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## 論 文 内 容 の 要 旨

氏 名 ( 矢 根 遥 佳 )

論文題名

Essays on Multifaceted Analysis of International Trade Patterns  
(国際貿易に関する多角的実証分析)

## 論文内容の要旨

The world economy is becoming more and more integrated through international trade, and we have seen great changes in the structure of trade. This dissertation attempts to empirically tackle the mysteries behind the international fragmentation of production in global value chains (GVCs), and to estimate what these changes are (Chapter 1), how they affect the labor market globally (Chapter 2), and how firms are affected in Vietnam (Chapter 3). Ultimately, international fragmentation of production processes brings both benefits and costs.

Chapter 1 aims to clarify what makes trade in intermediate inputs different from final products, and total trade in goods different from total trade in services. This study uses product-level international bilateral trade data for the period 1995 to 2009, covering 40 countries, from the World Input-Output Database (WIOD). Constructing this panel dataset into a gravity model, I adopt the Poisson pseudo-maximum likelihood (PPML) estimator for empirical analysis. This study further disaggregates the analysis by sector, and attempts to re-examine the impact of regional trade agreements (RTAs) in the context of different trade flows. Estimation results show the importance of distinguishing trade in different products and whether they are for intermediate use or final consumption, and that targeted policy matters. Economic freedom has a positive effect on trade in services, but in contrast with manufacturing trade, RTAs still fail to show any positive effect in facilitating trade in intermediate services or final services.

Chapter 2 empirically investigates how international linkages impact the skill structure of domestic labor demand by measuring elasticities of factor demand. I construct a dataset using data on labor compensation from the Socio-Economic Accounts (SEA) along with industry-level international input-output tables from WIOD for 40 countries over the period 1995-2009. Based on an input-output model, an indicator that measures the pervasiveness of GVCs, “foreign value-added in exports (FVAiX),” is calculated. Including this index in a translog cost function, this study estimates a system of variable factor demand equations, using the iterative seemingly unrelated regressions (ISUR) method. Results reveal that participating in GVCs has both positive and negative effects on demand for different skill types of labor. On the one hand, there is a positive trend for high-skilled workers, regardless of the region or GDP per capita of the country. On the other hand, results indicate a widening gap between high- and low-skilled labor, suggesting an increase in inequality, especially in low-income countries.

Chapter 3 uses the Vietnamese Enterprise Survey (VES) to mainly explore the consequences of import competition from China for firms’ performances in Vietnam. Not only are Vietnam and China both two labor abundant low-skill intensive countries, but they are also geographically proximate. Using this firm-level panel data, I estimate the effects of the increasing import competition not only from China, but also from other low-wage countries and high-wage countries, on survival, employment and other production activities of firms during the period 2000-2008. This firm-level study applies the instrumental variables (IV) estimation method to consistently measure the impact of these import competition shocks on firms in Vietnam. For comparison, enterprise ownership type, firm size, capital intensity, as well as key economic regions are taken into account. Main results show that firms in Vietnam systematically adjust their product mix in response to pressure from increasing import competition from China by switching their industries. The surviving firms suffer from decline in sales and employment growth.

In conclusion, results from Chapter 1 show that trade policies need to be customized based on the state’s target trade and market in order to reap even more benefits from global integration through trade. Further, we

see in Chapter 2 that GVCs shift the labor demand differently for different skill groups in different countries and different sectors. It is important to have policies that support flexible and frictionless labor markets so that when some kind of trade shock (in this case, increase in international linkage) occurs, the groups suffering from losses could move along sectors, countries and transfer their skills to a new task. Lastly, Chapter 3 teaches us that firms can survive and avoid having to exit the market by switching their industries. Therefore, policy reforms that facilitate industry switching may help lower the costs for groups that suffer from increase in global competition.

## 論文審査の結果の要旨及び担当者

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<b>論文審査の結果の要旨</b>	
<p>This Doctoral thesis investigates changes in the trade structure through international fragmentation of production in global value chains (GVCs), the effects of international linkages on the skill structure of domestic labor demand, and the impact of import competition on firms' performances in Vietnam.</p> <p>Chapter 1 elucidates what makes trade in intermediate inputs different from trade in final products, and total trade in goods different from total trade in services. This chapter uses product-level international bilateral trade data for the period 1995-2009, covering 40 countries, from the World Input-Output Database (WIOD). Constructing this panel dataset into a gravity model, the Poisson pseudo-maximum likelihood (PPML) estimator is used for empirical analysis. Estimation results show the importance of distinguishing trade in different products and whether they are for intermediate use or final consumption, and that targeted policy matters. Economic freedom has a positive effect on trade in services, but in contrast with manufacturing trade, regional trade agreements fail to show any positive effect in facilitating trade in services.</p> <p>Chapter 2 empirically investigates how international linkages affect the skill structure of domestic labor demand by measuring elasticities of factor demand. Using data on labor compensation from the Socio-Economic Accounts and industry-level international input-output tables from WIOD, a dataset for 40 countries over the period 1995-2009 is constructed. Based on an input-output model, an indicator that measures the pervasiveness of GVCs, "foreign value-added in exports (FVAiX)", is calculated. Including this index in a translog cost function, this chapter estimates a system of variable factor demand equations, using the iterative seemingly unrelated regressions (ISUR) method. Results reveal that participating in GVCs has both positive and negative effects on demand for different skill types of labor. On the one hand, there is a positive trend for high-skilled workers, regardless of the region or GDP per capita of the country. On the other hand, results indicate a widening gap between high- and low-skilled labor, suggesting an increase in inequality, especially in low-income countries.</p> <p>Chapter 3 uses the Vietnamese Enterprise Survey to explore the impact of import competition mainly from China on firms' performances in Vietnam. Not only are both Vietnam and China low-skill labor-abundant countries, but they are also geographically proximate. This chapter estimates the effects of the increasing import competition from China, low-wage countries and high-wage countries on survival, employment and other production activities during the period 2000-2008. This firm-level study applies the instrumental variables (IV) estimation method. Main results show that firms in Vietnam systematically adjust their product mix in response to pressure from increasing import competition from China by switching their industries.</p> <p>In conclusion, the results from Chapter 1 suggest that trade policies need to be customized based on the state's target trade and market in order to reap greater benefits from trade integration. Those from Chapter 2 indicate the importance of policies that support flexible labor markets, so that when the extent of international linkages increases, the groups suffering from losses could move across sectors and transfer their skills to new tasks. The results from Chapter 3 suggest that policy reforms facilitating industry-switching may help lower the costs for groups that suffer from an increase in global competition. These results have important policy implications with academic contribution. Hence, all examiners certified that this thesis merits awarding a Doctoral degree in International Public Policy.</p>	