EMPIRICAL STUDIES ON FDI, TRADE, AND FIRM PERFORMANCE IN THAILAND: EVIDENCE FROM MICRO-LEVEL ANALYSIS

In response to the “new new” trade theory and the recent development in theoretical and empirical studies in the field of international trade, this PhD dissertation empirically and systematically examines various topics concerning the relationship between foreign direct investment (FDI), international trade (exports and imports), firm heterogeneity, and productivity using micro-level data from Thailand. The dissertation is divided into eight chapters which are related but can be read independently. Distinctively, this dissertation combines six empirical studies related to FDI, exporting, importing, and firm performance in Thailand using many plant-level and firm-level data sets from the Thai National Statistical Office between 1999 and 2009. The findings from each chapter can be used as a guide to support or suggest policy implications to promote trade and attract certain types of FDI inflows and ways to improve firm performance. The main content and conclusions of each chapter are briefly explained as follows.

Chapter 1: Introduction is the background and overview of the conceptual framework of this dissertation. It proposes key research questions and contribution of the study, and describes the data coverage utilized in this dissertation. Chapter 2: Firm Productivity in Thai Manufacturing is based on the paper titled “Firm Productivity in Thai Manufacturing Industries: Evidence from Firm-level Panel Data”. This chapter uses data from the Manufacturing Industry Survey in Thailand to obtain TFP (Total Factor Productivity) measures for 1999-2003 following various estimations for production function and firm TFP and empirically investigates the determinants of firm TFP at the establishment level. Empirically, the results reveal that smaller firms are significantly more productive than larger ones. Firm age and TFP exhibit a negative relationship. Firms with a more educated workforce are also more productive. Firm TFP benefits from integration into world markets; foreign-owned firms and exporters have significantly higher TFP. Private and Head Branch typed firms are more productive than other firms on average. These findings point to several key areas of policy relevance in which improvements are likely to bring benefits for firm TFP in Thailand. Policies promoting labor quality may have significant benefits for firm TFP. Chapter 3: Productivity and Wage Spillovers from FDI in the Manufacturing Sector is based on the paper titled “Productivity and Wage Spillovers from FDI in Thailand: Evidence from Plant-level Analysis”. This chapter analyzes productivity...
and wage spillovers from FDI in Thailand using many plant-level analyses. It utilizes cross-sectional data from the 2007 Industrial Census of Thailand. This study is one of the few studies to investigate productivity and wage spillovers simultaneously and to examine a wide range of spillover features regarding the impact and effects of FDI on productivity and wage spillovers. The major finding is that increases in foreign equity participation (foreign presence) are positively correlated with increases in labor productivity and average wages of domestic plants. The impact of FDI on labor productivity and average wages in the Thai manufacturing sector is examined on the basis of a number of relevant variables such as capital intensity, material and labor inputs, labor quality, years of operation of establishment, investment promotion status from the Thai Board of Investment (BOI), and trade policy effect by Effective Rate of Protection (ERP), and so forth. The analysis shows that the coefficients of the two proxy variables for the influence of foreign plants are significant on average, signifying that FDI plays a positive role in enhancing labor productivity and average wages in the Thai manufacturing sector. The results from this chapter allow us to draw attention to some policy implications for Thai government representatives and business managers. Since, on balance, FDI has a positive impact on productivity and wage, the country’s investment-friendly policy should continue to be adopted and implemented so that more inward FDI might be attracted. However, it would be desirable to examine the issue of spillovers more closely in the Thai case, especially for wage spillovers of which there are few studies at the moment. Chapter 4: Export Orientation and Spillovers from FDI in the Manufacturing Sector contains parts of the paper titled “Export Orientation and Spillovers from FDI in Thailand: Evidence from Plant-level Analysis”. This chapter aims to study the factors that influence a plant’s export decision and export intensity, and export spillovers from FDI by using a plant-level dataset of Thailand in 2007. The main study concentrates on the roles of Multinational Enterprises/Corporations (MNEs/MNCs) in export. This chapter contributes to the existing literature that deals with the impact of spillovers arising from FDI-generated linkages between domestic and foreign plants on exporting activities in various aspects. In order to examine the impact of the horizontal linkages between domestic and foreign plants on export performance of domestic plants in Thai manufacturing, I utilize the Heckman’s selection models and estimate the models by means of Heckman’s maximum likelihood estimator in selection models. The empirical analysis generally reveals that the presence of foreign plants has a positive and significant effect on (i) the decision of domestic plants to export and (ii) the export share of domestic plants through horizontal linkages. The results confirm results from previous studies where horizontal linkages have resulted in positive and significant export spillover effects from foreign plants to domestic plants. Firm heterogeneity and other plant-level characteristics also have a significant impact on the export participation and export intensity of domestic plants. The empirical analysis shows that plant size, location, and form of organization affect the decision and intensity to export. The results also suggest that while domestic plants may not rely solely on
FDI to successfully enter the export market, the presence of FDI in exporting plants helps contribute to their success in the export market. Chapter 5: FDI Spillovers in the Business Trade, Services, and Construction Sectors presents many parts of the two papers titled “FDI and Spillovers on Productivity and Wage in the Business Trade and Services Sector: A Case of Thailand” and “Foreign Ownership and Firm Performance in the Thai Construction Industry”. The first half of this chapter analyzes productivity and wage spillovers from FDI in the business trade and services sector using cross-sectional data from the 2006 Business Trade and Services Survey of Thailand. The results indicate that foreign firms are generally more productive and pay higher average wages than domestically-owned firms. Partly due to the short interval of analysis and data available, for productivity spillovers, I find no clear evidence for FDI spillovers in the whole sample, but find mixed results when analyzing the data conditionally by firm size and form of organization of domestic firms. For wage spillovers, I observe negative horizontal spillovers from FDI in the whole sample, especially in large firms, and find negative spillovers in some divisions of industry. In terms of policy implications, the findings presented in the first half of this chapter provide encouraging support for the role that FDI may play in the development of the Thai economy and in the welfare of its citizens in the business trade and services sector. I conclude that there are both advantages and disadvantages regarding FDI spillovers from foreign firms to domestic firms in this analysis. The second half of this chapter analyzes the relationship and impact of foreign ownership on domestic firms operating in the construction industry using cross-sectional data from the 2009 Construction Industry Survey of Thailand. It covers the empirical analysis for representative firms in the construction industry, while most existing studies deal only with manufacturing industries. This study seeks to add to our understanding of the value of FDI in Thailand, where foreign MNCs are expanding in almost every industry, including the construction industry. The estimated results show that foreign presence has a significant and positive effect on domestic firms in this sector. I find that foreign firms are generally more productive and pay higher average wages than domestic firms and conclude that the relationship between construction productivity and foreign ownership in general is rather weak, while the relationship between wages and foreign ownership is stronger. The main finding from this part of analysis is that allowing foreign MNCs to enter and attracting more FDI in construction industries might be the key channel through which FDI spillovers contribute to the improved performance of firms in the construction industry. The analysis in this chapter provides the Thai government with potentially useful information for industrial policy regarding FDI in these sectors. Chapter 6: Innovation, R&D and Productivity addresses the main part of the paper titled “Innovation, R&D and Productivity: Evidence from Thai Manufacturing”. In response to recent concerns about lagging productivity and poor innovative performance in Thailand, this chapter empirically examines the relationship between innovation, R&D (Research and Development), and productivity in Thai manufacturing, using cross-sectional data from the 2007 Industrial Census of Thailand. I utilize a simplified
structural model (CDM model) that describes the link between innovation output, R&D and productivity for the Thai case. The findings suggest that government aid and plant characteristics play an important role for a plant to engage in R&D and to be innovative both in terms of process innovation and product innovation. Exporting plants, plants in the central region, and plants that are categorized as Head Branch type are more likely to engage in R&D and be innovative. The type of industry and specific technological characteristics of plants are shown to influence innovation effort and decision to undertake R&D. Overall, the results suggest that plant size, foreign ownership, exporting and product innovation are important drivers of productivity enhancement in Thai manufacturing. Chapter 7: Exporting, Importing, and Firm Performance presents many parts from the paper titled “Exporting, Importing and Firm Performance: Evidence from Thai Manufacturing”. This chapter mainly examines the relationship between exporting, importing and firm productivity using a firm-level panel data set from the Manufacturing Industry Survey of Thailand from 1999 to 2003. On average, the results show that exporters (and importers) are more productive, more capital-intensive, have more employees and total sales, and pay higher average wages than non-exporters (and non-importers). Even after controlling for industry, year, and size effects, exporting and importing firms perform better than domestic counterparts. The study in this chapter sheds light on some policy issues and provides empirical evidence that is necessary to evaluate various measures to promote exports and imports for manufacturing firms in Thailand. Especially, with regard to the learning effect, if there are no post-entry rewards from exporting (and importing), then policies designed to increase the number of exporters (and importers) might be considered inefficient, as domestic firms may not receive any extra benefits. Chapter 8: Conclusions elaborates the main findings and implications of this dissertation. In this last chapter, I provide concluding remarks for the overall study and recommend suggestions for further studies. Importantly, I mention that while this dissertation conveys valuable information on the dynamics of firms and plants in various aspects from many industries and sectors in Thailand, the empirical studies are based on surveys and census that does not cover every firm and plant in Thailand in terms of sample size and coverage. As a result, engaging in a similar type of analysis using different types of data, or data collected in a more comprehensive fashion, will be beneficial to confirm more reliable and significant empirical results.

Finally, despite some limitations in this dissertation, it is expected that all the empirical results from this dissertation may be treated as the new aspect for examining empirically and systematically the relationship between FDI, trade, and firm performance in Thailand for various industries and sectors. It is sincerely hoped that; based on this dissertation, there will be more work and research in this field for Thailand and other developing countries in the future.