## 学位論文及び審査結果の要旨

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学 位 論 文 題 目 Three Essays on Foreign Direct Investment and Distribution

of Economic Activity

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論文の要旨

This dissertation includes three essays on foreign direct investment and distribution of economic activity. The first essay is research about Absorptive Capacity and Foreign Direct Investment spillover effects. The second article is the research about agglomeration externality and border effect while the third topic is the impact of bombing and war on the economic performance. All three essays use evidence from Vietnam with firm-level analysis in chapter 1, firm-level and province-level in chapter 2 and province-level in chapter 3. The brief contents of three essays will be presented by following paragraphs.

The first paper examines the relationship between absorptive capacity and foreign direct investment spillover effect. The spillover effect in this research is understood as the indirect impact of foreign direct investment on the productivity, export performance, sales etc... of the domestic firms through horizontal and vertical linkages. Using the panel firm-level data from 2006-2010 from General Statistic Office (GSO) of Vietnam, this paper has provided the new measurement of absorptive capacity of firm in relation with FDI productivity and its

relationship with FDI spillover effect with both linear and non-linear trends, and uses IV method which Thailand's FDI data as instrument variables to solve the endogeneity problem. Beside contribution to literature, this research also confirms the consistent results of spillover effect of FDI with domestic firm through horizontal and vertical linkages. The research finds that forward and backward linkages of FDI firms with local enterprises increase the productivity of domestic firms but the horizontal linkage only has positive impact on these firms if the neighbor countries also attract FDI in the same industries, otherwise this impact is negative. This research uses the Cobb-Douglass production function as basic theory background. Author has merged two datasets including the Annual Enterprise Census from 2004 to 2010 and the Input-Output tables in 2000 and 2007 of GSO of Vietnam which needs a huge effort to combine between production industries and product industries of these two databases. This research still remains some limitations that can be fulfill in the future researches such as measuring the linkages at the firm-level instead of industry-level like this research as well as using more adequate data from Thailand to make better instrument variables.

The second chapter continues with Foreign Direct Investment in different aspect that is spatial economics with the central topic namely agglomeration. This chapter is joint paper between Professor Eiichi Tomiura and me. This paper examines spatial attenuation of agglomeration spillover based on firm-level data in Vietnam, and investigates whether the former national border matters for different ownership types of firms after four decades since the reunification. Based on firm-level data in Vietnam, we confirm that the agglomeration spillover from the domestic core attenuates with distance among domestic firms, but find that the attenuation speed significantly accelerates at the former national border among private firms even after four decades since the reunification. Robustness of our main findings is confirmed with historical data of regional population before the North-South division as an instrumental

variable. Productivity of all firms, especially foreign-owned firms, is sensitive to the market potential or the presence of other firms. Vietnam is a suitable case for our research, as the country experienced the division and the reunification in the last century. Vietnam was divided into South and North with the border at the 17th degree latitude after the end of World War II until the reunification of two regions in 1975. The contrast between these two divided countries was clear in economic system: capitalist South and socialist North. Due to its natural geography of Vietnam as a long country like a Hoteling's linear city, it is natural to discuss spatial attenuation of agglomeration spillover with distance from the core. While findings of this research are informative for understanding the role of history and institution in agglomeration in particular or in economic geography in general, there still remain several important issues. For example, tracing dynamic entry and exit patterns of firms will help us discuss causality direction. Distributional information of firm productivity, including dispersion or skewness as examined by Okubo and Tomiura (2014) in the Japanese case, will reveal additional richer regularities for discussing agglomeration.

The third paper is a topic related to agglomeration at the same time with effect of history events and the economic performance under the similar case of Vietnam. The motivation of this research is to find how the war impacts on the economic performance of regions at short-term and long-term time. The economic performance is measured by the number of firms and number of labors beside GDP at the province-level, which are disaggregated into three types of firms including SOE, private firm and FDI firms. Based on the rich historical population and other economic data at province-level in Vietnam, I confirm that the short-term impact of war on the economic performance is highly statistically significant and difference among North, South and Middle region provinces. In the long-run, the war has not shown significant or negative impact on the concentration of firm or the wealth of provinces. Zipf slopes, DID method, time-series data as well as cross-section data are used in this research. The further

research should be done with more observations to measure the long-term impact of war on the economic performance. In addition, because of that the data for North and South separately is much more abundant than dataset for the whole country, another research for distinguish regions can be taken in to consideration. Moreover, the impact of the border 17th parallel should be one of an interesting candidate of research topic.

Those are brief contents of three essays about foreign direct investment and distribution of economic activity in my dissertation.

## 審査結果の要旨

本論文は、海外直接投資(FDI)を含む経済活動の空間的分布について、ベトナムのデータを用いて計量分析を行ったものである。各章の概要と評価は以下のとおりである。

第1章は、ベトナムへの FDI が国内企業の生産性に与えた Spillover (波及)効果を、地元企業の技術吸収能力も考慮して実証的に分析している。分析の結果、同一業種への FDI はベトナム企業の生産性に負の影響を、投入産出関係にある関連産業への FDI は正の影響を与えていること、さらに、地元企業の技術吸収能力が高いほど正の波及効果がみられることが示された。外資系企業と地元企業の相対的生産性を技術吸収能力の代理変数として用いることの妥当性など改善すべき点も残されているが、本章は外資系企業の進出が活発な発展途上国における技術伝播という重要なテーマに関するミクロ計量分析として、現状においても一定の水準に達した研究と評価できる。

第2章は、ベトナム戦争時に南北に分断され、近年はホーチミンへの経済集積が進んだベトナムを取り上げて、産業集積(経済中心地ホーチミンからの距離)が企業の生産性に与える影響をかつての国境の効果とともに分析している。2006年の企業ミクロ・データを用いた推定により、企業の生産性はホーチミンからの距離が遠くなるにつれて統計的に有意に低くなること、かつての国境は依然として影響を及ぼしており、南に比べて北の地域に立地する企業の生産性は有意に低いことを見出だしている。ただし、この傾向はほぼ全社が南北統一以降に進出し輸出向け生産が多い外資系企業では見られない。本章は、発展途上国の企業ミクロ・データを用いて集積効果を分析し、外資系など企業類型を分けて比較分析を行った点で、学術的貢献が大きいと評価できる。

第3章は、ベトナムの地域別人口に関する貴重な長期系列データを用いて、同国内における経済活動の空間的分布の推移を分析した上で、ベトナム戦争が現在の地域分布にどのような影響を及ぼしたかを分析している。2006年時点における各地域のGDPと企業数をベトナム戦争時の爆撃度合に回帰した推定結果はいずれも有意にプラスの係数が得られており、ベトナム戦争の爆撃は今日のベトナム経済の貧困度に影響を与えていないとした先行研究とも整合的な結論となっている。戦争がなければ各地域の成長トレンドは同じであったか、爆撃度合いは外生的かなどさらに検討すべき課題はあるが、国内地域に関して統一的に整合的なデータを揃えることが難しい発展途上国について長期にわたる推移を整理した論文として一定の意義を有すると評価できる。

以上のことから、本論文審査委員一同は、本学府の博士号審査基準②に照らして、Phan Thi Van の学位請求論文 "Three Essays on Foreign Direct Investment and Distribution of Economic Activity" が博士(経済学)の学位を授与するに値するものと判断する。