



## THE IMPACT OF ENTREPRENEURSHIP ON ECONOMIC GROWTH: EMPIRICAL EVIDENCE IN THE MEKONG DELTA

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi3.405</p> <p><i>Received:</i> April 05, 2023</p> <p><i>Accepted:</i> June 20, 2023</p> <p><i>Published:</i> June 25, 2023</p> <p><b>Keywords:</b> Entrepreneurship; Economic growth; Private employment.</p>	<p>Entrepreneurship is the main motivation for economic development, and a large amount of literature analyzing the impact of entrepreneurship on solid growth and sustainable relationships has appeared. This paper aims to quantify the impact of entrepreneurship on economic growth using balanced panel data from 8 provinces in the Mekong Delta region over 20 years. Two indicators of entrepreneurship (Private Employment Rate, Self-Employment Rate) are identified and incorporated into the traditional growth regression model demonstrated using the Feasible Generalized Least Square (FGLS) method. The results show that entrepreneurship has a positive impact on economic growth and this finding is very strong through the private employment rate of 8 Mekong Delta provinces but does not provide enough evidence that the self-employment rate has a positive impact on growth. Public policies that promote entrepreneurship should be expected to positively influence economic growth.</p>

### 1. Introduction

Since Schumpeter (1934) emphasized the role of entrepreneurship as the main driver of economic development, a large amount of literature analyzing the impact of entrepreneurship on solid growth and survival has emerged. Entrepreneurs are often characterized by a number of important

characteristics such as entrepreneurial vision, personal need for achievement, attitude toward risk, and confidence (Djankov et al., 2006; Lee et al., 2004). It is precisely because of these unique characteristics that motivate entrepreneurs to engage in innovative and entrepreneurial activities. It has been argued that entrepreneurship is a source of knowledge, technological advancement, and innovation (see, e.g., Cohen & Levinthal, 1989; Acs & Audretsch, 1990; Audretsch & Feldman, 1996; Audretsch & Stephan, 1996), at the macro level,

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is a source of economic growth. For example, in endogenous growth theory (see Romer, 1986, Lucas, 1988; Aghion & Howitt, 1997), innovation is considered the most important driver of economic growth. As noted by Audretsch & Keilbach (2004), entrepreneurship can also influence economic growth through the competition and industrial diversity provided by the creation of entrepreneurial enterprises, both of which are conducive to the spread of local knowledge among companies according to Jacobs (1969).

Empirically, there is ample evidence that entrepreneurship has a positive impact on growth in the number of industries and countries in transition (see Acs & Armington, 2004; Audretsch & Keilbach, 2004; Berkowitz & Dejong, 2005; Foelster, 2000). For example, Berkowitz and Dejong (2005) show that regional business activity demonstrates a statistically and quantitatively significant relationship with subsequent economic growth in post-Soviet Russian conditions on variations in initial conditions and policy reform measures. After comparing business models in the four transition economies, McMillan and Woodruff (2002) even concluded that the success or failure of a transition economy can be traced back. largely affects the performance of entrepreneurs. However, there does not appear to be such an effect in developing or poorer countries (Stel, Carree & Thurik, 2005)

The purpose of this paper is to quantify the impact of entrepreneurship on economic growth in the Mekong Delta provinces. We use provincial data from the Mekong Delta region to examine the role of entrepreneurship in the growth of Mekong Delta provinces. After reviewing the studies (Audretsch, Keilbach & Lehmann, 2006; Beugelsdijk & Noorderhaven, 2004; Carree et al., 2002; Georgellis & Wall, 2000; Gleaser, 2007; Li et al., 2012), we use the rate of self-employment, the rate of self-employment in the workforce and the share of private employment, the percentage of the workforce employed by private companies, as

a measure of our entrepreneurial spirit. Since these measures are determined uniformly in different regions within a country, we do not have to worry about the problem of data inconsistencies in multi-province regression (Barro, 1991; Romer, 1989).

## 2. Theoretical basis and literature review

### 2.1. Theoretical overview of entrepreneurship

#### *Entrepreneurship theory*

Entrepreneurship, also known as entrepreneurship or entrepreneurship, is a term that has appeared for a long time in the world.

The theory of diffusion of knowledge about entrepreneurship, which focuses on how new knowledge can influence the cognitive decision-making process inherent in business decisions and thus links entrepreneurship and economic growth, is consistent with theories of industry development (Jovanovic, 1982; Lambson, 1991; Hopenhayn, 1992; Audretsch, 1995; Ericson & Pakes, 1995; Klepper, 1996). While traditional theories hold that small firms will slow economic growth by imposing a drag on production efficiency, these evolutionary theories suggest quite the opposite, that entrepreneurship stimulates and generates growth. The reason for these theoretical differences lies in the context of the fundamental theory. In traditional theory, new knowledge has no role; Instead, static efficiency, determined largely by the likelihood of economic scale depletion, determines growth. In contrast, evolutionary models are dynamic and emphasize the role of knowledge. Because knowledge is inherently uncertain, asymmetrical and involves high transaction costs, differences emerge regarding the expected value of new ideas. As a result, individuals are motivated to leave an incumbent company and establish a new one in an effort to commercialize the perceived value of their knowledge. Entrepreneurship is the means by which (most radical) ideas are sometimes implemented and commercialized.

A striking feature of these evolutionary theories is the focus on change as a central phenomenon. Innovation activity, one of the central manifestations of change, is at the heart of much of this work. Entry, growth, survival, and how companies and entire industries change over time is related to innovation. The dynamic performance of regions, and even the economy as a whole, is associated with the effectiveness of converting investments in new knowledge into innovative activity.

#### *Criteria for measuring entrepreneurship*

Entrepreneurship is not only confined to the concept of starting a business but also contains encouragement, stimulating the passion for business creation to develop a new service industry or product in an existing company. Therefore, the problem of measuring and quantifying entrepreneurship is very difficult. Currently, researchers have used many indicators to measure entrepreneurship built by organizations around the world, including the following indicators.

***The Total Early-stage Entrepreneurial Activity index (TEA)*** is the ratio of start-up stage business activity according to the GEM survey that has been commonly used in recent years to measure the entrepreneurial spirit of countries. TEA measures *the proportion of working-age individuals who are actively involved in starting a business, including in-market business activities (less than 3 months) and successful start-up business activities (less than 3.5 years)*. This method has been used in the research of Acs & Varga (2005), Bjørnskov & Foss (2008); Aidis, Estrin & Mickiewicz (2008); Anokhin & Schulze (2008); Dreher & Grassebner (2013),...

***The Entrepreneurship Indicator Project*** proposed by the OECD includes criteria to

measure a country's entrepreneurial spirit through *Start-up rate, individual business activity rate, survival rate of businesses through the number of newly established and closed businesses annually, ...* Depending on the authors' research objectives, the OECD's proposed criteria can be adjusted and approaches selected to help measure entrepreneurship more effectively. *The proportion of start-ups and the proportion of start-ups that are likely to grow in the next 5 years* (Estrin & Mickiewicz, 2010); *Number of new entrepreneurs per total population* (Zelekha, Avnimelech & Sharabi, 2014); *Rate of newly established enterprises per 1000 population* (Santarelli & Tran, 2012); *Awareness of entrepreneurship in the private sector* (Kshetri & Dholakia, 2011); *Private employment rate and Self-employed rate* (Audretsch, Keilbach & Lehmann, 2006; Beugelsdijk & Noorderhaven, 2004; Carree et al., 2002; Georgellis & Wall, 2000; Gleaser, 2007; Li et al., 2012).

### **3. Data and research methodology**

#### **3.1. Data**

The research paper uses data from 8 provinces in the Mekong Delta (including Bac Lieu, Ben Tre, Can Tho, Dong Thap, Long An, Soc Trang, Tien Giang, Vinh Long), collected from secondary data sources between 2010 and 2020. The data collected from the provincial statistical yearbook are published annually from the General Statistics Office of Vietnam. Through data on statistical almanacs, the authors extract and calculate for the necessary variables in the analysis and regression model to clarify research goals. Based on previous theories and research, the authors selected variables in the model as follows:

**Table 1.** Description of research variables

Variables	Label	Measure	Expectations	Empirical studies
<b>Dependent variable</b>				
GROWTH	Economic growth (%)	The amount of increase GRDPt in total GRDPt-1 *100%		Audretsch, Keilbach & Lehmann (2006), Beugelsdijk và Noorderhaven (2004), Carree et al. (2002), Georgellis & Wall (2000), Gleaser (2007), Li et al. (2012)
<b>Independent variables</b>				
<b>Entrepreneurship</b>				
ENS1	Private employment rate	Proportion of the labor force employed by the private sector	+	Audretsch, Keilbach & Lehmann (2006), Beugelsdijk và Noorderhaven (2004), Carree et al. (2002), Georgellis & Wall (2000), Gleaser (2007), Li et al. (2012)
ENS2	Self-employment rate	Percentage of self-employed or entrepreneurial workforce	+	Audretsch, Keilbach & Lehmann (2006), Beugelsdijk và Noorderhaven (2004), Carree et al. (2002), Georgellis & Wall (2000) Gleaser (2007), Li et al. (2012)
<b>Control variables</b>				
EXP	Proportion of government expenditure	Total public expenditure on GRDP	+	Li et al. (2012)
INV	Proportion of investment	Total investment capital on GRDP	+	Hoang Hong Hiep et al. (2018), Le Tai Thu (2021), Li et al. (2012)
LAB	Proportion of employees in state-owned enterprises	Total employees employed in the state sector out of the total number of employees working in the regions	+	Hoang Hong Hiep et al. (2018), Le Tai Thu (2021), Li et al. (2012)
OPEN	Economic openness	Total value of exports and imports on GRDP	+	Hoang Hong Hiep et al. (2018), Le Tai Thu (2021), Li et al. (2012)
INF	Inflation	The country's inflation rate	+	Li et al. (2012)

### 3.2. Research Model

The research team inherited the research model of authors Carree et al. (2002), Audretsch, Keilbach & Lehmann (2006), Gleaser (2007), Li et al. (2012) to implement for this study and add the Covid 19 variable, specifically as follows:

$$GROWTH_{it} = \beta_0 + \beta_1 * ENS_{it} + \beta_2 * EXP_{it} + \beta_3 * INV_{it} + \beta_4 * FDI_{it} + \beta_5 * LAB_{it} + \beta_6 * SQR_{it} + \beta_7 * OPEN_{it} + \beta_8 * INF_{it} + e_{it}$$

### 3.3. Research methodology

The study used statistical methods and regression table data (POOL, REM and FEM) to analyze data collected from the Statistical Yearbook of 8 provinces in the Mekong Delta region, with a total of 88 observations (11 years \* 8 provinces). The analyzed data

were performed on Stata 15.0 software in the following order: (i) Descriptive statistics (ii) POOL, REM and FEM model regression, (iii) Verification of appropriate model selection, (iv) Testing assumptions about constant variance and independence between cross units, (v) Remedy model defects using the Feasible Generalized Least Squares (FGLS) method to clarify research objectives.

## 4. Research results

### 4.1. Descriptive statistical results

First, the study using Stata 15.0 software determined statistical results describing independent variables, dependent variables with mean, standard deviation, minimum and maximum values shown in table 2.

**Table 2.** Descriptive statistics of research variables (2010-2021)

Variables	Unit	Mean	Median	Min	Max	Standard Deviations
Gross region domestic product (GRDP)	Billion VNĐ	58,800	54,000	17,500	132,000	24,200
Economic growth (GROWTH)	%	7.352	7.250	-2.730	13.720	2.835
Public expenditure (EXP)	Billion VNĐ	11,500	10,400	8,386.8	65,300	8,592.9
Total investment (IN)	Billion VNĐ	14,100	12,600	15,381.1	38,200	9,610.7
Number of private labour (LAP)	Person	712,312	695,968.5	431,272	1,042,294	176,795
Self-employed or business owners workforce (SEL)	Person	5889.554	5866	2376	16,885	2329.383
Total labor (LAT)	Person	792,783	746,550	463,170	131,1680	220,214
Total employees employed in the state sector (LAG)	Person	48,343	49,766	26,016	89,845	13,854
Total number of workers working in economic sectors (LAJ)	Person	774,409	746,558	463,170	1,109,334	188,476
The proportion of employees in state-owned enterprises (LAB)	%	6.360	5.822	4.014	12.655	1.769
Pprivate workers rate (ENS1)	%	90.555	91.934	71.262	95.309	5.039
Self-employment rate (ENS2)	%	0.746	0.775	0.372	1.769	0.224

The statistical results of the research sample of 8 provinces in the Mekong Delta region in the period of 2010-2020 (Table 2) show that the

general characteristics of the provinces have a relatively high proportion of private workers in the region, stable economic growth, low

proportion of self-employed workers, Public investment and expenditure are low and unstable between years. The average GRDP of 8 provinces in the Mekong Delta region in the period of 2010-2020 reached VND 58,800 billion/province/year, of which 50% of provinces had GRDP over VND 54,000 billion and there was a significant difference between provinces with the lowest GRDP value of VND

17,500 billion and the highest of VND 132,000 billion and standard deviation (measuring volatility) of GRDP is VND 24,200 billion. The proportion of private sector workers (ENS1) was high and stable at 90.56%, ranging from 71.262% to 95.309%. The self-employment rate was low with an overall average of 0.746% and reached a peak of 1.769%.

#### 4.2. Regression results and tests

**Table 3.** Correlation between variables in the study model

	GROWTH	LAP	SEL	EXPE	INV	LAB	OPEN	VIF
GROWTH	1							
LAP	0.6435*	1						3.23
SEL	0.4583*	0.7189*	1					3.19
EXPE	0.167*	-0.3540*	-0.164	1				1.29
INV	0.131*	-0.3591*	-0.193	0.5785*	1			2.1
LAB	0.5111*	0.6021*	0.6605*	-0.122	-0.08	1		2.9
OPEN	0.3798*	0.6314*	0.3539*	-0.8656*	-0.8495*	0.4015*	1	2.27
INF	-0.3158*	-0.04	-0.041	-0.129	-0.094	-0.081	-0.023	1.08

**Notes:** The symbols \*\*\*, \*\*, and \* represent a 1% significance level, respectively; 5% and 10%

According to the correlation matrix (Table 3), the Private Employment Rate and the Self-employment Rate are both correlated with the economic growth of 8 Mekong Delta provinces at a significant rate of 1%. In particular, the Private Employment Rate is strongly correlated with economic growth with a correlation coefficient of 0.644. Interest rates have a strong negative correlation with stock prices with a correlation coefficient of -0.610. The study results also show that the number of Covid-19 cases correlates positively (correlation coefficient 0.373) with stock prices. Besides, the absolute value of the pair correlation coefficient between independent variables (Private employment rate, Self-employment rate, State sector labor rate, Economic openness) are all very small compared to 0.5. This shows that there is a strong correlation between toxic variables. However, to make sure that the linear multiadditive problem

does not occur between variables in the study model, Gujarati et al. (2012) proposed to test the variance magnification factor factor (VIF) value to conclude the multi-additive problem. The results (Table 4) show that the correlation coefficient between the variables is relatively small and the factor components in the model for the VIF coefficient are very small ( $VIF < 5$ ), demonstrating that the model does not occur serious linear multi-additive

#### *Estimate of the impact of the Private Employment Rate on GDP growth*

The test results of entrepreneurship on GDP growth are carried out through 4 methods POOL, FEM, REM, FGLS in which case entrepreneurship is measured by the Private Employment Rate. The estimated results are as follows:

**Table 4.** Estimate of the impact of entrepreneurship (Private employment rate) on GDP growth

Dependent variables: Economic growth (GROWTH)	Regression model			
	POOL	FEM	REM	FGLS
Entrepreneurship				
Private employment rate	0.807*** [4.18]	1.530** [2.37]	0.937*** [3.95]	0.867*** [3.73]
Government expenditure rate	0.396** [2.46]	0.122 [0.97]	0.275* [1.91]	0.0921 [1.06]
Investment rate	0.237 [0.96]	0.374 [1.33]	0.466* [1.94]	0.543** [2.34]
State-owned enterprise labor rate	0.284* [1.96]	0.108 [0.46]	0.273* [1.66]	0.308** [2.16]
Economic openness	0.534 [1.41]	0.03*** [3.49]	0.986** [2.25]	0.950** [2.06]
Inflation	-0.289*** [-4.37]	-0.273*** [-5.17]	-0.284*** [-4.88]	-0.826* [-1.71]
Constant	4.280** [2.01]	-3.356 [-0.36]	2.721 [0.98]	3.179 [1.12]
Statistics F/ Wald chi2	F(6.81) 17.17***	F(6.74) 11.64***	Wald chi2(6) 79.09***	Wald chi2(12) 443.89***
<b>Model selection</b>				
Fixed effects Testing				
[Wald test] F(7, 74)	10.22***			
Hausman test			8.30**	
[Hausman test] [chi2[6]]				
<b>Heteroskedasticity</b>				
chibar2[8]			25.45***	
<b>Serial Correlation</b>				
ALM[lambda=0]			23.45***	

**Note:** The symbols \*\*\*, \*\*, and \* imply 1%; 5%, and 10% level of significance, respectively  
t statistics in parentheses [ ]

The results of Table 5 show that all 3 models POOL, FEM, and REM have statistical indicators F, Wald with Prob value  $< \alpha = 5\%$ , so all are evaluated as suitable. The result of selection between FEM or POOL by Wald test has  $F(7, 74) = 10.22$  and Prob value  $> F = 0.0000$  ( $< \alpha = 1\%$ ), sufficient grounds to prove that there

exists a characteristic difference between banks in the studied model, i.e. *the selected FEM model*

The results of the Hausman test of FEM or REM selection (table 5) show that the Prob  $>$  chi2 value  $< \alpha = 5\%$ , is enough evidence to confirm that the FEM model is more suitable than the

REM model. Thus, *the FEM model will be used for further analysis.*

After selecting a suitable model, the study continued to perform Modified Wald tests to verify variance changes and Breusch-Pagan LM tests (Breusch & Pagan, 1980) to correlate the series for the FEM model. From the test results in Table 5, the  $\chi^2(8)$  value with  $\text{Prob} > \chi^2 = 0.0000$  is less than 1%, and  $\text{ALM}[\lambda=0]$  whose  $\text{Pr} = 0.0000$  is less than 1%, indicating that *the FEM model has variable variance and self-correlation.* This will reduce the effectiveness of the FEM model. In the condition that the assumptions about the phenomenon of constant and independent variance between cross units are violated, the

method of estimating least squares gross too feasible (FGLS) is the appropriate choice, so that the estimation results are not skewed and effective (Beck & Katz, 1995; Hoehle, 2007). According to FGLS regression results, entrepreneurship impacts GDP growth of 8 Mekong Delta provinces through private employment rates.

#### ***Estimate of the impact of the Self-employment Rate on GDP growth***

The test results of entrepreneurship for GDP growth are carried out through 4 methods POOL, FEM, REM, FGLS in which case entrepreneurship is measured by the Self-Employment Rate. The estimated results are as follows:

**Table 5.** Estimation of the impact of entrepreneurship (*Self-employment rate*) on GDP growth

Dependent variables: Economic growth (GROWTH)	Regression model			
Independent variables	POOL	FEM	REM	FGLS
Entrepreneurship				
<i>Self-employment rate</i>	0.0221 [0.16]	0.233* [1.93]	0.0965 [0.76]	0.0321 [0.37]
Government expenditure rate	0.00404** [2.27]	0.00123 [0.96]	0.00227 [1.60]	0.00123 [1.17]
Investment rate	0.00611** [2.05]	0.00432 [1.50]	0.00887*** [3.33]	0.00724*** [3.34]
State-owned enterprise labor rate	0.610*** [3.23]	0.184 [0.75]	0.513** [2.35]	0.469*** [3.53]
Economic openness	0.000232 [0.06]	0.0362*** [4.12]	0.00860 [1.55]	0.00112 [2.06]
Inflation	-0.0297*** [-4.08]	-0.0314*** [-6.11]	-0.0301*** [-5.28]	-0.00871* [-1.75]
Constant	11.49*** [8.20]	18.5*** [7.19]	13.67*** [6.47]	12.77*** [9.24]
	F(6.81)	F(6.74)	Wald $\chi^2(6)$	Wald $\chi^2(6)$
Statistics F/ Wald $\chi^2$	11.74***	11.07***	46.76***	32.97***



Dependent variables: Economic growth (GROWTH)	Regression model			
Independent variables	POOL	FEM	REM	FGLS
<b>Model selection</b>				
Fixed effects Testing				
[Wald test] F(7, 74)	14.09***			
Hausman test				
[Hausman test] [chi2[6]]			21.98***	
Heteroskedasticity				
chibar2[8]			28.88***	
Serial Correlation				
ALM[lambda=0]			22.23***	

**Note:** The symbols \*\*\*, \*\*, and \* imply 1%, 5%, and 10% level of significance, respectively  
t statistics in parentheses [ ]

The results of Table 5 show that all 3 models POOL, FEM, and REM have statistical indicators F, Wald with Prob value  $< \alpha = 5\%$ , so all are evaluated as suitable. The selection result between FEM or POOL by Wald test has  $F(7, 74) = 14.09$  and Prob value  $> F = 0.0000$  ( $< \alpha = 1\%$ ), sufficient grounds to prove that there exists a characteristic difference between banks in the studied model, i.e. *the selected FEM model*.

The results of the Hausman test of *FEM or REM selection* (table 5) show that the  $\text{Prob} > \text{chi}^2$  value  $< \alpha = 5\%$ , is enough evidence to confirm that the FEM model is more suitable than the REM model. Thus, *the FEM model will be used for further analysis*.

After selecting a suitable model, the study continued to perform Modified Wald tests to verify variance changes and Breusch-Pagan LM tests (Breusch & Pagan, 1980) to correlate the series for the FEM model. From the test results in Table 5, the  $\text{chibar}^2(8)$  value with  $\text{Prob} > \text{chi}^2 = 0.0000$  is less than 1%, and  $\text{ALM}[\text{lambda}=0]$  whose  $\text{Pr} = 0.0000$  is less than 1%, indicating that *the FEM model has variable variance and self-correlation*. This will reduce the effectiveness of the FEM model. In the condition that the assumptions about the phenomenon of constant and independent

variance between cross units are violated, the method of estimating least squares gross too feasible (FGLS) is the appropriate choice, so that the estimation results are not skewed and effective (Beck & Katz, 1995; Hoechle, 2007).

According to FGLS regression results, there is insufficient evidence to prove that entrepreneurship impacts GDP growth of 8 Mekong Delta provinces through self-employment rates

### ***Discuss the results***

In this study, we examine the robustness of key estimates of the influence of entrepreneurship on economic growth. We conduct these tests by modeling the control factors that affect economic growth. The second set of variables that can co-change with growth are those of Investment Capital, Government Spending, Economic Openness, Inflation. Growth regression includes control variables that show that entrepreneurship has an independent influence on economic growth. Table 4 shows that the estimated coefficient of entrepreneurship is positive and significant at 1%. With over 90% employment in the economy, the labour force employed by the private sector plays an important role,

positively impacting economic growth (table 4). This result is consistent with the results of studies Audretsch, Keilbach & Lehmann (2006), Beugelsdijk and Noorderhaven (2004), Carree et al. (2002), Georgellis & Wall (2000), Gleaser (2007), Li et al. (2012). However, the results (Table 5) do not provide sufficient evidence that self-employment has a positive impact on growth.

## 5. Conclusions and policy implications

In this study, we tried to link entrepreneurship to the economic growth of the Mekong Delta provinces. To do so, we introduced the concept of entrepreneurship as a key component, or concrete aspect, of elements in the economy. Since entrepreneurship in an economy ultimately manifests itself in the form of newly created businesses, we measured it indirectly, as reflected by the number of self-employed and private-sector workers in that economy relative to its respective population/total workers. Using data from 8 Mekong Delta provinces, we found convincing evidence consistent with the hypothesis. There are two important criteria in the results of this study.

*First*, entrepreneurship is not directly measured but inferred by the observed level of entrepreneurial activity. Although we can't directly measure entrepreneurship, we can infer something about how relative it is across regions based on the expression of that entrepreneurship — entrepreneurial activity in that area.

*Second*, in this paper, we look at the impact of entrepreneurship on economic growth using private employment rates and self-employment rates. We found that entrepreneurship had a positive impact on economic growth and this finding was strong through the private employment rates of 8 Mekong Delta provinces.

These two pieces of evidence suggest the only public policy implications from the study. Public policies that promote entrepreneurship should be expected to positively influence economic growth. However, what kind of public policy tools are best suited to promote entrepreneurship need more verification in follow-up studies.

## References

- Acs, Z. J., & Audretsch, D. B. (1990). *Innovation and small firms*. MIT press.
- Acs, Z. J., & Varga, A. (2005). Entrepreneurship, agglomeration and technological change. *Small Business Economics*, 24(3), 323-334. <https://doi.org/10.1007/s11187-005-1998-4>
- Acs, Z., & Armington, C. (2004). Employment growth and entrepreneurial activity in cities. *Regional Studies*, 38(8), 911-927. <https://doi.org/10.1080/0034340042000280938>
- Aghion, P., & Howitt, P. (1997). *Endogenous Growth Theory* (Vol. 1). The MIT Press.
- Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*, 23(6), 656-672. <https://doi.org/10.1016/j.jbusvent.2008.01.005>
- Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, innovation, and corruption. *Journal of Business Venturing*, 24(5), 465-476. <https://doi.org/10.1016/j.jbusvent.2008.06.001>
- Audretsch, D. B. (1995). Innovation, growth and survival. *International Journal of Industrial Organization*, 13(4), 441-457. [https://doi.org/10.1016/0167-7187\(95\)00499-8](https://doi.org/10.1016/0167-7187(95)00499-8)
- Audretsch, D. B., & Feldman, M. P. (1996). R&D spillovers and the geography of innovation and production. *The American Economic Review*, 86(3), 630-640. <https://www.jstor.org/stable/2118216>
- Audretsch, D. B., & Keilbach, M. (2004). Entrepreneurship and regional growth: an evolutionary interpretation. *Journal of Evolutionary Economics*, 14, 605-616. <https://doi.org/10.1007/s00191-004-0228-6>
- Audretsch, D. B., & Stephan, P. E. (1996). Company-scientist locational links: The case of biotechnology. *The American Economic Review*, 86(3), 641-652. <https://www.jstor.org/stable/2118217>

- Audretsch, D. B., Keilbach, M. C., & Lehmann, E. E. (2006). *Entrepreneurship and economic growth*. Oxford University Press.
- Barro, R. J. (1991). Economic growth in a cross section of countries. *The Quarterly Journal of Economics*, 106(2), 407-443. <https://doi.org/10.2307/2937943>
- Beck, N., & Katz, J. N. (1995). What to do (and not to do) with time-series cross-section data. *American Political Science Review*, 89(3), 634-647. doi:10.2307/2082979
- Berkowitz, D., & DeJong, D. N. (2005). Entrepreneurship and post-socialist growth. *Oxford Bulletin of Economics and Statistics*, 67(1), 25-46. <https://doi.org/10.1111/j.1468-0084.2005.00108.x>
- Beugelsdijk, S., & Noorderhaven, N. (2004). Entrepreneurial attitude and economic growth: A cross-section of 54 regions. *The Annals of Regional Science*, 38(2), 199-218. <https://doi.org/10.1007/s00168-004-0192-y>
- Bjørnskov, C., & Foss, N. J. (2008). Economic freedom and entrepreneurial activity: Some cross-country evidence. *Public Choice*, 134(3), 307-328. <https://doi.org/10.1007/s11127-007-9229-y>
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies*, 47(1), 239-253. <https://doi.org/10.2307/2297111>
- Carree, M., Van Stel, A. V., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976-1996. *Small Business Economics*, 19, 271-290.
- Cohen, W. M., & Levinthal, D. A. (1989). Innovation and learning: the two faces of R & D. *The Economic Journal*, 99(397), 569-596. <https://doi.org/10.2307/2233763>
- Dreher, A., & Gassebner, M. (2013). Greasing the wheels? The impact of regulations and corruption on firm entry. *Public Choice*, 155(3), 413-432. <https://doi.org/10.1007/s11127-011-9871-2>
- Ericson, R., & Pakes, A. (1995). Markov-perfect industry dynamics: A framework for empirical work. *The Review of Economic Studies*, 62(1), 53-82. <https://doi.org/10.2307/2297841>
- Estrin, S., & Mickiewicz, T. (2010). *Entrepreneurship in Transition Economies: The Role of Institutions and Generational Change* (No. 4805). Institute of Labor Economics (IZA).
- Foelster, S. (2000). Do entrepreneurs create jobs?. *Small Business Economics*, 14(2), 137-148. <https://doi.org/10.1023/A:1008141516160>
- Georgellis, Y., & Wall, H. J. (2000). What makes a region entrepreneurial? Evidence from Britain. *The Annals of Regional Science*, 34, 385-403. <https://doi.org/10.1007/s001689900014>
- Glaeser, E. (2007). *Entrepreneurship and the City* (No. 13551). National Bureau of Economic Research, Inc.
- Hoang Hong Hiep, Chau Ngoc Hoe, Hoang Thi Thu Huong, Vu Thai Hanh (2018). Tác động của đầu tư trực tiếp nước ngoài đến tăng trưởng kinh tế vùng Nam trung Bộ giai đoạn 2001-2016 [Impacts of foreign direct investment on economic growth in the South Central region in the period 2001-2016]. *Journal of Economic Research*, 6(481), 58-63.
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The stata Journal*, 7(3), 281-312.
- Hopenhayn, H. (1992). Entry, Exit and Firm Dynamics in Long Run Equilibrium. *Econometrica*, 60, 1127-1150. <https://doi.org/10.2307/2951541>
- Jacobs, J. (1969). *The economy of cities*. Random House, New York.
- Johnson, S., McMillan, J., & Woodruff, C. (2002). Courts and relational contracts. *Journal of Law, Economics, and Organization*, 18(1), 221-277. <https://doi.org/10.1093/jleo/18.1.221>
- Jovanovic, B. (1982). Selection and the Evolution of Industry. *Econometrica*, 50(3), 649-670. <https://doi.org/10.2307/1912606>
- Klepper, S. (1996). Entry, Exit, Growth, and Innovation over the Product Life Cycle. *American Economic Review*, 86(3), 562-83. <https://www.jstor.org/stable/2118212>.
- Kshetri, N., & Dholakia, N. (2011). Regulative institutions supporting entrepreneurship in emerging economies: A comparison of China and India. *Journal of International Entrepreneurship*, 9(2), 110-132. <https://doi.org/10.1007/s10843-010-0070-x>
- Lambson, V. E. (1991). Industry evolution with sunk costs and uncertain market conditions. *International Journal of Industrial Organization*, 9(2), 171-196. [https://doi.org/10.1016/S0167-7187\(05\)80001-3](https://doi.org/10.1016/S0167-7187(05)80001-3)

- Le Tai Thu (2021). Sử dụng mô hình VAR phân tích ảnh hưởng của nguồn vốn FDI đến tăng trưởng kinh tế Việt Nam [Using VAR modeling to analyze the impact of FDI on Vietnam's economic growth]. *Journal of Industry and Trade*, 8, 50-55.
- Li, H., Yang, Z., Yao, X., Zhang, H., & Zhang, J. (2012). Entrepreneurship, private economy and growth: Evidence from China. *China Economic Review*, 23(4), 948-961. <https://doi.org/10.1016/j.chieco.2012.04.015>
- Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3-42. [https://doi.org/10.1016/0304-3932\(88\)90168-7](https://doi.org/10.1016/0304-3932(88)90168-7)
- Romer, P. M. (1989). *Increasing Returns and New Developments in the Theory of Growth* (No. 3098). National Bureau of Economic Research, Inc.
- Romer, P. M. (1994). The origins of endogenous growth. *Journal of Economic Perspectives*, 8(1), 3-22. DOI: 10.1257/jep.8.1.3
- Santarelli, E., & Tran, H. T. (2012). Growth of Incumbent Firms and Entrepreneurship in Vietnam. *Growth and Change*, 43(4), 638-666. <https://doi.org/10.1111/j.1468-2257.2012.00601.x>
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship, Available at SSRN: <https://ssrn.com/abstract=1496199>
- Stel, A. V., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics*, 24, 311-321. <https://doi.org/10.1007/s11187-005-1996-6>
- Zelekha, Y., Avnimelech, G., & Sharabi, E. (2014). Religious institutions and entrepreneurship. *Small Business Economics*, 42, 747-767.
- Djankov, S., Qian, Y., Roland, G., & Zhuravskaya, E. (2006). Entrepreneurship in China and Russia compared. *Journal of the European Economic Association*, 4(2-3), 352-365. <https://doi.org/10.1162/jeea.2006.4.2-3.352>
- Lee, S. Y., Florida, R., & Acs, Z. (2004). Creativity and entrepreneurship: A regional analysis of new firm formation. *Regional Studies*, 38(8), 879-891. <https://doi.org/10.1080/0034340042000280910>