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Summary of the doctoral thesis

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1. Aim of study

The main purpose of the thesis is to analyze the specialization patterns of the East Asian economies. Specifically, the flying geese pattern or catching-up product cycle will be applied to analyze the dynamic changes in specialization patterns in East Asia. Adopting the catching product cycle theory as a starting point, comparisons are made with the actual specialization patterns and the industrial development in East Asia over the period of 1970-1999.

The first issue is concerned with the specialization patterns in East Asia. The specialization patterns have been dynamically changing over the past three decades. This study develops a comprehensive empirical framework that tracks the dynamic change in specialization patterns among East Asian economies over time, among economies, and among industries. Since the empirical studies covering wide ranges of countries in the region are rare, the results are of particular interest in improving knowledge of East Asia's catching-up industrial development.

The second issue is related to the ways specialization patterns of East Asian economies have been evolving. We study the evolution of one country's specialization patterns over time, at the same time, we study the specialization patterns of different countries at different development levels, and hypotheses of product cycling sequence, inter-industry cycling sequence are derived from catching product cycle model are empirically tested on trade data of East Asian countries.

Third issue concerns the role of industrial policy of East Asian economies and its implication for the late industrializing economies – the new ASEAN (Association of South East Asian Nations) members in the region. We, first discuss and analyze the importance of trade and industrial policies in Japan, Asian Newly Industrializing Economies (Asian NIEs) – Korea, Taiwan, Singapore, and Hong Kong - and ASEAN 4 members – Malaysia, Thailand, the Philippines, and Indonesia - to see its importance in the context of catching-up industrial development. Later, we will analyze the industrial policies implemented in the new ASEAN members and derive implications for these new ASEAN comers.

It is our contention that these issues are an important area of study for several reasons. Firstly, the specialization patterns in East Asian economies have been and are still changing. The changing specialization pattern is probably as a result of several factors such as the on going trade liberalization in East Asian countries, and thus, the interaction of trade, Foreign Direct Investment (FDI) and production, their industrial policies that nurture the promising industries. Neither trade liberalization, and their trade policies are expected to change. We would therefore expect that the specialization patterns continue to change in the future. Secondly, it is of interest to study explanatory power of theories which in general have been supported by the results of empirical tests of almost all countries in the region but which have been not applied yet by the new ASEAN members. Thirdly, there is a recent debate that the catching-up product cycle theory has been no longer valid to explain the industrial development in East Asia since the rise of China as a 'world factory'. It has been argued that

as China has comparative advantages in wide spectrum of products, from the simple to sophisticated products, thus, the prediction of catching-up product cycle is inconsistent with China's case. Fourthly, the policy implications of changing specialization patterns have been debated. It has been argued that the late industrializing economies should pick up their promising industries and apply some import substitution policy to nurture these industries. These advocates are supported by the catching-up product cycle. However, it has been also argued that just leave the market decide what industries one country should specialize, the market is an invisible hand to drive the specialization patterns. Even some goes further to state that the late industrializing economies should catch up by setting up the high technology intensive industries with high value added and nurture them by all means¹.

2. Outline of the thesis

Following the introductory chapter (Chapter 1), the organization of this thesis is as follows.

The purpose of Chapter 2 is to shed light on the East Asian dynamism and the trade-FDI-production interaction. The first part of this chapter is devoted to recognize the East Asian dynamism by comparing the basic economic indicators, the structure of production over 1970-2000 by selected region including East Asia, North America, and EU 15. Some signs of the regional dynamism are recognized by those figures. Then, this chapter tries to recognize the trade-production interaction and FDI-production interaction that emerge in the region creating the regional dynamism.

The purpose of Chapter 3 is to provide readers with the theoretical analysis. First, this chapter is devoted to introduce various theories that may be applied to explain the changes in comparative advantage in East Asia. Second, a wide range of empirical studies is reviewed we aim at providing empirical evidence concerning the explanatory power of the theory of catching-up industrial development in East Asia. In particular, investigation in this chapter provides a broader picture of how the theories are applicable to explain the situation in East Asia, and based on that, the study will find its own way to proceed. Third, we formulate the hypotheses for the study on catching-up industrial development. To test the hypotheses we formulate, we need to have an appropriate methodology. The next part of this chapter is an effort to introduce the methodology we will employ in this study. Data description is provided as well.

In Chapter 4 we test the relationship between level of development and the specialization pattern in East Asian economies. According to the CPC model, the level of development is a deciding factor to determine one country's specialization pattern. The more advanced a country is, the more advanced the specialization pattern is. The question, which is addressed in this chapter, is then whether the pattern of specialization is correlated with the level of development, and factor endowment. The sample countries shows that the factor endowments are strongly correlated with the level of developments, especially the physical capital is almost correlated with it, even we can say they move almost in the same direction. In consequence, the specialization patterns are expected to differ among these countries. The tests concern the production data, which are sourced from industrial statistics.

¹ This advocate is often heard in Vietnamese Press, and even in some seminar held by Vietnam Development Forum (<http://www.vdf.org.vn/>). It is similar to the so-called Soviet industrialization model, which was implemented in Soviet Union, China, and Vietnam before they shifted their economies to market economies.

In Chapter 5, we use the revealed comparative advantage (RCA) curves to show how the specialization patterns evolve over time. The dynamism of the catching-up product cycle is emphasized in this chapter. In addition, the catching-up product cycle is based on the assumption of efficient resource allocation between countries, not within one country. This is far different from neoclassical H-O model, which assume capital is perfectly mobile within one country but perfectly immobile within countries. Thus, the capital of industries that lost competitive edges in the advanced countries, moves to the late-industrializing economy to recycle their competitive edges, this move process is repeated by industry to industry, from simple industries to more sophisticated industries so that the late-industrializing economy's specialization pattern tend to be more similar with that of the advanced economy. By using Spearman's rank correlation coefficients, we trace out the similarities of specialization patterns among economies.

Chapter 6 examines the catching-up industrial development of the newcomer countries: Vietnam, Myanmar, Laos and Cambodia. These economies have joined ASEAN, a dynamic growth region, and have committed to participating in ASEAN Free Trade Agreement (AFTA) with a delayed time frame. It is the right direction in the long run for each of CLMV to join the international market economy system and gain from trade and specialization. But in the short-run, hasty liberalization may incur adjustment cost, which will impede the development of industries in which these economies have a potential comparative advantage. They have to be deliberate in implementing their liberalization policies. The questions addressed in this chapter are whether these economies have joined the regional dynamism, and how they can join the regional dynamism effectively.

Chapter 7 is the concluding chapter. In this final chapter, the principal findings are summarized. They are, the relationship between the level of development and the specialization pattern, between the factor endowment and the specialization pattern, the effects of country size on the specialization pattern, and the influence of industrial policies. Based on those findings, policy implications are derived; this part mostly devotes efforts on the implications for the latecomer countries. There are two major implications relating to the potential comparative advantage and the role of indigenous firms in the catching-up industrial development process.