GSICS Working Paper Series

Entrepreneurial Human and Social Capital in Small Businesses in Vietnam

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Souksavanh VIXATHEP

Nobuaki MATSUNAGA

No. 29

April 2015

Graduate School of International

Cooperation Studies

Kobe University

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Souksavanh VIXATHEP[*]

Nobuaki MATSUNAGA[†]

Abstract

Entrepreneurship is viewed as an important mechanism for economic development. It helps entrepreneurs overcome most of the constraints in businesses, encourages innovation, and contributes to employment generation and welfare improvement. The paper addresses the issue of entrepreneurial contribution to economic development at the micro level in Vietnam. The study examines the impact of entrepreneurial human capital on firm's performance (value added, total factor productivity (TFP)) in micro and small enterprises (MSEs).

The analysis reveals that owner's formal education (up to upper secondary education) contributes to enhancement of firm value added and TFP in micro businesses. Entrepreneur's technical specialization, including advanced vocational training, university and post-graduate education, enhances performance of small enterprises, but shows some sign of over-education for micro businesses. Accumulated entrepreneurial experience, in form of occupation and self-employment experience, proves crucial for firm performance. Geographical advantages favoring MSEs located in the major metropolitan areas and sectoral advantages favoring 'trade and services' prove to be significant. The findings highlight the importance of human capital in nurturing entrepreneurship and fostering economic development at the micro-level.

Keywords: *entrepreneurship; human capital; social capital; small business; Vietnam*

JEL Classification: *C01, D22, L26*

[*] Graduate School of Economics, Kyoto University, Yoshida Honmachi, Sakyo-ku, Kyto 606-8501, Japan. Tel: 075-753-3509. E-mail: vixathep@econ.kyoto-u.ac.jp. The authors acknowledge the financial support of the Japan Society for the Promotion of Science under its Grand-in-Aid for Scientific Research (C) 24530299.
[†] Graduate School of International Cooperation Studies, Kobe University, 2-1 Rokkodai-cho, Nada-ku, Kobe 657-8501, Japan. Tel/Fax: 078-803-7103. E-mail: matsu@kobe-u.ac.jp.

1. Introduction

The economic reforms in Vietnam (*Doi Moi Policy*) covers many areas, including macroeconomic stabilization, state-owned enterprise reform, private sector development, small and medium enterprise promotion, and policy enhancement in many other areas. The reforms set the stage for remarkable economic growth during 1990-2010 with an average rate of 7.3% per annum (WB, WDI 2013). Poverty incidence declined steadily from 58% in 1989 to 32% in 2000, while average household per capita expenditure increased by 41% during 1993-1998 (Pham and Vo, 2003), just to name some.

The private sector in Vietnam is relatively young, with the manufacturing industries being considered as the spearhead sector in easing unemployment burden upon the collapse of the Soviet bloc, the decline of state-owned enterprises (SOEs), and demobilization of personnel in the military (Nguyen et al., 2007). The economy is characterized by the dominance of small and medium enterprises (SMEs) in the non-agricultural sectors, which have played a crucial role in promoting the country's industrialization and creating employment opportunities for the workforce. Upon the enactment and enforcement of the 2000 Enterprise Law, the domestic private sector has experienced rapid growth, particularly in number of enterprises, and drawn attention in both policy and academic discussions.

Recently, empirical literature on Vietnam's SMEs has turned to quantitative studies of enterprises, including growth, survival, profitability, and performance, etc. The vast majority of studies address firm performance (technical efficiency and productivity) in light of firm characteristics (age, ownership, location) and business environment (Vu, 2003; Nguyen et al., 2007; Tran, Grafton and Kompas 2008; Le, 2010; Le and Harvie, 2010), while scholar works on entrepreneurship are still inadequate. In a recent work on micro and small enterprises (MSEs), Vixathep (2013) studied the impact of entrepreneurial human capital on value added (VA) and total factor productivity (TFP), while taking into account the relationship with the firm size. Formal education up to upper secondary school would improve firm output and productivity. Technical specialization appears to enhance entrepreneurial performance in small enterprises, but reveals some effect of over-education for the micro size. This paper aims at extending the analysis in Vixathep (2013) to address issues related to social capital and economic sectors of the MSEs. In other words, for various indicators of human and social capital the papers evaluates: (1) how entrepreneur's schooling and experience influences firm's output and productivity; and (2)

how entrepreneur's transactions with other enterprises and business partners contributes to firm's output and productivity.

Following the human resource-based approach to growth in Schumpeter's pioneer work and the recognition of the academic field of 'entrepreneurship' in 1987, research in this field has received increasing attention. However, up until the mid-1990s most of studies on entrepreneurship were carried out for developed economies and by scholars in developed countries (Shane, 1997). Thus, the literature is not complete, while the role of entrepreneurship in the development process deserves more attention (Naude, 2010), particularly the discussions for developing and transitional economies (Leff, 1979; Acs et al., 2008; Aslund, 2012).

In practice, significant amount of efforts has been made to promote entrepreneurship in developing economies with assistance of bilateral and multilateral development institutions, both official and nongovernmental organizations. Many of the support activities are directed toward the private sector, which mainly consists of micro, small and medium enterprises. While performance of large firms and the underlying causes are well documented, knowledge on MSEs in developing countries is far from adequate (Hossain, 1988; Khandker 2005; Onphanhdala and Suruga, 2010). In most MSEs the owner makes business decisions and is responsible for success or failure of her enterprise. In this context human capital (HC) and social capital (SC) are viewed as an underlying factor for entrepreneurial performance, and education is widely considered as the fundamental element of human capital (Honig, 2001).

Entrepreneur's endowment of human capital is argued to enhance efficiency in business operation, while there exists a view that social capital works as supplement for human capital (Bruderl and Preisendorfer, 1998). However, individuals would face a trade-off to between investment in HC and SC, since one cannot invest in both types of capitals simultaneously (Piazza-Georgi, 2002; Santarelli and Tran, 2013). To some degree, the positive relationship between entrepreneurial performance and human capital, particularly entrepreneur's education, is well documented and empirically supported in literature (Reuber and Fischer, 1994; Van der Sluis et al., 2003; Honig, 2001; Bosma et al., 2004). Overall, social capital or social networking contributes to entrepreneur's performance in four aspects, namely providing access to scare resources; access intangible resources (credibility, competence); channel to information necessary for decision making; and making reputational and signaling effect (Santarelli and Tran, 2013).

Recently, more empirical studies of human and social capital on entrepreneurial performance in developing economies have been published thanks to increased availability of data (for Pakistan (Kurosaki and Khan, 2004), Laos (Onphanhdala and Suruga, 2010), and Vietnam (King-Kauanui et al., 2006; Santarelli and Tran, 2012, 2013; Vixathep, 2013). Major findings from these studies lend support to the positive education-entrepreneurship relationship, but the magnitude of the effect varies a great deal depending upon the economies. More importantly, in a rapidly changing environment with significant information asymmetry in transitional countries, human and social capital is even more important to recognize and exploit business opportunities for survival and success amid increasing competition. Yet, entrepreneurship studies for such economies are far from sufficient and should be expanded. This paper attempts to make a contribution in this area by evaluating the impact of human and social capital on firm output and productivity in light of firm size for Vietnam as a case study for transitional economies.

The paper is structured as follows. Section 2 reviews some recent economic development with a focus on the SME sector. Section 3 discusses the analytical approach and the empirical model, and describes the data and the variables. The empirical results are presented and discussed in Section 4. Section 5 concludes and outlines some policy implications.

2. Recent Economic Development and the SME Sector in Vietnam

2.1 Economic reform and recent performance[1]

During the central planning period the private sector was viewed as thorn of the political system and private ownership of means of production as sources of personal enrichment. However, within such hostile environment some form of private ownership, such as household/family and joint state-private businesses, was allowed. Beyond the effective control and support of the government the so-called petty-enterprise sector continued to exist and contributed to the reform initiative of the government. This tiny sector supported peasant agriculture, encouraged accumulation of local capital, produced goods and services, and more importantly nurtured a spirit of entrepreneurship (Freeman, 1996; Le, 2010).

[1] Information for this section is drawn from our field survey in August 2012 and August 2014. During these surveys we interviewed several individuals and representatives from institutions and government agencies that deal with SMEs, including the Central Institute for Economic Management; the Vietnam Association of Small and Medium Enterprises; Agency for Enterprise Development of the Ministry of Planning and Investment; the Vietnam Association of Small and Medium Industrial Enterprises, and the Vietnam Chamber of Commerce and Industry

Table 1: Selected socio-economic indicators of Vietnam

Description	1985	1990	1995	2000	2005	2010
Population (million persons)	58.9	66.0	72.0	77.6	82.4	86.9
Population growth (annual %)	1.8 [h]	2.3 [a]	1.7 [b]	1.5 [c]	1.2 [d]	1.1 [e]
Urban population (% of total)	19.6	20.3	22.2	24.4	27.3	30.4
GDP (U$ mil., 2000 prices)	11,889	15,018	22,276	31,173	44,769	62,832
GDP per capita (U$, 2000 prices)	202	227	309	402	543	723
Average GDP growth (annual %)	3.8	4.8 [a]	8.2 [b]	7.0 [c]	7.5 [d]	6.1 [e]
Trade/GDP (%)	23.2 [f]	81.3	74.7	112.5	142.9	165.3
Gross saving/GDP (%)	-	-2.3	19.2	31.3	35.8	31.9
Gross investment/GDP (%)	-	13.2 [g]	25.4	27.7	32.9	35.6
Literacy rate (% of people ages +15)	-	87.6 [g]	-	90.2	-	93.3
Infant mortality (per 1000 live births)	40.6	36.1	30.8	26.2	22.0	18.1
Life expectancy at birth (years)	61.1	65.5	69.4	71.9	73.3	74.8
Fertility rate (births per woman)	4.4	3.6	2.7	2.0	1.9	1.8
Poverty incidence (%, year)	58.1(93)	34.7(98)	28.9(02)	19.5(04)	15.9(06)	14.5(08)
Gini coefficient (index, year)	35.7(93)	35.5(98)	37.6(02)	36.8(04)	35.8(06)	35.6(08)
HDI from various HDRs		0.439	0.560	0.688	0.733	0.646
Human Development Index	-	0.439	-	0.534	0.573	0.611

Source: Author compiled; data are from Key Indicators (various issues), Asian Development Bank; World Development Indicators (various issues), World Bank; Human Development Report (2013), UNDP.

Notes: 1. "-" means the data were not available.

2. The superscript denotes: a) average of 1986-1990; b) average of 1991-1995; c) average of 1996-2000; d) average of 2001-2005; e) average of 2005-2010; f) value of 1986; and g) value of 1989; and h) average of 1981-1985.

3. Poverty incidence is the headcount ratio (%) of the GSO-WB poverty line (World Bank, 2012).

4. The human development index for 2012 is 0.617.

5. The most recent information on population in Key Indicators 2014 is 89.7 million (ADB, 2014).

Some macroeconomic reforms were introduced in the early 1980s. The actual transition began in 1986 with the approval and initial implementation of the Doi Moi policy. Early successes stimulated acceleration of the transition process and gave rise to the adoption of a comprehensive reform package in 1989. The program encompasses reforms in many sectors, such as agricultural sector; trade and industrial sectors; investment and banking reform; and labor market reform. The reforms have yielded remarkable successes during 1985-2010 (Table 1). With a population of nearly 90 million, the Vietnamese economy has grown steadily with an average rate of 6.9% per annum. Five-year breakdowns show acceleration in growth since the early 1990s, in which annual growth averaged around 6.1-8.2% as compared to 4.8% for 1985-1990. GDP increased from U$12 billion to U$63 billion and GPD per capita reached U$723 in 2010. Poverty incidence has declined from 58% in 1993 to just about 15% in 2008. Other socio-

economic indicators (trade and investment, health and education, HDI) also suggest healthy development over the last two decades. However, inequality has seen little change, as reflected by a rather constant Gini coefficient.

2.2 Small and medium enterprises in Vietnam's economy

The definition[2] of SME was first formulated in 2001 with fewer than 300 workers or registered capital less than VND10 billion. The latest definition is given in the Decree No. 56/2009/ND-CP, which classifies enterprises into micro, small and medium enterprises for three economic sectors (agriculture, forestry and fishery; industry and construction; and trade and service) based on the number of workers and value of total capital. As such, a micro enterprise in agriculture and manufacturing shall have up to 10 workers, a small enterprise 11-200 workers and/or up to VND20 billion, and a medium enterprise 201-299 workers and/or VND20-VND100 billion (Le and Harvie, 2010; Vixathep, 2013).

Table 2: Number of SMEs and their share by labor (# of enterprises, %-share), 2000-2010

Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of enterprise	42,288	51,680	62,908	72,012	91,756	112,950	131,332	155,771	205,689	248,842	291,299
< 5 persons	24.0	23.1	19.2	18.2	19.6	20.5	12.8	22.4	21.6	22.0	26.8
5-9 persons	25.8	26.9	28.8	28.4	28.8	30.7	44.1	32.8	34.3	37.3	34.5
10-49 persons	28.5	30.5	32.9	35.0	35.4	34.5	30.0	32.5	33.9	31.3	29.8
50-199 persons	13.3	12.2	12.0	11.8	10.7	9.7	8.9	8.6	7.2	6.7	6.4
200-299 persons	2.7	2.3	2.2	2.0	1.7	1.4	1.3	1.3	1.0	0.9	0.9
SMEs	*94.3*	*94.9*	*95.1*	*95.4*	*96.1*	*96.8*	*97.2*	*97.4*	*98.0*	*98.3*	*98.3*
300-499 persons	2.5	2.2	2.2	1.9	1.6	1.4	1.2	1.1	0.9	0.7	0.7
500-999 persons	1.9	1.7	1.7	1.6	1.3	1.1	1.0	0.8	0.6	0.6	0.5
1000-4999 persons	1.2	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.5	0.4	0.4
> 4999 persons	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
LSEs	*5.7*	*5.1*	*4.9*	*4.6*	*3.9*	*3.2*	*2.8*	*2.6*	*2.0*	*1.7*	*1.7*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistical Yearbook of Vietnam, various issues (General Statistical Office), Hanoi: Statistical Publishing House.
Notes: 1. Figures in the table represent the percentage share in the total, except for the first row.
2. 'LSEs' denotes large size enterprises, i.e. those with 300 workers or more.

[2] The labor-based definition of SME differs across countries. For example, for manufacturing SME is defined as having less than 200 workers in the Philippines; not more than 200 in Singapore and Thailand; below 300 in South Korea; not exceeding 300 in Japan; and less than 250 in EU. Usually the amount of sales, or turnover, or registered capital, or paid-in capital is added to the definition.

The role of the private sectors in the economy has been recognized in various areas, such as contributing to output, employment and production or supply chains. In particular, the role of SMEs, the majority of the non-state sectors, can be summarized as: (i) restructuring of the SOE sector; (ii) generating non-farm employment and income; (iii) contributing to rural and regional development, business start-up, industrial agglomeration; and (iv) attracting FDI and forming supply chains (supporting industries) for large foreign firms (Le, 2010). SMEs are flexible in activities, because they can change products in relatively short time in response to market conditions. They can also encourage regional and rural development because they can be located in more rural areas. The non-state sector is characterized by the dominance of SMEs. In particular, micro and small enterprises comprise more than 90% of all establishments in the last decade (Table 2).

Derived from our field surveys in 2012 and 2014, SMEs contributed 39% to GDP in 2006 and employed about 10% of the 4.1 million labor force in manufacturing industries in 2009. However, it is very difficult to pinpoint an accurate trend of SMEs' share in GDP over the recent period because of lack of systematic data collection and reliable information (Tran, Le and Nguyen, 2008). Moreover, one objective of the reform is to reduce the number of SOEs and thereby relying on job creation in the private sectors. Roughly 1.5 million new jobs are needed annually, of which 90% are to be created in the private sectors. Vietnam has nearly 90 million people with good demography for development. The average working age is about 32 years old. The annual birth rate is 1.2%, meaning that there are roughly one million more people every year. Currently, the agriculture has the largest share in population, but the transition of labor force into the industrial sector is progressing. During 1990-2000 there were about 40000 private establishments, but in 2000 alone 45000 private enterprises were established (from the field survey on SME development policy in Hanoi City and Vinh Phuc Province, 28 July – 4 August 2012).

In order to help promote SME development, the government has established various institutions to assist SMEs in their businesses, such as the Vietnam Association of Small and Medium Enterprises (VINASME) and the Vietnam Association of Small and Medium Industrial Enterprises (VASMIE). The main functions of these associations are enhancing competitiveness, increasing commercial production, raising social responsibility, and protecting the interests of Vietnam's SMEs. The first five-year SME development plan for 2006-2010 has been completed.

The second SME development plan for 2011-2015 is in the final year of implementation. Yet, the outcome of the policy implementation is ambiguous.

3. Analytical Framework and Data

3.1 Analytical approach and empirical model[3]

Human and social capital is considered to have some impact on entrepreneurs' performance. It is considered as one fundamental element of successful entrepreneurship (Santarelli and Tran, 2013). In economic literature, human capital is found to enhance the performance of both workers (Mincer, 1974) and firm owners (Pennings, Lee and Witteloostuijn, 1998; Van Praag, Van Witteloostuijn, and Van der Sluis, 2013). In particular, investment in industry-specific human capital (social capital as well) of founders of small businesses – such as experience in a specific industry – contributes to an increase in employment and enhances enterprise performance (profit, survival), while endowment of talent is not the underlying factor of such performance (Bosma et al., 2004).

Social capital is understood as "the existing stock of social relationships in a society" and evaluated in terms of numbers, intensity, networks civil engagement, etc. Social capital is found to have close relationship with explanation of educational performance and attainment (Cooke and Wills, 1999; Piazza-Georgi, 2002; Bosma et al., 2004). Entrepreneur's social capital is widely considered as an outcome or a result of her social interactions or networks. Social capital includes human actions that are influenced by societal factors, such as civic engagement, social networks (associational membership, business associations), family relationship/kinship, and community-based relationship (high trust, reliability). It helps entrepreneurs gain access to scarce resources (financial resources), credibility (intangible resource) and information, and establish his/her reputation (signaling effect) (Cooke and Wills, 1999; Santarelli and Tran, 2013). In empirical literature, social capital (networks, way of information gathering, business partner being creditor, kinship, etc.) is found to enhance entrepreneur's performance (survival, profit, employment) (Bosma et al., 2004; Santarelli and Tran, 2013).

In a simple form, human capital of an entrepreneur represents the stock of her personal skills, which can be measured by the Mincerian human capital earnings function (Mincer, 1974). However, in most of production function literature the entrepreneur does not appear as an explicit

[3] This section is the extension of Section 3 in Vixathep (2013).

agent, rather her ability to adjust from disequilibrium toward equilibrium is part of the stock of her human capital and a cornerstone of economic dynamics (Piazza-Georgi, 2002; Onphanhdala and Suruga, 2010).

The empirical analysis applies a conventional methodology for evaluating productivity determinants using firm-level data in a production function (Escribano and Guasch, 2005; Dollar et al., 2005; Van Praag and Stel, 2013). Following Escribano and Guasch (2005), the impact of investment climate *(IC)* and other firm characteristics *(C)* on productivity was estimated using the extended production function.

$$lnY_{it} = \alpha_0 + \alpha_K lnK_{it} + \alpha_L lnL_{it} + \alpha_M lnM_{it} + \alpha_{IC,j} lnIC_{it} + \alpha_{C,j} lnC_{it} + u_{it} \qquad (1)$$

where Y_{it} denotes firm output, K_{it} capital services, L_{it} labor, M_{it} materials or intermediate inputs, IC_i investment climate indicators, C_i firm characteristic variables and u_{it} the error term. The index i denotes the firm and t the time period. The index j represents the number of the investment climate indicators and firm characteristics.

For the evaluation of the contribution of human and social capital to TFP enhancement, the productivity equation (eq. (2), p. 14) in Dollar et al. (2005) is adopted with some modification. The original equation is expressed as:

$$TFP_{it} = \boldsymbol{\delta}' \boldsymbol{X}_{it} + \omega_{it} + \varepsilon_{it} \qquad (2)$$

where $\boldsymbol{X}_i$ is the vector of observable investment climate indicators (available data), ω_i is an unobservable productivity shock that affects firm's choice of inputs and ε_i is an unobservable productivity shock that does not influence the firm's decision.

However, this study focuses on the effect of HC and SC variables on entrepreneurial performance (value added, total factor productivity). Hence, some minor modifications of Equation (1) and Equation (2) are necessary.

$$lnVA_i = \alpha_0 + \alpha_K lnK_i + \alpha_L lnL_i + \boldsymbol{\beta}_j \boldsymbol{C}_{ij} + \boldsymbol{\gamma}_j \boldsymbol{X}_{ij} + \varepsilon_i \qquad (3)$$

$$lnTFP_i = \alpha_0 + \boldsymbol{\beta}_j \boldsymbol{C}_{ij} + \boldsymbol{\gamma}_j \boldsymbol{X}_{ij} + \varepsilon_i \qquad (4)$$

where $\boldsymbol{C}_{ij}$ is a vector of entrepreneur's characteristics (gender, education level, experience, social transactions, etc.) and $\boldsymbol{X}_{ij}$ denotes a vector of explanatory variables describing the enterprise (firm age, type of firm, economic sector, location, etc.). The elasticity of inputs (α_K, α_L) and the coefficients $\boldsymbol{\beta}_j$ and $\boldsymbol{\gamma}_j$ are to be estimated.

Equation (4) can also be derived from the Mincerian human capital earnings function, when substituting TFP for earnings or firm output. TFP can be estimated by the Solow Residual method or some alternative approaches (see Asuyama et al., 2013).

3.2 Data and variables

Data for empirical analysis are extracted from the 2009 SME Survey[4], which was jointly conducted by Central Institute for Economic Management (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), and the Department of Economics (DoE) of the University of Copenhagen. It is the fourth survey in the series and the previous surveys were conducted in 2002, 2005, and 2007[5]. Applying a stratified random sampling the survey covers ten urban cities and provinces (Table 3). The samples include 2,543 firms classified into five enterprise categories. The data collection was conduction in fall 2009 and lasted 2.5 months (statistical data are of 2008). In terms of standard industrial classification (VSIC), 19 sub-industries are covered in the survey (manufacturing industries; water supply and repair services; supply of electricity, gas, steam and air conditioning; and sewerage and sewer treatment activities, VSIC15-37).

Table 3: Overview of sampling in the 2009 SME survey and samples for analysis

	City/Province	Household establishment	Private/sole proprietorship	Partnership/ Collective/ Cooperative	Limited liability company	Joint stock company	Total	Samples used for analysis
1	Ha Noi	108	24	21	106	24	283	144
2	Phu Tho	223	4	4	21	6	258	71
3	Ha Tay	309	11	4	47	5	376	142
4	Hai Phong	118	14	18	41	19	210	85
5	Nghe An	278	21	7	29	18	353	81
6	Quang Nam	122	9	4	21	2	158	45
7	Khanh Hoa	58	16	1	17	2	94	37

[4] The very data set was applied in Vixathep (2013) for the evaluation of returns to human capital. The extended analysis in this study is based on the same data set with more explanatory variables.
[5] A brief description of 2005 and 2007 surveys is presented in Santarelli and Tran (2013).

8	Lam Dong	53	8	0	6	1	68	24
9	Ho Chi Minh City	322	76	12	197	9	616	257
10	Long An	99	16	1	11	0	127	48
	Sample total	*1,690*	*199*	*72*	*496*	*86*	*2,543*	*934*

Source: Vixathep (2013), Table 2, p. 125; CIEM, 2010 (Table 2.3, p. 145)

Table 4: Description of variables for empirical analysis

Variable	Definition/description
va08	Value added of 2008 in million VND (output net of total expenditure and inputs)
k08	Capital of 2008 in million VND (value of plant and equipment)
l08	Number of full time workers in 2008
microsize	Dummy for firms with 5 to 10 laborers and equals 1 if true
smallsize	Dummy for firms with 11to 200 laborers and equals 1 if true
fowner	Dummy for female owner and equals 1 if true
primnoedu	Dummy for illiteracy, incomplete and complete primary education, and equals 1 if true *(reference)*
juniorhigh	Dummy for lower secondary education and equals 1 if the owner completed junior high school
seniorhigh	Dummy for upper secondary education and equals 1 if the owner completed senior high school
noskill	Dummy for no skill or technical specialization *(reference)*
vocational	Dummy for vocational education and training (basic level, medium level), and equals 1 if true
univ	Dummy for advanced level vocational training and university education, and equals 1 if true
postgrad	Dummy for post-graduate education and equals 1 if true
primm	Complete primary education and micro size (interaction term: *prim*microsize*)
prims	Complete primary education and small size (interaction term: *prim*smallsize*)
junm	Lower secondary education and micro size (interaction term: *juniorhigh *microsize*)
juns	Lower secondary education and small size (interaction term: *juniorhigh * smallsize*)
senm	Upper secondary education and micro size (interaction term: *seniorhigh *microsize*)
sens	Upper secondary education and small size (interaction term: *seniorhigh * smallsize*)
vocam	Vocational training and micro size (interaction term: *vocational*microsize*)
vocas	Vocational training and small size (interaction term: *vocational* smallsize*)
univm	University education and micro size (interaction term: *univ*microsize*)
univs	University education and small size (interaction term: *univ* smallsize*)
postgradm	Post-graduate education and micro size (interaction term: *postgrad*microsize*)
postgrads	Post-graduate education and small size (interaction term: *postgrad* smallsize*)
agriw	Dummy for being self-employed in agriculture, and equals 1 if true
indconstrw	Dummy for being self-employed in industry and construction, and equals 1 if true
tradservw	Dummy for being self-employed in trade and services, and equals 1 if true
masorgexp	Dummy for having experience in mass or social organizations, and equals 1 if true
wagearn	Dummy for wage earning activities in the public and non-state enterprises and others *(reference)*
buzexp	Number of years the current owner owns the enterprise (in natural logarithm)
buzexp2	Squared term of the above variable (*buzexp2= buzexp*$\times$*buzexp*)
assomemb	Dummy for being member of any association (at least one association), and equals 1 if true
membfee	Dummy for paying membership fee to at least one association, and equals 1 if true
partnerfirm	Transactions with enterprises in the same business field
otherfirm	Transactions with other enterprises or other partners
finofficer	Transactions with bank and credit officers, borrowers from state or private (public and private)
govofficer	Transactions with local government officers and other organization officers
otherpartner	Transactions with others (other than above)
fbtproc	Dummy for food processing, beverage and tobacco industries
tngprod	Dummy for textile and garment industries
woodproc	Dummy for wood processing industry (including furniture)
printpaper	Dummy for paper and printing industries
chempetro	Dummy for chemical, petroleum, rubber processing and plastic industries
mineral	Dummy for mineral sector
metal	Dummy for metal industry
ictmachine	Dummy for ICT equipment, machinery and automobile industries

tradeserv	Dummy for repair, trade and services sectors *(reference)*
hnhcm	Dummy for Ha Noi and Ho Chi Minh City
otherprov	Dummy for the other eight provinces (Phu Tho, Ha Tay, Hai Phong, Nghe An, Quang Nam, Khanh Hoa, Lam Dong and Long An) *(reference)*

The analysis focuses on MSEs, in which the owner often has management power and makes business decisions. The criteria for data selection include: observations with complete information on production (value added, capital, labor); firms with at least one year of operation; firms with 5 to 200 workers (to avoid possible book keeping problems in very small enterprises); and firms with owner providing the information (to maintain high reliability of the data). In addition, SOEs, joint stock companies and joint ventures are excluded from the analysis, because the nature of managing the enterprise and making business decisions differs very much from the operation at MSEs. The initial data are filtered to produce the final sample of 934 observations for the study (Table 3, column 7) (Vixathep, 2013). The definition and description of variables for estimating Equation (3) and (4) are presented in Table 4.

The summary statistics of firm production and entrepreneur's human capital are presented in Table 5. It reveals that the average value added[6] of MSEs in Vietnam is about VND1.1 billion (U$68,949) and the average physical capital is roughly VND1.5 billion (U$91,461). A typical micro enterprise (with 5-10 workers) would achieve VND381 million (U$23,362) in value added by using capital of VND507 million (U$31,110). The corresponding figures for small enterprises (with 11-200 workers) are 5 to 6 times greater (VND2.2 billion/U$133,685 and VND2.9 billion/ U$177,690). A representative firm would hire 17 workers in 2008, while a micro and small enterprise would have 7 and 32 workers, respectively. The average time period the current owner owns the enterprise is 10 years (Vixathep, 2013).

[6] The average output of all MSEs in the samples is VND4.5 billion (U$276,837), micro enterprise VND1.7 billion, and small enterprise VND8.5 billion. The average exchange rate of 2008 is VND16,302/U$.

Table 5: Summary of variables (production, human capital, social capital)

Description	Variable	Obs.	Mean	Std. Dev.	Min	Max
Value added of 2008 (million VND)	*va08*	934	1,124	2,559	30	37,158
Capital at the end of 2008 (million VND)	*k08*	934	1,491	3,890	3	51,400
Labor at the end of 2008 (persons)	*l08*	934	17	23	5	198
Micro enterprise (5-10 employees)	*microsize*	934	0.59	0.49	0	1
Small enterprise (11-200 employees)	*smallsize*	934	0.41	0.49	0	1
Lower secondary education	*juniorhigh*	934	0.23	0.42	0	1
Upper secondary education	*seniorhigh*	934	0.67	0.47	0	1
Vocational training (basic and medium level)	*vocational*	934	0.39	0.49	0	1
University education	*univ*	934	0.17	0.38	0	1
Post-graduate education	*postgrad*	934	0.23	0.42	0	1
Complete primary education and micro size	*primm*	934	0.06	0.24	0	1
Complete primary education and small size	*prims*	934	0.01	0.12	0	1
Lower secondary education and micro size	*junm*	934	0.16	0.37	0	1
Lower secondary education and small size	*juns*	934	0.07	0.25	0	1
Upper secondary education and micro size	*senm*	934	0.34	0.48	0	1
Upper secondary education and small size	*sens*	934	0.32	0.47	0	1
Vocational training and micro size	*vocam*	934	0.24	0.42	0	1
Vocational training and small size	*vocas*	934	0.15	0.36	0	1
University education and micro size	*univm*	934	0.10	0.30	0	1
University education and small size	*univs*	934	0.07	0.26	0	1
Post-graduate education and micro size	*postgradm*	934	0.09	0.28	0	1
Post-graduate education and small size	*postgrads*	934	0.15	0.35	0	1
Self-employed in agriculture	*agriw*	934	0.07	0.25	0	1
Self-employed in industry and construction	*constrw*	934	0.11	0.31	0	1
Self-employed in trade and services	*tradservw*	934	0.19	0.40	0	1
Having experience in mass organizations	*masorgexp*	934	0.09	0.29	0	1
Current practical business experience	*buzexp*	934	2.07	0.81	0	4
Squared term of *buzexp*	*buzexp2*	934	4.94	3.08	0	16
Dummy for being member of any association	*assomemb*	934	0.15	0.35	0	1
Dummy for paying membership fee	*membfee*	934	0.13	0.34	0	1
Transactions with enterprises (same field)	*partnerfirm*	934	15.72	164.77	0	5,000
Transactions with other enterprises/partners	*otherfirm*	934	23.37	165.10	0	5,000
Transactions with bank and credit officers	*finofficer*	934	1.48	1.90	0	20
Transactions with local government officers	*govofficer*	934	2.44	5.19	0	120
Transactions with others (other than above)	*otherpartner*	934	7.16	19.41	0	500
Dummy for food, beverage & tobacco	*fbtproc*	934	0.19	0.39	0	1
Dummy for textile and garment industries	*tngprod*	934	0.12	0.33	0	1
Dummy for wood industry & furniture	*woodproc*	934	0.20	0.40	0	1
Dummy for paper and printing industries	*printpaper*	934	0.08	0.27	0	1
Dummy for chemical, petroleum, rubber etc.	*chempetro*	934	0.08	0.27	0	1
Dummy for mineral sector	*mineral*	934	0.07	0.26	0	1
Dummy for metal industry	*metal*	934	0.19	0.40	0	1
Dummy for ICT, machinery and automobiles	*ictmachine*	934	0.04	0.20	0	1
Dummy for Ha Noi and Ho Chi Minh City	*hnhcm*	934	0.43	0.50	0	1

Source: Author's calculations; Vixathep (2013). Data are from the 2009 SME Survey of CIEM (CIEM, 2010).
Notes: 1. The official exchange rate (annual average) of 2008 U$1.00=VND16,302 (WDI, 2013).
2. '*vocam*' and '*vocas*' includes only basic and medium level vocational training and firm size.
3. '*univm*' and '*univs*' includes advanced level training and university education and firm size.

With regard to indicators for human capital, two types of education are distinguished in the survey. First, general education includes primary, lower secondary and upper secondary education. Second, technical specialization (higher education) comprises vocational training (basic and medium level training), university education (including advanced level training), and post-graduate education. In the former case, the majority of entrepreneurs have completed upper secondary education (67%) and lower secondary education (23%). In the latter, four out of ten owners have had university and post-graduate education, and about the same portion has had vocational training. In terms of working experience, the survey records working experience in six areas prior to establishing the business. Nearly 40% are self-employed in agriculture, industry and construction, or trade and services, while the remaining more than 60% of the samples used to be wage earners (Vixathep, 2013). For social capital, membership and regular payment of membership fee, transactions with firms within the same business field (i.e. producing similar goods and services), regular transactions with other stakeholders (other partners, bank or credit officers, local government officers, and other business people) are used as proxy variables. On average, 13%-15% of business owners join one or more business associations and pay the membership fee regularly. They transact with partners, competitors or other stakeholders from 2 times to 23 times in 2008.

4. Results and Discussions

The OLS is applied to estimate the returns of entrepreneur's HC (education, experience) and SC (external business network and relationship) on entrepreneurial performance, which is measured by firm's VA and TFP. In addition, some additional variables, such as owner's gender, economic sector (9 sectors) and firm location (2 areas), are controlled for in the estimations. TFP is estimated by means of the Solow residual[7]. The decision for a Cobb-Douglas-type production function is based on an F-test against a translog specification. Absence of collinearity problem is verified using a correlation matrix of independent variables. The potential problems of unobserved heterogeneity, endogeneity and sample selection are more a concern for wage employment and less for entrepreneur's case (Van Praag et al., 2013). The estimation results are presented in Table 6.

[7] For comparison purpose, total factor productivity based on the methodology introduced in Asuyama et al. (2013) is also applied. However, the results (not shown in the paper) do not significantly differ from those presented in Table 6.

4.1 Impact of entrepreneur's human capital

Determinants of human capital that are considered to influence entrepreneur's performance are divided into two categories: 'education' and 'experience'. The paper assesses the role of education taking into account two firm sizes, micro and small sizes. Based on the available data, binary variables can be generated and classified into general (formal) education and technical specialization (higher education). The dummy variables are mutually exclusive within a subset[8], but not between the two subsets of education. Similarly, dummy variables for work experience can be created for 'self-employment' in agricultural sector, industry and construction, and trade and services.

Formal education and technical specialization

Overall, the positive estimated coefficients for formal education[9] (*juniorhigh, seniorhigh*) and technical specialization (*vocational, univ, postgrad*) (column 1-2 in Table 6) are consistent with the findings in many previous studies for both developing countries (for Pakistan (Kurosaki and Khan, 2004); Laos (Onphanhdala and Suruga, 2010); Vietnam (Santarelli and Tran, 2013)) and developed economies (for Ireland (Pickels and O'Farrell, 1987); Netherlands (Van Praag and Cramer, 2001; Parker and Van Praag, 2006)). However, returns to schooling are not significantly different between lower secondary education and the base group. A plausible justification refers to the fact that due to very limited number of samples with no education and incomplete primary education (28 samples), owners with complete primary education need to be included in the reference group. Hence, the difference in capabilities among entrepreneurs with complete primary education and lower secondary education is understandably small and might become insignificant, because their ability to learn and experience accumulated over the course of their working career might have compensated for the difference in prior knowledge. On the other hand, the coefficient for '*seniorhigh*' is significant in all models (restricted and full regressions for VA and TFP) implying that upper secondary education significantly contributes to increasing firm's value added and TFP. Despite some differences in the magnitude, the result confirms previous

[8] Regressions separating the two sets of variables for formal education (juniorhigh, seniorhigh) and technical specialization (vocational, univ, postgrad) do not alter the results of estimations, nor the conclusions. Hence, in view of space limitation, they are not presented in the paper.

[9] According to the latest publication of UNESCO (2011, 7th edition), the Vietnamese education system consists of the following elements: nursery and kindergarten; primary education (5 years); lower secondary (4 years); upper secondary (3 years)/professional secondary (3-4 years); college (3 years)/university (4-6 years); Mater (2 years); and Doctor of philosophy (2-4 years).

findings of a higher rate of returns to education at the general and vocational intermediate level found in Van Praag and Cramer (2001).

The absence of impact of vocational training, university and postgraduate education (as compared to no technical specialization) appears to be somewhat controversial and deserves further consideration. First, due to the limited scope and simplicity of business in MSEs, education at the university and postgraduate level might be over-qualified. The over-education phenomenon is not uncommon for transitional economies and found among entrepreneurs in Lao MSEs (Onphanhdala and Suruga, 2010). Second, the proxies for higher education used in the paper are binary variables and do not measure the quality or appropriateness of the knowledge and skills of the owners, nor they could point out any possible mismatching between the knowledge/skills and current entrepreneurial activities. Next, we shall consider impact of HC in combination with various firm sizes to further clarify this point.

Table 6: Impact of human and social capital on output and productivity in small businesses (1/2)

	Value added				Total factor productivity			
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
lnk08	0.176***	0.018	0.175***	0.018	-	-	-	-
lnl08	0.874***	0.034	0.907***	0.047	-	-	-	-
fowner	0.028	0.049	0.026	0.049	0.034	0.049	0.030	0.049
juniorhigh	0.085	0.065	-	-	0.087	0.066	-	-
seniorhigh	0.187***	0.064	-	-	0.174***	0.065	-	-
vocational	0.024	0.050	-	-	0.015	0.051	-	-
univ	0.034	0.070	-	-	0.014	0.070	-	-
postgrad	0.057	0.068	-	-	0.012	0.066	-	-
primm	-	-	0.252**	0.111	-	-	0.253**	0.114
prims	-	-	-0.015	0.196	-	-	-0.028	0.200
junm	-	-	0.291***	0.094	-	-	0.293***	0.097
juns	-	-	0.065	0.127	-	-	0.062	0.128
senm	-	-	0.386***	0.095	-	-	0.386***	0.098
sens	-	-	0.195*	0.116	-	-	0.170	0.117
vocam	-	-	-0.012	0.056	-	-	-0.012	0.057
vocas	-	-	0.149	0.097	-	-	0.146	0.097
univm	-	-	-0.030	0.088	-	-	-0.036	0.089
univs	-	-	0.184	0.112	-	-	0.160	0.113
postgradm	-	-	0.044	0.095	-	-	0.028	0.095
postgrads	-	-	0.152	0.103	-	-	0.125	0.103
agriw	-0.192**	0.079	-0.195**	0.079	-0.190**	0.081	-0.187**	0.080
constrw	0.127*	0.069	0.133*	0.070	0.103	0.068	0.117*	0.069
tradservw	0.110**	0.052	0.109**	0.053	0.098*	0.053	0.103*	0.053
buzexp	-0.004	0.006	-0.004	0.006	-0.003	0.006	-0.003	0.006
buzexp2	-0.011	0.015	-0.010	0.015	-0.013	0.015	-0.012	0.015

Continued on next page

Table 6: Impact of human and social capital on output and productivity in small businesses (2/2)

	Value added				Total factor productivity			
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
masorgexp	0.123*	0.070	0.116*	0.070	0.130*	0.070	0.125*	0.070
assomemb	0.165	0.123	0.185	0.128	0.154	0.122	0.198	0.128
membfee	-0.181	0.130	-0.193	0.134	-0.190	0.131	-0.207	0.135
partnerfirm	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
otherfirm	0.0001***	0.000	0.0001***	0.000	0.0001***	0.000	0.0001***	0.000
finofficer	0.033***	0.011	0.032***	0.011	0.027**	0.011	0.030***	0.011
govofficer	0.000	0.002	0.000	0.002	-0.001	0.002	-0.001	0.002
otherpartner	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001
fbtproc	-0.431***	0.164	-0.435***	0.164	-0.442***	0.166	-0.444***	0.165
tngprod	-0.504***	0.169	-0.506***	0.169	-0.520***	0.169	-0.501***	0.169
woodproc	-0.350**	0.165	-0.357**	0.165	-0.350**	0.166	-0.345**	0.166
printpaper	-0.426**	0.174	-0.423**	0.174	-0.456**	0.176	-0.436**	0.175
chempetro	-0.382**	0.174	-0.377**	0.175	-0.418**	0.176	-0.401**	0.175
mineral	-0.476***	0.181	-0.484***	0.181	-0.480***	0.182	-0.465**	0.181
metal	-0.357**	0.165	-0.356**	0.165	-0.364**	0.166	-0.357**	0.165
ictmachine	-0.308*	0.175	-0.313*	0.176	-0.355**	0.176	-0.339*	0.175
hchcm	0.294***	0.045	0.293***	0.045	0.274***	0.044	0.279***	0.045
constant	8.772***	0.277	8.564***	0.288	0.120	0.189	-0.060	0.199
Observations	934		934		934		934	
R-squared	0.743		0.745		0.136		0.146	

Source: Authors' calculations.

Notes: 1. An F-test for functional specification favors a Cobb-Douglas production function (to a translog specification).

2. Absence of collinearity problem is verified by using correlation matrix of independent variables.

3. 'SE' denotes robust standard errors.

4. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Education level and firm size

A unique feature of this paper is to examine returns to human capital in relation to firm size in Vietnamese MSEs. For this purpose, 12 interaction variables for six education levels (complete primary[10], lower secondary, upper secondary, vocational, university, and postgraduate education) and two firm sizes (micro and small) are created. The estimations reveal some interesting results as follows: regardless of the models, the coefficient estimate of general education is positive and significant for micro enterprises (*primm, junm, senm*), while that of higher education is significant for small enterprises (*vocas, univs, postgrads*) (column 3-4 in Table 6).

[10] For this purpose, only 71 samples with complete primary education are used to generate the interaction terms, while 28 samples with no education and incomplete primary education are dropped.

This result lends further support to the two arguments of over-education and quality of knowledge/skills discussed above. On the one hand, the significance of impact of general education in micro businesses would confirm that knowledge and skills received in formal education up to upper secondary level is appropriate for running micro enterprises, because these businesses would be manageable with 'prior general knowledge' owing to their nature and scale. The magnitude of the effects increases from 25% for primary level to 39% for upper secondary level. On the other hand, the significance of returns to technical specialization in small firms would imply that skills and knowledge gained in higher education is more appropriate for larger enterprises, because operating such a firm and managing hundreds of employees would require advanced knowledge and skills. It has been found for OECD countries that entrepreneurs, who possess higher level of HC, tend to operate larger firms (Van Praag and Van Stel, 2012). Finally, the negative insignificant estimate for vocational training and university education in micro firms also confirms the existence of the afore-mentioned over-qualification in micro enterprises and the concern about the quality of education in Vietnam.

Owner's work experience

Entrepreneurial experiences are often distinguished among labor force (general), industry, occupational (managerial) and entrepreneurial (self-employment, business-related) experience (Bosma et al., 2004; Santarelli and Tran, 2013; Unger et al., 2011). In this analysis 'having worked in social or mass organizations' would imply occupational experience, while 'having experience as self-employed in agriculture, industry and construction, and trade and services' would capture the other two types of experience[11] (industry- and business-related). From another viewpoint, the above-mentioned variables would measure prior knowledge/experience, while the number of years that entrepreneurs own the business (*buzexp*, *buzexp2*) would capture current business experience (Onphanhdala and Suruga, 2010). The regressions further reveal that having work experience in social and mass organizations prior to start-up would help improve firm performance by 13%. Ceteris paribus, if compared to wage-earning employment prior to start-up, being self-employed in industry, trade and services would improve firm output and TFP by 10%-

[11] In the questionnaire, three choices are given for self-employment (agriculture, industry and construction, and trade and services), two options for wage-earning activities (public sector and non-state sectors) and others.

13%, whereas self-employment in agriculture is associated with inferior business performance by a margin of 19%[12].

Apart from acquiring managerial skills, work experience in social or mass organizations would help entrepreneurs establish a broad network, particularly with government agencies. This connection, which could also be considered as a type of social capital, would help facilitate coordination for smooth business activities and thereby enhancing entrepreneurial performance. Empirical evidence on impact of occupational experience is somewhat mixed depending upon the degree of autonomy of and control of entrepreneurs in the firm (Gimeno et al., 1997; Bosma et al., 2004; Santarelli and Tran, 2013).

By the same token, owners having self-employment experience in certain industries would have accumulated a stock of knowledge that is relevant for running the firms and acquiring new knowledge. They would be able to recognize and exploit business opportunities, which are not apparent to others, make appropriate judgments or adapt to changes in business environment. The positive relationship between self-employment experience and entrepreneurial success is widely supported in literature (Gimeno et al., 1997; Bosma et al., 2004). In the Vietnamese context, this experience is especially important for a rapidly changing economy with growing number of new business opportunities (Santarelli and Tran, 2013), while absence of practical experience in micro and small firms is not uncommon for transitional economies. For example, a study of 1776 MSEs in Laos, including classifications by region, ethnicity and age of entrepreneurs, has neither found any significant impact of practical business experience, nor been able to compare the issue with other developing countries due to lack of empirical studies (Onphanhdala and Suruga, 2010).

4.2 Impact of entrepreneur's social capital

Determinants for social capital are arranged into two groups: 'membership in business associations and responsibility in paying the membership fee' are dummy variables and 'transactions or relationship with other business partners and stakeholders' are expressed in the actual number of transactions conducted. First, having membership in business associations does

[12] The negative relation between self-employment in agriculture and entrepreneurial performance can be explained by the fact that a large part of farmers in Vietnam have their own land for farming and that agricultural technologies are rather primitive. Hence, experience from this sector would understandably not be appropriate or less useful for running enterprises.

not show any contribution to firm output or productivity, since these variables do not capture the content of the membership, the frequency of business gathering or the content of such discussions or meetings. If information about business, markets and technology is regularly exchanged among the members, one could expect some positive effect on entrepreneur's performance. Second, relationship and regular transactions with business partners and financial officers appear to enhance firm output and productivity. It is quite plausible that such business relationships would help entrepreneurs obtain relevant information for their businesses, secure a good supply chain for production inputs, obtain financial support or best practices, and the like. This social network would contribute in one or the other way to improvement of entrepreneurs' and firm's performance, although the magnitude of the effect is yet marginal. Finally, professional relationship with competitors (outside business associations) and government official does not seem to enhance firm performance, while the magnitude of the impact is again negligible.

4.3 Economic sector and other control variables

Apart from entrepreneur's human capital, other determinants of firm's success that are controlled for in the estimations include economic the sector of the enterprise, production inputs, owner's gender, and firm location. First, the survey covers SMEs in 19 economic sectors which are summarized into nine sectors for our purpose. The analysis reveals that firms belonging to 'trade and services sector' achieve superior performance as compared to the other eight sectors under study. On average, firms in this sector can gain more value added and/or achieve higher total factor productivity by a margin of 32-52%. In general, the degree of complexity of business operation and technologies in this sector are relatively low, while some of the other sectors are more capital- and knowledge-intensive with a very large initial investment (for example, petrochemical, ICT, machinery, and automobile industries). It is plausible that entrepreneurs in trade and service sector can achieve superior performance.

Second, the significant contribution of labor and capital to value added in a production function conforms to economic theory, because capital and labor inputs are used to produce output. Third, there is no significant difference in business performance between males and females. Female entrepreneurs in developing countries generally have disadvantage in many aspects, including education and access to finance. Hence, a gender gap favoring male entrepreneurs would be a logical expectation. However, it turns out that female owners can run

their businesses as successful as their male counterparts, a result that has been found in past studies for Vietnam and other developing countries (Santarelli and Tran, 2013; Onphanhdala and Suruga, 2010).

Finally, firms located in Hanoi and Ho Chi Minh City (the two major metropolitan cities in the country) would produce 26% more output and achieve 25% higher TFP, as compared to MSEs in the other seven provinces. The so-called metropolitan effect has been found in many previous studies, regardless of how performance is measured. Underlying factors for this phenomenon that have been discussed include clusters of firms, fiercer competition than in other locations, technological spillovers, supporting market institutions, and the like (Tran et al., 2008; Vu, 2003; Vixathep and Matsunaga, 2012).

5. Concluding Remarks

Entrepreneurial human and social capital are two most important aspects of entrepreneurship, and at the micro-level, entrepreneurship is an important mechanism for economic development. It helps entrepreneurs overcome most of the constraints in business, encourages innovation, and contributes to employment generation and welfare improvement. There exist a necessity to understand the environment in which entrepreneurship could be a constraint for economic development and catching-up process, while little is known about whether or not and how entrepreneurship contributes to economic development in developing countries (Naude, 2010; Acs et al., 2008).

With a view to address these important issues, particularly for transitional economies where entrepreneurship needs to be nurtured and promoted, the present paper extends the analysis of impact of entrepreneur's HC on output and productivity in Vixathep (2013), and addresses the relationship between human capital (education, experience) and social capital (business relationship and transactions) and entrepreneurial performance (value added, TFP) for MSEs in Vietnam. The study applies the data extracted from the 2009 SME Survey jointly conducted by the Central Institute for Economic Management (CIEM/MPI), the Institute of Labor Science and Social Affairs (ILSSA/MOLISA), and the Department of Economics (DoE/University of Copenhagen). Albeit with fewer variables, the very data set was applied for the analysis in Vixathep (2013).

The research study has revealed some important findings. First, it lends support to the positive relationship between human capital and entrepreneurial performance in MSEs in Vietnam and emphasizes the importance of education in economic development. Formal education is crucial for entrepreneurs of micro-sized start-ups, while advanced-level technical training and higher education is more appropriate for running larger enterprises. Second, managerial and self-employment skills that entrepreneurs have accumulated prior to start-up have proven to be indispensable for enhancing firm performance. Moreover, the benefits of education and training have outweighed gender difference and current business experience. Finally, the contribution of a good social network and relationship with business partners and financial officers to firm valued added and productivity found in the study appears to be marginal.

The findings in this paper highlight the importance of entrepreneurship in business development and give rise to development of entrepreneurship. Policy formulation for the education sector should pay more attention on the demand in society, the quality and appropriateness of education for the business sector that generates opportunities for entrepreneurs and employment for the labor force. Finally, business associations and forums for exchanging information and experiences among entrepreneurs would undoubtedly enhance their knowledge and skills and improve firm performance.

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