

論文審査の要旨及び担当者

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(論文審査の要旨)			
<p>East Asia including both Northeast and Southeast Asia has been a region where the mechanics of international production networks or the second unbundling have aggressively been explored, particularly in machinery industries. In fact, East Asia has been a frontrunner in extending and deepening machinery production networks while leaving wide differences in the degree of participation in production networks across countries within the region at different development stages. There is still a lot of room for investigating the static and dynamic nature and characteristics of machinery production networks in this region. This Ph.D. dissertation titled “Essays on Machinery Production Networks in East Asia” mainly depends on the most disaggregated data of exports/imports as well as import tariffs and investigates various aspects of machinery production networks in East Asia.</p> <p>After presenting the outline of the dissertation in Chapter I, Chapter II provides an extensive survey of theoretical and empirical literature related to the second unbundling and shows some basic statistics of East Asia’s machinery trade, intra-regional and inter-regional, in parts and components and finished products, as well as import tariffs. Particularly in the import tariff data, a decreasing trend over time along the progressive trade liberalization is obvious in East Asia though a large variance still exists in tariff levels across disaggregated commodities even in machinery industries.</p> <p>Chapter III looks back the Global Financial Crisis (GFC) in 2008-2009 and checks the robustness of machinery production networks particularly for Taiwan. GFC drastically reduced the world trade, and the recovery of trade was observed in the following months. The issue is whether production networks augmented a macro</p>			

shock or rather mitigated it as a shock absorber. Although Taiwan is one of the most active participants in machinery production networks in East Asia, few serious empirical studies have been conducted because its international trade data are not included in the United Nations dataset. The chapter employs Taiwan's monthly international trade data at the ten-digit disaggregated level and measures dying trade into the trough and reviving trade in the recovery in terms of product-export destination pairs. The survival analysis with the Kaplan-Meier estimator and the Cox proportional hazard model with some regression analyses confirms that transactions in international production networks are more likely to survive even with large macro shocks such as GFC.

Chapter IV extends the survival analysis and analyzes the impact of product-level import tariffs on the resilience of international trade flows in manufactured goods. Although the previous literature, notably Besedes and Prusa (2006), found a positive relationship between import tariff rates and the survival of international trade, the chapter finds the opposite, particularly in trade in machinery parts and components and differentiated products. This reasonable result with different commodity categories may suggest the importance of trade liberalization in the formation of robust international production networks.

Chapter V investigates the import tariff evasion behavior in intra-East Asian machinery production networks. It obtains a proxy of the degree of import tariff evasion by measuring differences between exporter's export data and importer's import data at the finely disaggregated level (Fisman and Wei (2004)) and tries to identify the determinants of the trade gaps including import tariffs. The empirical analysis finds that low-income East Asian countries are more prone to have import tariff evasion and the tariff evasion in parts and components is more sensitive to tariff rates than that in finished products. Again, some peculiar characteristics of international production networks may be detected here. A series of robustness checks are conducted.

Chapter VI places a focus on production network links of East Asian countries with the rest of the world. By looking at product-country pairs, the expansion of East

Asian exports to the rest of the world in machinery production networks is evaluated in terms of extensive margins. Counting the number of product-country pairs, the study confirms the rapid expansion and deepening of international production networks. In addition, the regression analysis reveals that during the period between 1996 and 2013, machinery parts and components trade is more likely to expand its extensive margins than machinery finished products trade. Furthermore, parts and components trade is more likely to set up new product-country pairs and is less prone to lose old product-country pairs.

The revised version of Chapters III, IV, and V is going to be published in *Asia-Pacific Journal of Accounting & Economics* (forthcoming), *Pacific Economic Review* (forthcoming), and *Economic Modeling* (forthcoming), respectively.

Although the obtained results are rich in further examining the nature and characteristics of international production networks, particularly in the relationship with import tariffs, the writing is still premature in many aspects. In particular, extensive arguments on possible economic logic to explain the key results are not fully given, let alone the rigorous theoretical underpinnings. Although the originality certainly resides in both detailed empirical implementation and obtained results, it is not properly elaborated in the text. While a number of previous papers are cited, critical reviews showing pros and cons of those are not adequately developed. Original contribution should always be demonstrated explicitly from the beginning to the end of research.

For example, the introduction of product-level import tariff rates potentially provides rich implication for understanding the nature of international production networks. However, it is a pity that extended discussion is not provided in the dissertation. The consideration of nontariff barriers, though the data are available only at a more aggregated level, would be another direction to further explore the issue.

It is obvious that ample room exists for improving its analyses. However, the overall quality of this dissertation obviously clears our standard criteria. All five examiners

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of this dissertation are unanimously of the view that Mr. Chin-Ho Lin should be awarded a Doctoral Degree in Economics from Keio University.