

FIRM CHARACTERISTICS, PERCEIVED OBSTACLES OF INSTITUTIONAL ENVIRONMENT AND EXPORT PERFORMANCE: EVIDENCE FROM VIETNAMESE FIRMS

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Abstract

Although prior studies have investigated the effects of both internal and institutional factors on export performance of Vietnamese firms, we argue that Vietnamese institutional environment has changed rapidly under the impact of economic integration and we need more research to understand export behavior of Vietnamese firms. In this paper, we examine how their internal factors and perceived obstacles of external factors affect their export intensity and propensity with an updated micro dataset collected from Enterprise Surveys of World Bank conducted in 2009 and 2015. The research findings show that internal factors including firm size and foreign ownership have positive effects on both export propensity and export intensity. Competition from the informal sector and perceived obstacles of customs and trade regulation have negative and positive impacts on export performance respectively. These findings confirm the role of firm size, foreign ownership, competition in firm export performance in a transition country pursuing export-led growth strategy.

Keywords: firm characteristics; institutional environment; export intensity; Vietnam.

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1. Introduction

Recent decades have experienced a noticeable change in the world economy thanks to trade liberalization and the increasing number of firms joining international market through exports (Buckley & Strange, 2015). Given this surge, the international literature for the last three decades has witnessed the

central interest in export intensity and its determinants from developed economies (Zou & Stan, 1998). These studies tend to concentrate on characteristics of foreign countries rather than those of home countries (Sousa, Martínez-López & Coelho, 2008). In Vietnam - a developing economy, there are a few studies using micro data to investigate

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export decisions. While Estrin, Meyer, Wright & Foliano (2008) just examine export intensity of subsidiaries of multinational firms in six emerging economies including Vietnam, Hiep & Nishijima (2009) utilize a cross-sectional microdata derived from the World Bank's survey on productivity and investment climate in Vietnam in 2005. However, Vietnamese government changed many economic policies from 2005 to 2007 with several new legal documents to meet the WTO legal framework. Since Vietnamese economy became a member of the WTO in 2007, it has integrated tightly into the global economy and the regional economy with several free trade agreements. These changes in the institutional environment demand a new study to understand export behavior of Vietnamese firms. Hence, this paper examines the effects of both internal factors (firm characteristics), perceived obstacles of external factors (institutional environment) on both export intensity and propensity of Vietnamese exporting firms with an updated micro dataset collected in 2009 and 2015. The research findings provide a better insight on export behavior of exporting firms a transition country pursuing export-led growth strategy.

2. Literature review

Most prior studies in firm-level export behavior is based on resource-based view, institutional-based view and industry-base which are described as a "strategy tripod" in the international business research (Peng, Wang, & Jiang, 2008; Gao, Murray, Kotabe, & Lu, 2010). Resource-based view argues that firm resources and capabilities are sources of competitive advantage (Peng, 2001). The success of firms in international markets essentially relies on their ability to utilize and

develop distinctive capabilities and resources. According to Katsikeas, Leonidou & Morgan (2000), resource-based view can be applied to explain the relationship between organizational factors (i.e. demographic aspects, operating elements, resource characteristics and objectives) and export intensity. Nazar & Saleem (2009) find that firm characteristics namely firm size, technology level, foreign contacts and networking, knowledge are related to export intensity. By using a sample of 450 Indian manufacturing firms from 2002 to 2012, Agnihotri & Bhattacharya (2015) document a positive relationship among top management characteristics (i.e. functional heterogeneity, educational level, international exposure and length of tenure) and firm export intensity. Many other studies also emphasize the role of microeconomic characteristics including financial capabilities, product features, concentration (Zhao & Zou, 2002), managerial characteristics (Agnihotri & Bhattacharya, 2015) and technological capabilities (He & Wei, 2013; Buckley, Clegg, & Kafouros, 2013).

According to institution-based view theory, firm activity is embedded in nation-specific institutional environment. This theory argues that home country's institutional characteristics create an "institutional misalignment" situation between what firms need and their institutional conditions. This misalignment creates incentives for firms to exploit exporting opportunities. Prior institution-based studies show that success or failure of firm internationalization is subject to institutional conditions of home country (Cuervo-Cazurra & Genc, 2008). Sorin, Strange & Lashitew (2018) find that firms are more likely to export when informal competition, political instability and

corruption are high. Khoury & Peng (2010) indicate that lack of intellectual property right protection limits the propensity to innovate of exporting firms. Protectionism hinders domestic firms from coping with international competition and they have lower incentives to improve resources and capabilities.

Industry-based view concentrates on the role of industry environment in firms' strategy and performance. Industry-specific conditions help firms determine their position in the market and select an approach to gain a competitive advantage (i.e. a differentiator, a lowest-cost leader and a niche market penetrator) and thus affect firm performance. Buchko (1994) posits that industry structure of foreign markets is able to constitute uncertainties for multinational companies. Carroll (1994) also finds that since firms position themselves in the market, industry-specific context namely market concentration naturally impacts the distribution and availability of resources, thus firm survival.

In Vietnam, Hiep et al. (2009) employ a cross-sectional micro dataset obtained from the World Bank's survey on productivity and investment climate in Vietnam in 2005 to investigate the roles of both firm characteristics (i.e. firm age, firm size, capital intensity, mail use, website use, foreign ownership, direct export and input import propensity) and constraints of institutional environment (i.e. infrastructure, policy and administration, political environment, social environment, labor market and financial market) on firm export intensity. The research findings show that firm size, capital intensity, foreign ownership and input import propensity affect firm export intensity significantly. In addition, Hiep et al. (2009)

find that in a developing country like Vietnam, production factor markets (i.e. labor market and financial market) and domestic physical infrastructure fail to hinder firms from increasing their export intensity however six variables representing soft infrastructure have statistically negative effects on firm export intensity. However, we argue that Vietnamese institutional environment has changed rapidly under the impact of economic integration and we need more research to understand export behavior of Vietnamese firms. We find that the dataset of Enterprise Surveys of World Bank conducted in 2009 and 2015 is a good opportunity to examine how internal factors and perceived obstacles of external factors affect export intensity and propensity of Vietnamese firms recently.

In this paper, variables in the research model are mainly based on Hiep et al. (2009) and Sorin et al. (2018). The former uses three variables to present the firm characteristics namely skilled labor use, access to external technologies, managerial experience and three variables to present the institutional factors in home market including political instability, informal competition, corruption. Meanwhile, the latter uses firm age, firm size, capital intensity, email use, website use, foreign ownership as firm characteristics and perceived constraints of infrastructure, policy and administration, political environment, social environment, labor market and financial market to proxy institutional environment. However, due to the availability of research data, we employ six firm-specific capabilities including firm size (SIZE), firm age (AGE), share of skilled workers (SKILLED), manager experience (MAN), share of equity ownership (FOREIGN, PUBLIC), technology access (TECH) and four variables to proxy perceived

obstacles of institutional environment namely political instability (POL), competition from the informal sector (INF), the level of corruption (CORR) and custom and trade regulation (CUSTOM). Finally, we also control time effect with year dummies.

According to resource-based view theory, firm size (SIZE), firm age (AGE), skill employee (SKILLED), managerial experience (MAN) and access to foreign technology (TECH) are expected to have positive relationship with export intensity. Firm size is a proxy of organizational capabilities, can be characterized as non-imitable managerial abilities serving as an instrument to transform physical and financial resources into competences (Wernefelt, 1984). Older firms have more chances to go abroad than younger firms since they have a larger stock of resources. Age is also equivalent to learning and knowledge (Williams, 2011). In addition, many studies show that skilled employees determine product variety and quality, thus they affect positively firm export intensity (Sorin et al., 2018; Lages, Silva, & Styles, 2009; Katsikeas et al., 2004). Moreover, managers can manage the relationships with suppliers or target consumers and the production processes effectively when they grasp the industry - specific knowledge and experience (Lages & Montgomery, 2005). Therefore, managerial experience has a positive effect on export intensity. Firms with access to foreign technology are more likely to improve its capabilities and core competencies, hence they tend to have better export performance.

Furthermore, when firms have higher foreign ownership (FOREIGN) they are more likely to receive support from foreign investors in terms of information access;

entrepreneurial, managerial and financial resources and international marketing networks (Wang et al., 2007). Therefore, their export performance tends to be better. However, the relationship between government ownership (PUBLIC) and export intensity is mixed. Firms with government ownership may receive preferential treatment from the government but they also may be more bureaucratic than private ones and experience double agency problem. Consequently, the expected sign of FOREIGN is (+) while that of PUBLIC is (+/-).

Among variables representing perceived obstacles of institutional environment, political instability (POL) and customs and trade regulations (CUSTOM) are expected to have negative impacts on export intensity according to Sorin et al. (2018). The effect of corruption (CORR) is mixed since corruption can be a real constraint for firm exporting activities on one hand and firms can take advantage of corruption to obtain favorable treatment from government agencies via bribery. Moreover, informal competition (INF) also faces a mixed impact on export performance as competition is both a drive for improvement and a real constraint. As a result, the expected signs of these variables are as follows: POL (-), CUSTOM (-), CORR (+/-), INF (+/-).

3. Research methods

The research data of this study contains both positive and zero values of export intensity. This results in two outcomes of the dependent variable, namely zero and positive export intensity. Consequently, the OLS regression is not applicable to the research data due to the nature of the dependent variable and Tobit regression model is applied instead (Huang, 2001; Kim

& Maddala, 1992). The estimation model is presented in the following formula:

$$EXINT_{it} = \begin{cases} EXINT_{it}^* & \text{if } EXINTR_{it}^* > 0 \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

Moreover, we also investigate the effects of firm characteristics and institutional variables on export intensity of Vietnamese firms with the following logit model.

$$EXPRO_{it} = \begin{cases} 1 & \text{if } EXINTR_{it}^* > 0 \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

Where EXINT is the observable dependent variable. EXPRO is export propensity. EXINT* is the latent variable: $EXINT_{it}^* = \alpha + \beta X_{it} + u_{it}$; $u_{it} \sim N(0, \sigma^2)$. u_{it} is the residual term of firm i at the time

t . X_{it} is the column vector of explanatory variables of firm i at time t . The vector contains SIZE, AGE, SKILLED, FOREIGN, PUBLIC, MAN, TECH, POL, CORR, INF, CUSTOM. We also control year effects by adding year dummies to the regression model and firm effects with regression clustered by firm.

The research data is derived from two Enterprise Surveys of World Bank's Enterprise Analysis Unit. The first survey is the data collected in Vietnam between June 2009 and January 2010 as part of the Enterprise Survey component of the East Asia and Pacific Enterprise Survey 2009. The second survey is

Table 1. Definition of variables

Variables	Description	Expected sign
EXINT	Exports divided by total sales revenue	NA
SIZE	Log of the number of permanent employees	+
AGE	Log of firm age	+
SKILLED	Percentage of permanent skilled workers	+
FOREIGN	The percentage of shares held by foreign firms or individuals	+
PUBLIC	The percentage shares held by government agencies	+/-
MAN	Log of the number of experience years of top managers	+
TECH	Dummy variable assigned 1 if the establishment uses technology licensed from a foreign-owned company and 0 otherwise	+
POL	Answer to the question "To what degree is Political Stability an obstacle to the current operations of this establishment?" on a five-point scale ranging from 0 to 4	-
CORR	Answer to the question "To what degree is Corruption an obstacle to the current operations of this establishment?" on a five-point scale ranging from 0 to 4	+/-
INF	Industry-region level measure of competition from the informal sector on a five-point scale ranging from 0 to 4	+/-
CUSTOM	Answer to the question "To what degree is Customs and Trade regulation an obstacle to the current operations of this establishment?" on a five-point scale ranging from 0 to 4	-

data collected in Vietnam between November 2014 and April 2015. After elimination observations with missing and incomplete information we obtain the final sample of 986 observations in two years 2009 and 2015. Furthermore, in order to reduce the effect of outliers and improve statistical efficiency, we winsorize firm characteristics at 5%.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
EXINT	986	30.1	40.9	0.0	100.0
SIZE	986	4.2	1.4	1.9	6.8
AGE	986	2.9	0.4	2.1	3.8
SKILLED	986	0.6	0.2	0.1	0.9
FOREIGN	986	11.9	31.2	0.0	100.0
PUBLIC	986	1.4	5.1	0.0	21.0
MAN	986	2.7	0.5	1.6	3.6
TECH	986	0.1	0.3	0.0	1.0
POL	986	0.3	0.7	0.0	4.0
CORR	986	0.5	0.9	0.0	4.0
INF	986	1.1	1.2	0.0	4.0
CUSTOM	986	0.5	0.8	0.0	4.0

EXINT is export intensity measured by total exports deflated by sales revenue. *SIZE* is firm size measured by log of the number of permanent employees. *AGE* is log of firm age. *SKILLED* is percentage of permanent skilled workers. *FOREIGN* is the percentage of shares held by foreign firms or individuals. *PUBLIC* is the percentage shares held by government agencies. *MAN* is log of the number of experience years of top managers. *TECH* is a dummy variable assigned 1 if the establishment uses technology licensed from a foreign-owned company and 0 otherwise. *POL* is the perceived obstacle of political stability. *CORR* is the perceived obstacle of corruption. *INF* is the perceived obstacle of informal competition. *CUSTOM* is the perceived obstacle of customs and trade regulation.

4. Research findings

4.1. Descriptive statistics

Table 2 demonstrates descriptive statistics of research variables. The average export intensity measured by total exports divided by total sales revenue of sampled firms is 30.1%. Its standard deviation of 40.9 illustrates that the spread of its distribution is appropriate for regression analysis.

Moreover, firms characteristics including *SIZE*, *AGE*, *SKILLED*, *MAN*, have

relatively normal distribution while three dependent variables namely *TECH*, *PUBLIC* and *FOREIGN* are not. Dependent variables representing the institutional environment range from 0 to 4. All of these variables have left skewed distribution.

4.2. Regression results

Table 3 shows coefficients of dependent variables in Tobit and Logit regression results. Both regression models report consistent findings. In line with Hiep et

al. (2009), firm size is positively related to both export intensity and propensity at the significance level of 1%. This can be explained that firms with larger size is able to take advantage of economies of scales, thus they are more likely to export and have higher export revenues. The significantly positive impacts of foreign ownership on probability to export and export intensity indicate that firms with higher shares held by foreign investors export more than those with lower foreign ownership. The presence of foreign investors is likely to help firms expand their international cooperation or collect more information on foreign markets

and they are able to improve their export performance. In addition, the estimation results show that competition from the informal sector is negatively related to firm export performance at the significance level of 1%. These findings imply that aggressive competition from the informal sector reduce both the likelihood to export and export intensity. Remarkably, perceived obstacles of customs and trade regulation is positively correlated with export performance. This can be explained that firms tend to exploit the red tape of customs and trade agencies to obtain favorable treatment via bribery. Therefore, they can promote their export activities.

Table 3. Tobit and logit regression results

Variable	Tobit model		Logit model	
	Coefficient	t-statistics	Coefficient	t-statistics
SIZE	20.76***	9.79	0.62***	9.07
AGE	-2.93	-0.44	-0.05	-0.24
SKILLED	1.36	0.13	-0.16	-0.51
FOREIGN	0.26***	3.73	0.01***	3.12
PUBLIC	-0.33	-0.67	0.00	0.13
MAN	2.92	0.62	0.20	1.36
TECH	0.75	0.11	0.27	1.01
POL	3.92	0.99	0.11	0.88
CORR	-3.19	-1.03	-0.12	-1.15
INF	-9.31***	-4.30	-0.17***	-2.71
CUSTOM	14.65***	4.76	0.51***	4.65
Intercept	-93.68	-4.52	-3.40	-5.32
Pseudo R ²	0.04		19.19	
Left-censored	529			
Observations	986		986	

SIZE is firm size measured by log of the number of permanent employees. *AGE* is log of firm age. *SKILLED* is percentage of permanent skilled workers. *FOREIGN* is the percentage of shares held by foreign firms or individuals. *PUBLIC* is the percentage shares held by government agencies. *MAN* is log of the number of experience years of top managers. *TECH* is a dummy variable assigned 1 if the establishment uses technology licensed from a foreign-

owned company and 0 otherwise. POL is the perceived obstacle of political stability. CORR is the perceived obstacle of corruption. INF is the perceived obstacle of informal competition. CUSTOM is the perceived obstacle of customs and trade regulation.

*** is significant at 1%. ** is significant at 5%. * is significant at 10%.

5. Conclusions

This study examines how firm characteristics and perceived obstacles of external environment affect export performance of exporting firms in Vietnam with a dataset collected from Enterprise Surveys of World Bank conducted in 2009 and 2015. The research findings show that internal factors including firm size and foreign ownership

have positive effects on both export propensity and export intensity. Competition from the informal sector and perceived obstacles of customs and trade regulation have negative and positive impacts on export performance respectively. These findings confirm the role of firm size, foreign ownership, competition in firm export performance in a transition country pursuing export-led growth strategy.

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