



Characteristics of FDI in Lao PDR and Its Effect on Growth Enterprise Performance

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(Degree)

博士（経済学）

(Date of Degree)

2013-09-25

(Date of Publication)

2014-09-01

(Resource Type)

doctoral thesis

(Report Number)

甲第5921号

(URL)

<https://hdl.handle.net/20.500.14094/D1005921>

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学位請求論文審査結果報告要旨

博士學位論文

論文内容の要旨および審査結果の要旨

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学位の種類	博士（経済学）
学位授与の条件	神戸大学学位規程第 5 条第 1 項該当
学位論文の題目	Characteristics of FDI in Lao PDR and Its Effect on Growth Enterprise Performance (ラオスにおける FDI の特徴と成長及び企業パフォーマンスへの影響)
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In recent times, there has been increasing growth in Foreign Direct Investment (FDI) globally. Many countries around the world, particularly those in the industrializing economies are engaged in aggressive competition to attract foreign investment. Moreover, as the globalization of the world economy over the past decades has advanced, foreign investors also desire to gain advantages through foreign investment in order to compete with international and local firms. The competition among countries seeking FDI has led to the implementation of incentive policies to attract those potential foreign investors. This is because FDI is a main driver of economic growth and also promotes export and improves industry. Foreign investment is an important source of long term capital inflows for economic expansion, especially in developing nations, such as Lao P.D.R. Furthermore, FDI performing as an instrument contributes to technological progress, new ideas, skills, equipment and infrastructure development in host economies.

The government of Laos initiated the transition process from a planned economy to a market oriented economy with the implementation of the New Economic Mechanism (NEM) in 1986. These reforms consist of gradual liberalization of trade and investment regimes by offering numerous incentives to foreign investors through import duty and tax exemption on raw materials and capital equipment, tariff reduction, tax holidays and other facilities. The amount of FDI inflow was approximately \$US 17 billion during the period 1988-2010, with around 2,000 MNEs operating in Laos. Based on the economic census of 2006, the private sector was at that time dominated by micro, small and medium size enterprises, while there were a few large firms in the economy. There were round 127,000 firms doing business and employing 346,000 workers in Laos (NSC, 2007). Increasing FDI in Laos is widely believed to promote economic growth. However, a better understanding of the relationship between FDI and growth in the context of changes in the FDI structure requires complementary analyses to explore the issue of cointegration as well as the short term and long term dimensions of the causal relationship.

To comprehend FDI, first we must understand the basic motivations that motivate firms to invest abroad rather than export or outsource production to national firms. In the literature of economics and international business, numerous studies have been conducted at the macro and firm level to explain the phenomenon of FDI. There is no single accepted theory; all new evidence adds some new elements and criticism to previous ones. The few studies related to these issues have been conducted in Laos but lack the needed scope for effective implementation. Therefore, this study has three main objectives as follow:

First, the purpose of this research is to examine the factors influencing initiating FDI in Laos by empirically investigating its economic, geographic and political factors from a macroeconomic perspective. Unbalanced panel data set is estimated by the Generalized Least Square (GLS) Random Effect method to analyze the empirical results based on the data for approved FDI projects from 16 investing partners over the period 1996-2009. It is assumed that foreign investors make investment decisions after comparing the factors that affect their locational decisions between the home country and the potential host countries. Thus, relative data are used rather than absolute data. This paper differs from other studies because in this empirical analysis, both host and home countries characteristics are taken into account as determinants of FDI location. Secondly, additional explanatory variables are included in this paper to capture more key indicators.

Secondly, this study also examines the causal link between industry-specific FDI and economic growth in Laos from 1988 to 2010 by applying the Granger Causality test and Panel Cointegration technique. This analysis focuses on the sectoral distribution of FDI inflows on GDP in order to estimate whether the growth impact of FDI differs among the primary, secondary and tertiary sectors. This study also investigates the possibility of spillovers across sectors at least tentatively by performing additional Granger Causality tests. This analysis differs from other studies in that in this empirical analysis, disaggregated FDI data is used due to the sectoral composition of FDI in Laos which has changed considerably and the growth effects can be expected to differ significantly across sectors. It is the first comprehensive study of FDI in Laos to analyze the links and the impacts of specific-industry FDI on the economic growth. In this paper, two sets of questions have been posed: (1) whether changes in the structure and type of FDI in Laos are relevant for its growth impacts, and (2) whether the impacts of growth on FDI differ among the primary, secondary and tertiary sectors.

Finally, the objectives of this study are to examine the efficiency performance of Lao firms in the manufacturing and services sectors, to investigate whether spillover from FDI contribute to technical efficiency. To achieve the objectives, this research addresses the three broad set of questions. First, do foreign-owned firms operate more efficiently or perform better than domestic firms? Second, does spillover from FDI contribute to technical efficiency? Finally, what factors impact the technical efficiency of Lao firms? To answer these questions, this study applies a stochastic frontier production function and technical inefficiency effects model to examine the efficiency performance of Lao firms in the manufacturing and services sectors by employing cross-sectional firm-level datasets from the Investment Climate Survey (ICS) conducted by the World Bank in 2009. This is the first

empirical study using Stochastic Frontier Analysis (SFA) to estimate and analyze the technical efficiency performance of Lao manufacturing and services industries.

The empirical results indicate that the minerals and fuels exports, manufacturing exports, labour productivity, degree of openness and an impact from the Asian financial crisis are the common determinants of FDI inflows into Laos. However, this study fails to support the hypotheses that relative agriculture exports, inflation rate, market size, exchange rate, interest rate, distance, infrastructure, economic freedom and ASEAN variables influence FDI inflows. This finding implies that there is non-market seeking FDI in Laos. Resource seeking effects are strongly confirmed; labour productivity is an important determinant for FDI inflows and openness to trade and export-oriented policy attract inward FDI flows in Laos. Moreover, the Asian financial crisis negatively affected FDI inflows in Laos.

The findings from this investigation have vital implications for the future development of FDI in Laos. The findings yield some suggestions for policy makers to enhance the attractiveness of a host country, promote and develop programs in order to attract more foreign investors and to sustain economic development. Rapid growth in natural resource sectors and trade expansion are expected to continue according to the World Bank (2010), and labour costs in Laos are relatively low in the region and significantly lower than neighboring countries such as Cambodia and Vietnam (World bank, 2011). Therefore, Laos should expect to continue experiencing a rapid increase in inward FDI. By doing so, Laos should further harness its natural resources and comparative advantage to promote mining and manufacturing sectors in order to achieve sustainable economic growth and poverty eradication. However, the Lao government has to promote the sustainable use of natural resources and use them effectively to minimize the negative impacts on the environment, society and biodiversity. In addition, it is essential to improve the quality of labour, while keeping comparative advantage of labour cost with other countries in the regions, especially China and Vietnam. Furthermore, the Lao government should further liberalize international trade and open its economy in order to encourage greater confidence in foreign investors to be able to attract more FDI.

In this analysis, Granger causality tests reveal the bidirectional effects between real GDP and FDI inflows both in the short and long term at the aggregated level. FDI inflows appear to have a positive effect on the growth of the Lao economy. However, the effects of inward FDI on economic growth vary across sectors at the sectoral levels. For the three broad sectors, the findings illustrate that the services sector has the most favorable growth effects of FDI inflows in Laos, where FDI flows drive growth in the manufacturing sector in the long term. There is no FDI-led growth in the primary sector. However, the effects of output

growth in promoting FDI are relatively strong both in the short and long run except for the services sector in the short run. In addition, for cross sector spillover, the finding indicates evidence of cross sector causality running from the manufacturing sector FDI to output in the services sector in the short run. The results also confirm that in the long run GDP in the services sector has not only been promoted by FDI in this sector but also by FDI in the manufacturing sector through cross sector spillovers.

Several policy implications based on the empirical results of this paper can be suggested as follows: firstly, the Lao government should pay more attention to policies and incentives provided to foreign investors in all industries because they are indeed beneficial to enhance economic growth. These policies should reflect the fact that FDI inflows in the primary sector have very little contribution and no effect on growth because the products based exports of primary sectors are inelastic demand. However, FDI inflows in secondary and tertiary sectors should be encouraged as growth effective sectors, as results show that FDI inflows at the aggregated level have a positive impact on output growth, thus it is suggested that the Lao government should continue creating a favorable business and investment environment and deregulating policies related to foreign investment. This could include providing a level playing field for investors, simplifying administrative processes and providing additional incentives and facilities to investors. Secondly, the results from the examination of decomposition recommend that more incentives should be offered to foreign investment, which contributes to growth, especially in services and manufacturing sectors. Improving local conditions including the infrastructure base, sound institutions, a reliable and consistent financial sector will have a beneficial effect. Additionally, openness to trade plays an important role in increasing the relationship between foreign and domestic firms particularly in the manufacturing and trading sectors. Finally, developing the ability of local firms and skilled labour to absorb the spillover benefits from foreign investment particularly in the manufacturing sector is important.

Additionally, the results show that the technical efficiency levels in the labour intensive manufacturing and services sectors of Lao firms are low, showing a high level of technology inefficiency in the production process. Moreover, the findings indicate that firm age, firm size and FDI spillover effects are main factors contributing to the technical efficiency of the manufacturing and services firms. However, the effect of location, firm ownership and capital-labor ratio factors on the firm technical efficiency is not found in this study.

The findings from this study suggest that policies for strengthening the absorptive capacity of domestic firms through investing in knowledge and human capital formation ought to be prioritized. Moreover, business obstacles should be gradually removed and more general policies and incentives should be pursued in order to improve the business environment and attract more foreign investment so that the firms with higher potential, particularly potential foreign-owned firms can improve their efficiency and business operations. In addition, there is also a need for further industrial and trade policy reforms in order to gain the technical advantages from industrialization and trade development.

審査結果の要旨

ラオスは近年自然資源の輸出と海外からの直接投資の増加を主要因として着実な経済成長を遂げている。一人当たりGDPは2000年には326ドルに過ぎなかったものが、2010年には1069ドルにまで上昇した。海外からの直接投資はラオスの今後の発展にとって重要であるとともに、多くの国が直接投資先としてのラオスに注目しつつある。こういった状況を背景に、本論文は現時点で入手可能な最高のデータを用いて、実証的にラオスへの直接投資の特徴とその決定要因、直接投資と経済成長の関係、直接投資の企業の効率性に与える影響を見ようとしている。ラオスの将来にとって海外直接投資は非常に重要であるにもかかわらず、データ制約などのため研究があまり行われてこなかった。この論文はそのギャップを埋めようとするものであり、初めてのラオスに関する包括的な直接投資の研究となっている。今後の直接投資政策の基礎ともなる重要な実証分析と評価できる。この論文の貢献は次のような点に認められる。

1. ラオスに直接投資を行っている主要な16か国からの直接投資を1996年から2009年まで11年間のパネルデータにより直接投資の決定要因を実証的に調べた。自然資源の相対的な輸出比率、製造業の相対的な輸出比率、賃金の安さ、貿易開放度、アジア危機といった変数が有意な影響を与えていた。他方、相対的なGDP、インフレ、インフラストラクチャー、距離などの変数は有意な影響を与えていなかった。特に、自然資源輸出に関する変数は有意に直接投資を高めているのに対し、GDPは直接投資に有意ではなく、ラオスへの直接投資は市場探求型ではなく、自然資源探求型の直接投資が主であることを支持していた。
2. 産業別海外直接投資と産業別経済成長の関係を1988年から2010年までのパネルデータにより、エラー・コレクション・モデルの枠組みを使って分析している。分析の結果、海外直接投資と経済成長は安定的関係を示していた。全部門データを使った分析によると長期には双方向の因果関係がみられたが、短期では因果関係は見られなかった。農業・資源、製造業、サービスという3部門分析では、全ての部門で長期的な双方向因果関係がみられると同時に、短期的には、製造業部門（付加価値からFDI）とサービス部門（FDIから付加価値）に短期的な因果関係がみられた。また、9部門での分析、異なった部門間での因果関係の分析も行っている。
3. 世界銀行が2009年に実施したインベストメント・クライメート・サーベイにより製造業とサービス業の企業別データを使用して、ストカスティック・フロンティア生産関数を推定して直接投資の企業の効率性に与える影響を分析している。計量分析の結果、直接投資の波及効果は有意に企業の効率性を高めていた。その他の変数では、企業の操業年数、規模といった変数が効率性を高める働きをしていた。

国別及び産業部門別経済データと企業の個票を用いた分析を行っており、水準の高い論文と評価できるが、研究の課題として次のような問題が残っている。

1. ラオスのデータは、かなり改善されてきてはいるが、期間的な長さや質、入手可能性にまだ問題点がありより突っ込んだ議論が困難になっている。例えば、産業連関表が入手可能になれば、水平的技術波及だけでなく海外直接投資の垂直的な技術の波及の効果について調べることができるようになる。
2. 産業分類の方法を工夫するとより分析が明確になる可能性がある。特に、電力や建設といったFDIが重要な役割を果たしている部門がサービス産業に分類されており、部門間での因果関係分析に影響を与える可能性がある。
3. ストカスティック・フロンティア生産関数の推定結果を他の近隣諸国のデータによる推定結果と比較したほうがラオス企業の非効率性の水準がより明確になるだろう。

今後発展させるべき課題は残っているものの、現時点で入手可能な最新のデータで重要性を増しているラオスの海外直接投資の実証的で包括的な分析は貴重なものであり、博士論文として高い水準の論文となっている。論文は独立した研究者としての能力を十分備えていることを示しており、審査員一同は一致して博士（経済学）に値すると判断した。

平成25年9月4日

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