069)					
lnBri		0.65* (0.342)				
DGBri			0.16** (0.071)			
lnGBri				0.53* (0.288)		
DRBri					-0.39*** (0.146)	
lnRBri						0.80 (0.563)
lnfirm	1.10*** (0.054)	1.20*** (0.080)	1.09*** (0.054)	1.16*** (0.067)	1.12*** (0.055)	1.12*** (0.056)
firmage	0.00 (0.001)	-0.00 (0.006)	0.00 (0.001)	-0.00 (0.003)	0.00 (0.001)	0.00 (0.001)
innovation	0.35*** (0.076)	0.44*** (0.104)	0.34*** (0.076)	0.40*** (0.091)	0.35*** (0.076)	0.36*** (0.077)
mana_gender	-0.04 (0.072)	-0.00 (0.098)	-0.04 (0.072)	-0.03 (0.088)	-0.06 (0.072)	-0.04 (0.074)
mana_educ	0.31*** (0.079)	0.40*** (0.118)	0.30*** (0.079)	0.28*** (0.098)	0.30*** (0.079)	0.31*** (0.082)
SOE	0.47 (0.505)	0.44 (0.689)	0.50 (0.503)	0.23 (0.641)	0.57 (0.507)	0.58 (0.533)
Constant	-7.35*** (0.482)	-7.79*** (0.725)	-7.32*** (0.480)	-7.27*** (0.592)	-7.31*** (0.481)	-7.34*** (0.499)
Observations	15,554	10,032	15,554	12,662	15,554	15,083

Notes: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.

Source: Authors' calculations from Vietnam's Small and Medium Enterprises Survey, 2005-2015.