The Changing Interpretation of the Flying Geese Model of Economic Development

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Abstract: The flying geese model, a theory of industrial development in latecomer economies, was developed in the 1930s by the Japanese economist Akamatsu Kaname (1896–1974). While rarely known in western countries, it is highly prominent in Japan and seen as the main economic theory underlying Japan's economic assistance to developing countries.

Akamatsu's original interpretation of the flying geese model differs fundamentally from theories of western origin, such as the neoclassical model and Raymond Vernon's product cycle theory. These differences include the roles of factors and linkages in economic development, the effects of demand and supply, as well as the dynamic and dialectical character of Akamatsu's thinking.

Later reformulations of the flying geese model, pioneered by Kojima Kiyoshi, attempt to combine aspects of Akamatsu's theory with neoclassical thinking. This can be described as the "westernization" of the flying geese model. It is this reformulated interpretation that has become popular in Japan's political discourse, a process that might be explained by the change in Japan's perspective from that of a developing to that of an advanced economy.

The position taken by Japan in its recent controversy with the World Bank, however, shows that many basic elements of Akamatsu's thinking are still highly influential within both Japan's academia and its government and are therefore relevant for understanding current debates on development theory.

1. Introduction

Japan's rapid industrialization since the late nineteenth century is one of the most remarkable features of the history of the modern world economy, as is the economic development of the East and Southeast Asian economies after the Second World War. The economic success of the Asian latecomer countries, for lack of a consistent and generally accepted explanation, has been dubbed the "East Asian Miracle" (World Bank 1993). While the Asian economic crisis has – at least temporarily – reduced enthusiasm for the East and Southeast Asian economies, it has also provoked an even more intense academic debate on the causes and characteristics of their development.

One theory in the field of development economics that at times has been seen as vindicated by the "East Asian Miracle" is the flying geese model, developed by the Japanese economist Akamatsu Kaname (1896–1974) in the 1930s. Linking economic growth and changes in industrialized countries with the process of economic development in developing countries, this approach sees the United States (on a global scale) and Japan (in Asia) as the "lead geese," followed by the Asian emerging economies. The flying geese model of economic development (*sangyō hatten no gankō keitairon*) is widely known in Japan and is regarded as the main economic theory underlying Japan's economic assistance to developing countries (Okuda 2002: 6).

Akamatsu's flying geese model, however, is rarely known in Western countries (Korhonen 1994: 93; Hatch 1998). Where it is known, it is often associated with the concept of the "Greater East Asian Co-Prosperity Sphere," a propaganda term used by the Japanese government to legitimize Japan's expansionism in Asia in the 1930s and 1940s, or regarded as a purely descriptive account of the changing international division of labor during the catching-up process of late industrializing countries. In particular, the flying geese model is interpreted in the context of similar Western theories, especially Raymond Vernon's product cycle theory, which are often seen as more elaborate and theoretically informed than Akamatsu's approach.

This article aims to highlight the *differences* between the basic theoretical assumptions of Akamatsu's original interpretation of the flying geese model and theories of Western origin. Against this background, it analyzes the changes in the interpretation of the flying geese model at the level of academic thinking and political discourse in Japan and contrasts Akamatsu's original approach to the "westernized" reformulation of the flying geese model dominant today.

The article, addressing mainly questions of economic theory, should not be regarded as an introduction to the history of the actual flying geese pattern of economic development. While it briefly touches on questions of economic policy in order to show the importance of the theoretical issues for actual policymaking, it does not provide a politico-economic analysis of Japan's international economic policy, nor does it try to assess the empirical or normative validity of the flying geese model.[1]

The next section of this article, section 2, begins with a brief description of Akamatsu's original flying geese approach. In this description, the differences between Akamatsu's basic theoretical assumptions and neoclassical economic theory are emphasized. In section 2.3 the second part of this

[1] For accounts of the flying geese model from a politico-economic perspective, see Bernard and Ravenhill 1995, Cumings 1984, Dowling and Cheang 2000, Hart-Landsberg and Burkett 1998, Hatch and Yamamura 1996, Ōzawa 2001, Rowthorn 1996, 1997.

section, the fundamental differences between Akamatsu's approach and Vernon's product cycle theory are highlighted.

Section 3 shows how the interpretation of the flying geese model changed with Kojima Kiyoshi's reformulation as a "catching-up product cycle" and how it was introduced into Japan's political discourse by Ōkita Saburō.

Section 4, taking the example of the so called Japan–World Bank controversy over development assistance, demonstrates the relevance of the theoretical differences discussed in the preceding sections for understanding current Japanese views and debates on development strategy and development assistance policy.

The conclusion briefly summarizes the main findings of the text and places the changes of the interpretation of the flying geese model in the context of Japan's own economic development.

2. Akamatsu's Original Flying Geese Model

Akamatsu Kaname was born in Fukuoka in 1896. As the dean of the Faculty of Economics at Hitotsubashi University, Tōkyō, he was a highly influential economist until his death in 1974, and his works are still debated in Japan today (Korhonen 1997: 50).

Visiting the lectures of Fukuda Tokuzō, a renowned professor at the Tōkyō School of Economics (Tōkyō Shōka Daigaku, now the Hitotsubashi University), Akamatsu got acquainted with the thinking of both the German Historical School and leading British economists such as Alfred Marshall and John A. Hobson. At that time, the German Historical School was the dominant economic school in Japan (Shionoya 2001). Many of Akamatsu's ideas are based on the tradition of developmentalism in Japan. This "different tradition in the history of economic thinking … can be traced back at least to the German historical school [and] competes with that represented by neoclassical economics" (Gao 1997: 64–65; see also Pyle 1974).

While Fukuda took from the German Historical School the insistence on what would today be called the "social embeddedness" of economic activity and much of its historical method of analysis, he also referred approvingly to the "… common criticism of German scholars … that they devote themselves to policy, to the compilation of facts, and they don't emphasize the clarity of pure reason (theory)" (Fukuda 1925: 132. Quoted in: Nishizawa 2001: 163). Although Akamatsu didn't use the mathematical models that dominate today's mainstream in economic theory, he sought to combine the historical approach of the German Historical School and the theoretical rigor of Anglo-Saxon economists.

In 1924, after working as a junior teacher at the Nagoya School of Economics, Akamatsu went to Germany, where he attended lectures at universities in Berlin and Heidelberg for about two years. During his stay, he wrote an essay on Hegel's philosophical thinking, published in German (1927). The influence of German academics on Akamatsu's thinking is also evidenced by the fact that a number of the basic features of Akamatsu's flying geese model are already described earlier by German economist Walther Hoffmann (1931).

After his stay in Germany, Akamatsu visited the then recently established Harvard Bureau of Economic Statistics for three months. He was enthusiastic about the newly developed statistical techniques of the time. In many of his earlier writings, he presented his findings in a rather descriptive way, often focusing on the presentation of statistics. Still, these texts contain sufficient information to outline the basic theoretical assumptions and propositions of what can be called Akamatsu's original interpretation of the flying geese pattern of economic development.

2.1 Three Aspects of the Flying Geese Model

According to Akamatsu himself, the flying geese pattern "… denotes the development after the less advanced country's economy enters into an economic relationship with the advanced countries" (1962: 11). Akamatsu mentions the term *sangyō hatten no gankō keitai* [flying-wild-geese pattern of industrial development] for the first time in an article published in 1935 (Akamatsu 1935; see also Akamatsu 1937). Taking the example of Japan's woolen industry, he analyzes product development within one particular industry.

This can be regarded as the *intraindustry* aspect, or basic type of the flying geese model. This basic type can then be applied to the sequential appearance and development of industries in a particular developing country, leading to the *interindustry* aspect of the flying geese model. Combining the interindustry flying geese patterns of industrialization in economically interdependent countries results in the *international* aspect, which describes the subsequent relocation process of industries from advanced to developing countries during the latters' catching-up process. This aspect was introduced by Akamatsu in the early 1940s (Akamatsu 1943; see also Kojima 2000a, 2000b).

It is important to note that these types are not different theories, but merely different aspects of the same economic phenomenon. However, focusing exclusively on one aspect, like the international one, which dominates today's debate, can easily lead to neglecting the importance of the processes described by the other aspects of the flying geese approach. Presenting the intraindustry aspect of the flying geese model, Akamatsu states that the "… first period is when manufactured goods, mainly complete consumer goods, are imported from abroad. In the second period, domestic production emerges, which is followed by the import of natural resources and specific machines and tools for production. Third is a period of export industrialization when an indigenous production system is established" (Akamatsu 1944: 299).[2]

At first, the import of foreign products leads to the emergence of increasing domestic demand for these products, thus encouraging local production. When a domestic infant industry is sufficiently developed to process half-manufactured goods into fully manufactured goods, this shift of imported goods from fully manufactured to half-manufactured products appears, as well as an increase of the amount of imported natural resources. When domestic production finally exceeds domestic demand, exportation begins and then increases.

Drawing three time series curves, each indicating import, domestic production, and export of the manufactured goods to less advanced countries respectively, he presented this basic model as shown in Figure 1. The term "flying geese pattern," which was later used to describe the sequential development of countries, originally referred to the three time series, whose curves look like wedges of flying wild geese chasing each other.

As this description of the basic type of the flying geese model, which is the starting point of Akamatsu's analysis, shows, the explanation of the emergence of different products and industries does not rely on changes in relative competitiveness due to different factor endowments, as neoclassical theory – in particular the Heckscher-Ohlin theorem[3] – would predict. It is rather the result of demand linkages and complementarities of different products. Thus, it is not the relative *absence* of competitors in a particular segment of the market, but the *presence* of complementary products and industries that leads to economic development.

Another example of the importance of demand linkages in Akamatsu's model is the emergence of capital goods industries. As domestic production of consumer goods increases, the necessary machines are first import-

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[2] Translated by the authors.

[3] The Heckscher-Ohlin theorem, assuming mobile factors of different scarcity in different regions (i.e. countries), states that production processes using different proportions of various factors would be located internationally according to the relative scarcity of these factors.

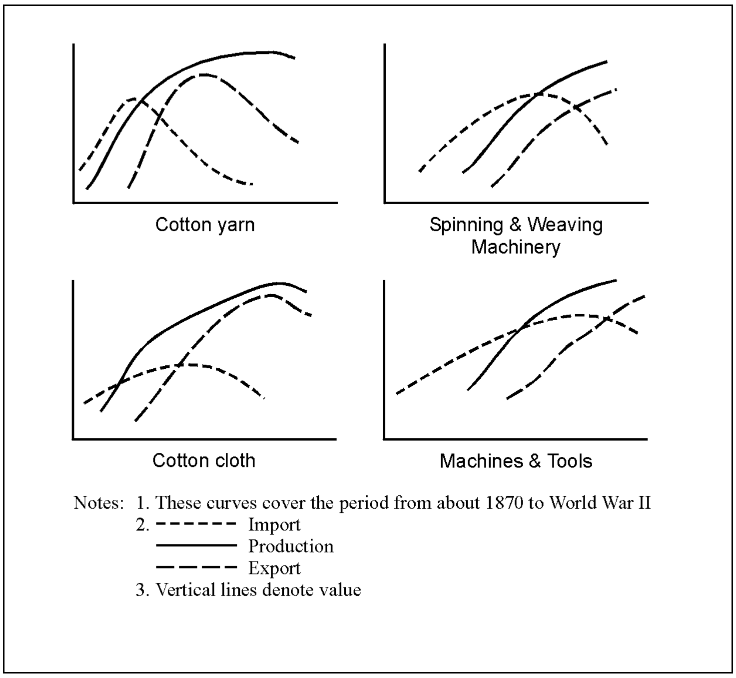

Fig. 1: **Intraindustry Aspect of the Flying Geese Model**

Source: Akamatsu 1961: 12.

ed from abroad, but are later produced domestically as well. While the domestic industry has to acquire certain technologies and skills in order to be able to produce capital goods, the main reason for the emergence of the production of capital goods is the domestic demand for them.

It should be noted that foreign direct investment played a minor role in economic development at the time when Akamatsu developed the flying geese approach. Yet Akamatsu was well aware of the importance of foreign influences for economic development, focusing on foreign technology and knowledge that help bring about domestic production. Rather than treating technology as a factor of production in isolation, Akamatsu preferred to use the term *seisan shudan* [productive resources] in his earlier works, referring to both material and immaterial means of production and stressing their role within the industrial fabric of an economy as a whole. The development of *seisan shudan* leads to the subsequent emergence of different industries and products, reflected in the interindustry aspect of the flying geese model.

With the introduction of the international aspect of the flying geese model, the flying geese metaphor assumed the meaning commonly used today. Akamatsu writes that the "… countries of the world form a wild-geese-flying order from the advanced countries … to the less-advanced countries …" (1962: 17). Taking the example of the East Asian region, C. H. Kwan has illustrated this subsequent emergence of different industries in a particular country, according to the interindustry aspect of the flying geese model, as well as the relocation of industries from advanced to developing countries, as shown in Figure 2.

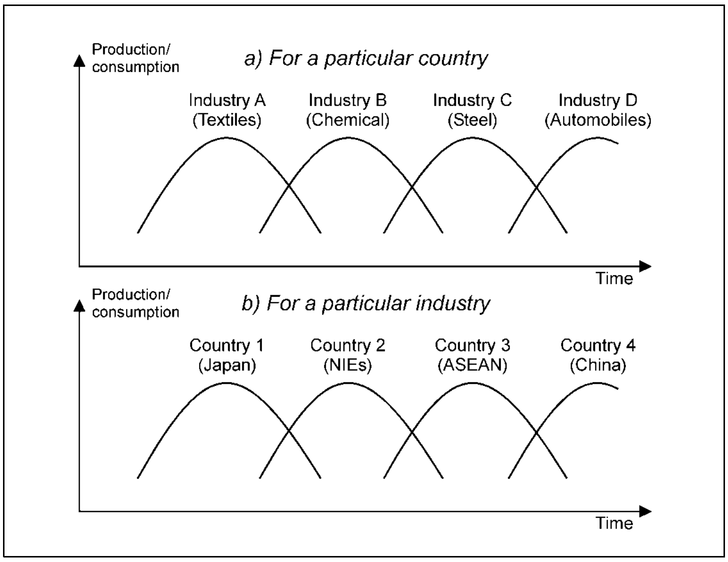

Fig. 2: **Interindustry and International Aspect of the Flying Geese Model**

Source: Based on Kwan 1994: 82 and Yamazawa 1990b: 9. Kwan uses "Indicator of comparative advantage" instead of "Production / consumption."

While the follower countries try to achieve *homogenization* of their economic structures compared with the advanced countries, the leading countries try to maintain *heterogeneity* through such means as technological innovation. Thus, Akamatsu points out that the flying geese pattern is not supposed to be a steady and gradual process of development. Countries do not all move forward at the same speed, but they "are at times dormant and at other times make leaping advances" (1962: 18). When advanced countries stagnate or make rapid economic progress, this causes the less advanced countries to make similar movements.

As already mentioned, the complementarity of industries in different countries is the main driving force in Akamatsu's analysis at the international level. This distinguishes him from the "protectionists" dominant within the German Historical School. Unlike Friedrich List, who saw similar economic structures as the precondition for mutually beneficial free trade (List 1928: 213), Akamatsu regards, as the starting point for his analysis, a situation in which countries produce similar industrial products as a *homogeneous* opposition, resulting in a "substitutional and conflictive relationship." On the other hand, *heterogeneous* economic structures have, according to Akamatsu, a "complementary relationship" (1961: 198).

Akamatsu explains not only the economic development of backward countries, but also the long-term business cycle of advanced countries, as the result of an innovation process resulting in a heterogenization of international production, expanded trade and hence the rise of the business cycle, and, on the other hand, the homogenization of international production due to the diffusion of industrial know-how to backward countries and the upgrading of their industries, which leads to protectionism and the downward phase of the long-term business cycle (1961: 200–205).

2.2 Demand Linkage, Economic Policy, and Dialectics

This concept of innovation, understood as the emergence and diffusion of knowledge and the upgrading of the productive resources of the industrial fabric of an economy, is fundamental to the understanding of Akamatsu's approach. With regard to differences between economies at various stages of development, later interpretations of the flying geese pattern often refer to differences of factor endowments of countries and factor proportions in the production of different goods (e. g. Kwan 1994: 81). The factor proportions theory is also an important element of neoclassical concepts of economic development. Akamatsu, however, analyzes the process of the international division of labor as driven by changes in "comparative cost structures," which are themselves caused by innovation (1961: 201). Instead of referring to production *factors*, he points to the importance of *knowledge* as well as *linkage* effects and characterizes industrial development as "the progression from crude and simple goods to complex and refined goods" (1961: 208), without referring to the proportion of factors used in their production.

Akamatsu, stating that the "wild-geese-flying pattern is also a demand linkage" (1961: 209), points to important similarities between the flying geese approach and Albert Hirschman's theory of unbalanced growth. While factor-based theories focus on the allocation of supposedly limited productive resources, like capital or entrepreneurship, to their most efficient use, Hirschman stresses the importance of linkages that are needed to combine available resources and can motivate the creation of additional resources (Hirschman 1958). Akamatsu, criticizing his own approach as "one-sided" (1961: 212), states that both backward linkages, on which the flying geese approach is based, and forward linkages are "bringing about industrial growth by alternating action" (1961: 211). In particular, the international aspect of the flying geese approach can be interpreted as a theory of international linkage.

Akamatsu mentions that his basic idea of the sequence "import – domestic production – export" is similar to an earlier version formulated by Friedrich List, according to whom the import of manufactured products first leads to an upgrade of domestic agriculture, making domestic production and the subsequent substitution of foreign products by domestic products possible (Akamatsu 1961: 207, referring to List 1928: 70).

However, as already mentioned, Akamatsu was much more optimistic about the possibilities of transferring innovations, skills, and technologies from advanced to developing countries than Friedrich List and most economists belonging to the German Historical School. List advocated a comprehensive system of protection of new industries from imports, though not the complete prohibition of imports (List 1928: 72). Akamatsu, who regards imports as generally beneficial, argues that imports lead to increased domestic consumption and transfer of product-related knowledge. Both, in turn, lead to domestic production.

Still, Akamatsu was well aware of the contradictions that are caused by the presence of imports originating from countries with much greater production efficiency. He characterizes the relationship between consumer goods imported from the advanced countries and those of the native processing industries as "conflicting" (1962: 3) and reports that "many handicraft industries which had existed among the natives were destroyed by manufactured consumer goods imported in exchange of native specialities" (1962: 5). As Robert Rowthorn points out, this "is not the harmonious 'recycling of comparative advantage' that more recent exponents of the flying geese paradigm talk about, but a genuine conflict in which local entrepreneurs are engaged in a 'death struggle' against imports ..." (Rowthorn 1997: 38).

Akamatsu does not only regard the situation as conflicting in an objective sense, but also points to the opposing interests involved. Taking the British colonies in North America as his main example, he describes how countries that have gained some degree of economic independence from the advanced countries can react to this situation. The conflicting relationship, he argues, "... gives birth to economic nationalism in the less-developed countries. This economic nationalism movement first takes shape in the raising of import tariffs on imported consumer goods or in the direct limitation of imports. If the protective policy is effective and imports are checked while production by national capital increases, the native industry might be said to have attained the take-off stage" (1962: 8). According to Akamatsu, the adoption of technologies through the import of foreign products and goods, itself the result of successful development, gives people confidence and power to be able to claim their national economic rights in the face of both opposing domestic political forces and foreign countries.

Seen from the perspective of the international aspect of the flying geese model, national policies can be used to accelerate the process of development and, if successful, even to change the initial sequence of countries in the flying geese formation:

> "… it is not impossible that the geese flying behind catch up to the leading geese. Especially when national protective industrial policies are pursued, it is possible to achieve a rapid increase of domestic production, decrease the amount of imports by political means, and promote exports. Therefore, the flying geese model can be applied as a national policy" (Akamatsu 1956: 518; see also 1950: 168).[4]

Akamatsu argues that development policies should relate closely to ongoing trends and tendencies in the economy itself, rather than trying to induce completely new processes. Based on an interpretation of Hegel that was probably inspired to a large degree by Marx's critical writings on Hegel's dialectic, he has characterized such a close relationship of normative actions with the changing actual reality as *Vernünftiges Sollen* [reasonable ought] and contrasted it with idealistic concepts of normativity (Akamatsu 1927). Akamatsu's concern is to argue against overly ambitious interventionist policies that do not relate to real development trends and possibilities rather than against industrial policy in general, as he writes that "… in the case of a stimulating policy, if the target of that policy does not correspond to the essential underlying tendency [of the economy], the stimulating discrepancy turns out to be a discrepancy which cannot stimulate, and the policy must be curtailed. … if a large iron foundry constructed according to the national policy is unable to create supply linkage and becomes inoperative, the policy itself must be changed" (1961: 214).

Akamatsu thus does not regard heterogeneous international economic structures as such as the sufficient precondition for successful development. For him, it is rather the continuous occurrence and reoccurrence of

[4] Translated by the authors.

heterogeneity *combined with* the constant effort, including by political means, to reduce this heterogeneity that lead to economic development. In an earlier publication, Akamatsu states that "… the flying geese pattern of industrial development is a dialectical process. The increase of imports of fully manufactured products often reduces the production of a particular domestic industry and also triggers contradiction, causing depression due to the fact that domestic consumption power tends to concentrate on the imported goods. The power to terminate the contradiction lies in, firstly, naturally shifting the capital of a particular industry to the manufacturing of highly profitable imported products, and, secondly, promoting this movement by national economic policy. Therefore, an increase in imports of manufactured products has to be turned into a rise of self-production that actually negates the imports" (1943: 565).[5]

This process, however, does not simply eradicate the previous heterogeneity, but *negates* it and results, as the synthesis of the dialectical contradiction, in a situation where, in order to be able to produce goods locally, the country has to import capital goods from abroad in exchange for its locally produced consumer goods. This, argues Akamatsu, "is a heterogeneous relationship higher than the international trade of previous stages between manufactured consumer goods and primary products" (1962: 9). The original contradiction is thus negated, but leads to a new contradiction at a higher level. Akamatsu calls this continuous cycle of intertwined processes of heterogenization and homogenization "synthetic dialectics" (1961: 213–214).

2.3 The Flying Geese Model: A Product Cycle Theory?

Akamatsu's original flying geese model as well as its subsequent interpretations are sometimes seen as a precursor, or as a more descriptive version of the product cycle theory developed by Raymond Vernon in the 1960s (Korhonen 1997: 62). Even more often, both theories are simply presented as "very similar" (Yamamura and Hatch 1997: 14). Scholars from Japan and other Asian countries, including academics well aware of the differences, have used the terms "catching-up product cycle" (Kojima 1978: 64–70; Yamazawa 1990a: 13) and "product cycle" (Itō 2001: 91; Jomo 2001: 476) to describe the flying geese approach, a fact that probably contributes to the prevailing misunderstandings.

Vernon's product cycle theory is based on the perspective of the individual firm making decisions on the location of its production facilities. Ver-

[5] Translated by the authors.

non distinguishes different products by their degree of *maturation* and *standardization* rather than by technical sophistication. When new products develop into mature products and later reach the stage of standardized products, their production location changes from the United States – as the most advanced country – to other industrialized countries and, subsequently, to developing countries (Figure 3).

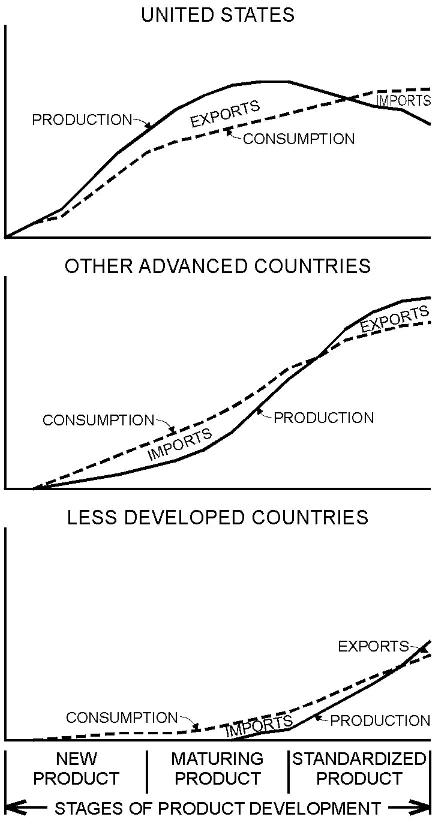

Fig. 3: **Vernon's Product Life Cycle**

Source: Vernon 1966: 199.

While the descriptive results of both theories with regard to the changes of the actual location of production activities seem similar, the theoretical approaches differ considerably with regard to their analyses of the *process* of economic development, understood as the relationships between initial conditions, actions on the part of government and society, market forces, and actual economic development.

The main difference between both theories is the fact that the flying geese approach focuses on the sequential development of industries in developing countries, while the product cycle theory looks at the location of the production of a particular product during its life cycle. While both approaches might seem to result from looking at different aspects of the same phenomenon or analysis, similar to the different aspects of the flying geese model described above, they in fact result from focusing on certain aspects of economic activity while taking others as given. Just as the flying geese approach regards the innovation of new products in advanced countries as exogenously given, the product cycle theory regards each country's technological level as given and static. Thus, the product cycle theory is able to show how developing countries can produce an increasing set of standardized products, which successively become suitable for their stage of economic development, but it cannot explain how countries can upgrade their economies and thus move from one stage of development to the next.

While Vernon notes that his theory would only be concerned with "a modest fraction of the industry of such countries, which in turn is a minor fraction of their total economic activity" (1966: 207), the product cycle theory is often regarded as a model explaining not just the activities of international companies, but the evolution of the international division of labor in general. Vernon himself regarded technology as an important factor in international trade and attempted to combine this analysis with the product cycle theory (Gruber and Vernon 1970: 264, 267), but he distinguishes between the general characteristics of international trade and the specific effects of the existence of multinational companies (Vernon 1974).

In this view, not only the domestic and international production facilities of international companies, but whole countries specialize in specific production processes determined by the innovation, maturation, and standardization of products. While not necessarily adapting factor-based criteria for the determination of the competitive advantage of different countries for given products, the countries are seen as locations at different, but static stages of development. The development process and ability of countries to compete in the production of particular products are seen as determined by the global process of innovation – the dynamic element of this model.

The different explanations offered by both theories are not just of theoretical concern, but also provide very different recommendations for a country's development strategy. According to the product cycle view, a country should primarily look for products in which the economy has a competitive advantage, so that they can be immediately produced and sold on the world market. As developing countries are competitive in those – standardized – products, which do not require much "communication" or "external economies" (Vernon 1966), i.e. linkages, there is no particular need for upgrading the overall industrial fabric, technological infrastructure, or human resources. While predicting that backward countries will always find products in which they will have a competitive advantage, this view does not offer a perspective of catching-up with the advanced economies, as the developing countries specialize in precisely those economic activities that are least likely to result in an upgrade of their economy. On the other hand, it can be argued that the flying geese approach does not take into account the effects of the dynamic innovation of new products and its repercussions on the entire structure of industrial sectors (Bernard and Ravenhill 1995).

Akamatsu developed his analysis by looking at the pattern of product development in a particular industry in Japan, a developing country at the time. It is interesting to note that this focus on the industry of one particular country is also true for the early work of Raymond Vernon, who started his research in this field by looking at the division of labor between different locations in New York City and the surrounding area (Hoover and Vernon 1959; Vernon 1960) and based his product cycle theory on these earlier studies (Vernon 1966: 194). However, their different starting points resulted in very different ways of looking at economic development and the international division of labor. While Akamatsu takes the viewpoint of the *developing* country, Vernon's analysis is based on the viewpoint of an *advanced* economy. (See also Dowling and Cheang 2000: 446.)

While Vernon's product cycle theory shares the viewpoint of an advanced economy with many other "Western" theories, it differs markedly from the neoclassical mainstream based on the factor proportions theory. While not denying the existence of market forces consistent with the neoclassical theory of factor allocation, Vernon states that the prediction of a competitive advantage of less developed countries for standardized products "… seems on first blush to be wholly at variance with the Heckscher-Ohlin theorem" (1966: 202). As already explained above, this partial rejection of the factor proportions theory can also be found in Akamatsu's original approach.

3. The "Westernization" of the Flying Geese Model

Kojima Kiyoshi's *catching-up product cycle* theory is certainly the most influential contemporary interpretation of the flying geese model. Kojima stressed the differences between Vernon's product cycle theory and the flying geese model. Yet he did not focus on the different viewpoints of Vernon's and Akamatsu's approaches described above. Rather, he opposed the microeconomic approach of Vernon's theory and the macroeconomic elements in Akamatsu's thinking and combines Akamatsu's ideas with the macro-economic view of the factor proportions theory. As a result, Kojima's effort to promote the flying geese approach internationally did not result in a "Japanization" of the international debate, but rather led to a "westernization" of Japanese ideas on economic development as expressed in the flying geese model.

While Western, especially Anglo-Saxon, economic thinking in general became much more influential in Japan after the Second World War, the "westernization" of the flying geese approach also reflects the rapid economic development of the country, which achieved the stage of an advanced, or leading, economy soon after the war, especially in comparison with other Asian countries. The various problems of the economic development of a backward country were immediately visible to Akamatsu, but much less obvious to later generations of Japanese academics and officials.

Especially in his earlier writings, Akamatsu presented many of his arguments from the viewpoint and the interests of the follower country. As Japan's economic interests were more and more determined by its new role as an advanced economy, Akamatsu's original view underwent a reformulation that adapted the flying geese approach to the new circumstances.

3.1 Kojima's Catching-Up Product Cycle Theory

Kojima Kiyoshi, a professor emeritus at Hitotsubashi University and Akamatsu's most important scholar (Akamatsu 1975: 65–66, Kojima 1962a: 6), was highly influential in the formulation of Japan's regional policy in the Asia-Pacific region since the 1960s. He was born in 1920 and was already collaborating closely with Akamatsu during the war, when he was coauthor of *Sekai keizai to gijutsu* [World economy and technology] (Akamatsu and Kojima 1943).

Kojima presented the flying geese model in a wider debate on the role of multinational companies that took place in the 1970s. Integrating the phenomenon of foreign investment into the flying geese model, he expands

Akamatsu's original description of the flying geese pattern, adding a period combining declining production and exports with rising offshore production and reverse imports from less developed, follower countries (Figure 4).

Comparing the "American-type, anti trade-oriented" foreign direct investment (which would follow Vernon's product cycle theory) and "Japanese-type, trade-oriented" (1978: 15) foreign direct investment (which would follow the flying geese model), Kojima takes a quite critical view on the activities of multinational companies:

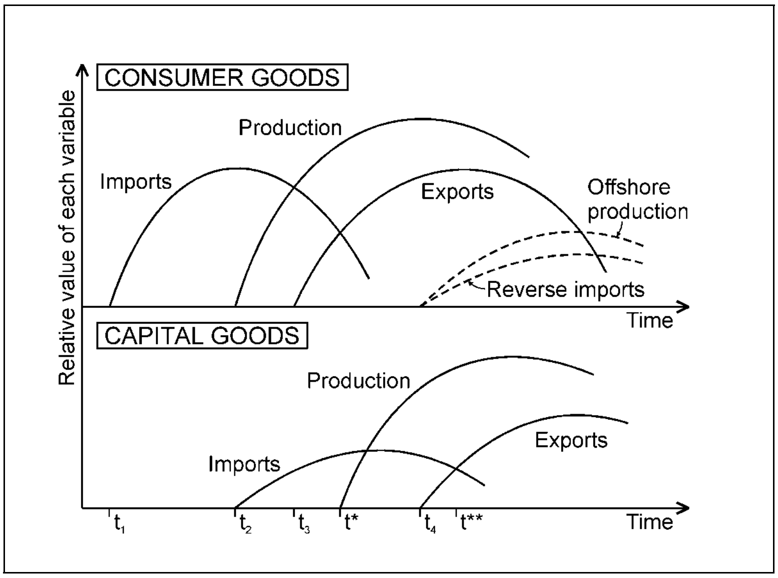

Fig. 4: **Kojima's Catching-Up Product Cycle**

Source: Kojima 2000b: 378.

> "I fear that … developing countries are in danger of not only being charged an exorbitant price for unnecessary beverages or expensive pharmaceuticals, but the countries are also in danger of surrendering all their important production activities to the multinationals. … The dominant theories of direct foreign investment and multinational corporations in the US seldom integrate the idea that direct foreign investment should complement and support the step-by-step and well balanced economic development of host countries, especially that of developing countries" (Kojima 1978: 10–11).

Contrary to the product cycle theory, Kojima's reformulation of the flying geese approach is based on the relative comparative advantage of countries in their respective stages of economic development as described by the Heckscher-Ohlin-Samuelson theorem,[6] rather than on the absolute competitive advantage of oligopolistic companies: "In order to support an international division of labour and coexistence of nations, it is important to analyse it from the point of view of the comparative costs formula. The H-O-S theorem provides us with the best logical reference" (1978: 48).

When multinational companies invest in developing countries, rather than use their firm-specific advantages (management skill, economies of scale) in advanced industries to increase their market share in the developing countries, they should focus on more backward industries and other sectors (e.g., raw materials), in which the developing countries have a relative competitive advantage, in order to supply goods for the world market. These industries should be those in which the advanced countries are losing comparative advantage while developing countries "are gaining it (or are expected to gain it)" (1978: 86; see also 1995: 29).

Kojima clearly conceives his catching-up product cycle theory as a *dynamic* analysis of the international division of labor, which distinguishes it from the static view of the neoclassical account of the international division of labor. Investment decisions, according to Kojima, should be based on *prospective* (or dynamic) comparative advantage at a more advanced stage of development, rather than on their *current* comparative advantage. Thus, he states that "while the H-O-S theorem is the best reference to the 'comparative' way of thinking, analysis of international investment must allow for dynamic effects and not be restricted to the *static* framework of the H-O-S theorem" (1978: 42; emphasis by Kojima). However, this dynamic development, rather than being the result of *linkages* and the *dialectical* interaction of imports and domestic production, as in Akamatsu's original approach, is due to the *specialization* of countries within a global or regional market.

Kojima sees the difficulties in the application of the theory of factor proportions to the economic reality. He declares that "there is a difference between the assumptions of the H-O-S theory and practical developments in international trade and investment" (1978: 40) and proposes to reformulate the Heckscher-Ohlin model using labor and managerial resources instead of labor and capital as factors, defining "managerial resources" as

6 In the Heckscher-Ohlin-Samuelson theorem (H-O-S theorem), Paul A. Samuelson expanded the Heckscher-Ohlin theorem, assuming factors of production to be mobile between countries.

"capital which includes not only material capital, but also human capital such as technology and skills" (1978: 79).

Yet the inclusion of "managerial resources" into a factor proportions-based version of the flying geese approach results in conceptual difficulties, as these factors are, as Kojima himself assumes, "specific to the individual industries and cannot move between industries" (Kojima 1978: 77). Taking this assumption, it follows that a model of the international division of labor could only be formulated for a given industry, but not for the economy as a whole. Yet the *interindustry* division of labor as well as the explanation of the emergence of new industries in developing countries are essential elements of the flying geese approach. Kojima himself argues that "if it is supposed that managerial resources are specific factors, this easily leads to a justification of 'enclave'-type direct foreign investments of monopolistic or oligopolistic firms" (1978: 78).

Therefore, Kojima extends the Heckscher-Ohlin theorem in order to include elements other than physical capital, but mostly treats these elements as general – i.e. mobile and reproducible – rather than specific factors. Instead of providing a synthesis of micro- and macroeconomic theories, Kojima's approach in fact incorporates microeconomic aspects into the fundamentally macroeconomic framework of the factor proportions model.

As a consequence of the aim to present a harmonious model of economic development and international trade, conflicting interests are seldom mentioned in Kojima's interpretation and other contemporary accounts of the flying geese approach. Especially, active industrial policy and targeted protection measures are rarely mentioned. Often, the import substitution phase, in which protectionism and active industrial policy can play an important role according to Akamatsu's original flying geese approach, is neglected, and the focus is exclusively on export promotion and export-led growth.

Where Kojima mentions the existence of conflicts, he sees them as a result of "American-type" foreign direct investment, "where managerial resources are artificially guarded as a specific factor of production and oligopolistic direct foreign investment takes place" (1978: 79). While Kojima does not deny the existence of conflicts, his approach is harmonious in a *normative* sense: if multinational companies *would* take investment decisions according to Kojima's model, a symbiotic international division of labor between advanced and developing countries would "… harmoniously promote an upgrading of industrial structure on both sides and thus speed up the expansion of trade between the two countries" (1978: 14–15).

Here, Kojima sees his approach as a guideline rather than a description of reality. According to his writings, the reason for the occurrence of conflict would be primarily the result of a mistaken belief on the part of multinational corporations or their home countries in oligopolistic theories of international investment and trade. Yet this proposition rests on the questionable assumption that the technological and managerial resources of advanced economies and multinational companies would indeed be sufficiently mobile, and that it would be in the best interest (if maybe not in the perceived interest) of those economic agents to refrain from "artificially" guarding them. As Jomo Kwame Sundaram puts it:

> "Although Akamatsu's original version of the flying geese hypothesis acknowledged the likelihood of bitter struggles over declining industries and import penetration, its latter-day reformulations often imply or even claim that for Japan's 'followers' to catch up, they should privilege 'benevolent' Japanese FDI and official development assistance, which are seen as purely complementary to domestic investments. These harmonious versions tend to ignore the contentious conflicts over key issues such as the terms of FDI as well as the upgrading of production activities and transfer of technology" (Jomo 2001: 480).

The point here is not to show that Kojima's *description* of the actual pattern of economic development, especially of foreign direct investment in East Asia (Kojima 1985, 1995) would be wrong, but that his *analytical approach* – based on a dynamic version of the factor proportions theory – presents it in a harmonious way that deflects attention from the conflict of interests and the dialectical processes that developing countries should keep in mind when formulating strategies for their economic development.[7]

[7] As neoclassical trade theory predicts, labor costs do indeed influence the composition of trade between developing countries and advanced countries, and this leads to a greater amount of labor-intensive products in their exports. This descriptive statement, however, does not validate the factor proportions theory. The fact that a larger part of the production, and especially exports, of developing countries tends to take place in labor-intensive industries, for example, can be explained by comparing the wage difference and the costs of overcoming "obstacles" due to limited technological and managerial resources (including those costs that are usually accounted for in the form of lower labor productivity) rather than relative prices of labor and capital. Moreover, to expand this analysis from a *theory of trade* into a general *theory of economic development* is questionable, as it can be argued that, in order to raise overall industrial productivity and thus be competitive in labor intensive sectors in the world market, developing countries need a more well-balanced overall industrial structure, including capital intensive sectors. According to an UNCTAD report, this well-balanced industrial structure is one of the reasons for the rapid development of the South Korean and the Taiwanese economies (UNCTAD 1993). For a description of Japan's development, see Yamazawa 1990a, especially pp. 141–164, and Yanagihara 1997: 25–26.

Although they apply very different theoretical concepts, Kojima's reinterpretation of the flying geese approach, as well as Vernon's product cycle theory, are both formulated from the viewpoint of the advanced economy, with Vernon taking a microeconomic, firm-level approach, and Kojima incorporating the flying geese model into the macroeconomic theory of factor proportions. Both theories share important characteristics of most Western theories, including many versions of the dependencia school, which also focus on macroeconomic aspects and neglect the importance of microeconomic industrial structures and linkages. On the other hand, Akamatsu's original approach offers a distinctly different viewpoint in comparison to most Western theories of economic development.

The similarities and differences between the different interpretations of the flying geese approach, Vernon's product cycle theory and the neoclassical theory (as a typical "Western" theory) are summarized in Table 1.

	Flying Geese Approach		**Product Cycle Theory**	**Neoclassical Theory**
	Akamatsu	**Kojima**	**Vernon**	
Main concept	Linkages	Factors (economy-specific)	Resources (firm-specific)	Factors (capital and labor)
Driving force of development	Demand	Supply	Supply	Supply
Country development	Dynamic	Dynamic	Static	Static
Product development	Static	Static	Dynamic	Static
International trade	Moderate protectionism	Free trade	Moderate protectionism	Free trade
Industrial policy	Comprehensive	Limited	Limited	None
Dialectical view	Yes	No	No	No

Table 1: **Major Differences Between Theories of Economic Development**

3.2 The Flying Geese Model in Japan's Political Discourse

The following description of the influence of the flying geese approach within Japan's politics focuses on the way that this change in the viewpoint of Japan, from the perspective of a developing country to that of an advanced country, as well as changes in Japan's interests, have led to the dominance of the reformulated, "westernized" flying geese approach derived from Kojima's interpretation. In doing so, it aims to demonstrate that the differences between the academic interpretations of the flying geese model described above can also be found in the popularized versions of the theory, pointing to a more widespread change in the perspective taken by the proponents of the flying geese model within Japan's political sphere.

Akamatsu formulated the flying geese model during Japan's invasion of China and the Pacific War. However, it would be misleading to see the flying geese approach as a specific wartime theory. Akamatsu's writings are based on an analysis of the Japanese economy since it opened up to Western countries in the nineteenth century, and his graphs usually deviate significantly from his theory's prognosis during the years leading up to the Pacific War. Furthermore, Akamatsu's support of international trade, including with Western countries, was at odds with Japan's actual situation during the war. Akamatsu regarded Japan not as a *senshinkoku* – a highly developed, or *leading* country – but as a *shinkōkoku*, a more advanced country *within the follower countries*, and his theory does not suggest the establishment of a closed regional economic system. Nevertheless, Akamatsu's theory was used as an ideological justification of Japan's imperialism in Asia, and it remains important to further clarify Akamatsu's personal involvement in Japan's war planning.

It was not until the 1960s that the flying geese model became more influential in Japan's post-war political discourse, and it became "the development orthodoxy among Japanese economists and intellectuals in the early and mid-1990s" (Jomo 2001: 476). It is "cited routinely not only by economists, but also by business and government elites" and "became an ideology justifying Japan's ongoing role as the economic hegemon of Asia" (Hatch 1998, Internet).

Probably the most important person for the promotion of the flying geese model in Japan's political discourse, apart from Akamatsu and Kojima themselves, was Ōkita Saburō, "perhaps the most influential of all post-war *kanchō ekonomisuto* [bureaucratic economists]" (Morris-Suzuki 1991: 145). Brain trusts of economists played an important role in shaping Japan's economic policy (Gao 1997: 241). Ōkita, already an important economic official during the Pacific War, held various pivotal positions in Japan's economic agencies from 1945, including at the Economic Planning Agency and the Overseas Economic Cooperation Fund, and was responsible for the 1960 National Income Doubling Plan. Although he was not a scholar of Akamatsu and had no relationship with the Hitotsubashi University, he embraced Akamatsu's flying geese approach as the main theoretical foundation of his thinking on international economic issues.

On the initiative of Miki Takeo, foreign minister of Japan in 1967, Ōkita and Kojima, the "founder of PAFTAD" (Patrick 1997: 3), brought the Pacific Free Trade and Development (PAFTAD) conference into existence.[8] In 1968, Ōkita was president of the Japan Center for Economic Research, where the first PAFTAD conference was held. At the time PAFTAD came into existence, Japan was becoming an advanced industrial country, but with a still rapidly growing economy. In particular, the new economic situation of Japan as a potentially leading country within Asia changed Japan's interests as perceived by liberal internationalists such as Ōkita and Kojima.[9] In this regard, it is quite interesting to note that only a few years earlier, in 1962, Kojima "… dismissed the idea of integration with the Asian countries …, saying that it would disrupt the degree of national economic well-being Japan had already attained …" (Korhonen 1997: 104, see also Kojima 1962b).[10]

In 1975, when the organization of PAFTAD was formalized, Ōkita joined Kojima and Peter Drysdale, who had written his doctoral dissertation at Hitotsubashi University under the supervision of Kojima (Patrick 1997: 9–10), to form its Executive Committee. Later, in 1983, the PAFTAD Secretariat was established at the Australian National University, with Drysdale as its director.

In 1979, Ōkita headed a Japanese study group that paved the way for the first Pacific Economic Cooperation Conference (PECC), taking place in Canberra in 1980, before serving as foreign minister under Prime Minister Ōhira for eight months until July 1980. Yet it was not until his time as Chairman of PAFTAD from 1983 until 1985 that Ōkita made an official public reference to Akamatsu as a main source of his economic ideas at an international conference. In a presentation to PECC in 1985, he declares:

> "The division of labor in the Pacific region has aptly been called the 'flying geese' pattern of development. (This term was coined in the

[8] In this period of time, the flying geese approach also became gradually known to Western scholars, albeit on a limited scale (Zimmerman 1964; Rapp 1967; Higgins 1968; Sautter 1973).

[9] The impact of the important political changes in Southeast Asia on Japan's policy are discussed in Suehiro 1999.

[10] On Gunnar Myrdal's argument, see Myrdal (1956).

> 1930s by the Japanese economist Kaname Akamatsu – the same man who originated the concept of dynamic change in the international division of labor). Traditionally, there have been two patterns or types of international division of labor: the vertical division of labor such as prevailed in the 19th century to define relations between the industrialized country and the resource-supplying country or between the suzerain and the colony; and the horizontal division of labor typified by the EEC .... By contrast with both of these types, the 'flying geese' pattern represents a special kind of dynamism" (Ōkita 1985: 21).

At that time, as chairman of the Advisory Committee for External Economic Issues, Ōkita developed guidelines for policy measures to improve market access to Japan. Ōkita later declares: "What I am proposing is a Japanese version of the Marshall Plan. ... At the same time, Japan must continue its efforts to import more primary products and, more important, more internationally competitive manufactured products from other Asian countries" (Ōkita 1989: 231).

Yet, although the proponents of the flying geese approach were arguing for increasing Japan's imports, in order for Japan to fulfill its role as the "lead goose" in the flying geese pattern, their efforts had limited success, as powerful domestic interest groups in Japan prevented or slowed down the increase of Japan's imports. Thus, although Japan developed rapidly, it did not take over the position of the primary export market for the developing Asian countries from the U.S., which remained the "lead goose" in the Asia-Pacific region. As Ōkita's career, and the PAFTAD conference, which later led to the establishment of the PECC in 1980 and the Asia Pacific Economic Cooperation (APEC) forum in 1989 (Morrison and Evans 1995; Patrick 1997), shows, the proponents of a regional vision based on the flying geese pattern were influential within Japan's political discourse on regional economic issues. Yet, especially with regard to Japan's own trade policy, their influence was clearly limited in comparison with that of proponents of a more narrow view of Japan's economic interest and powerful domestic interest groups.

While Ōkita was aware of the problems that developing countries face when they try to enter the markets of industrialized countries, he was less aware of the various difficulties that latecomer countries face in the process of industrial and technological development. While Akamatsu clearly viewed the international division of labor from the backward country's perspective, and thus, for example, recognized the need for active industrial policy, including temporary measures of import substitution, Ōkita almost exclusively focuses on the promotion of exports: "There are several things to be said for concentrating on exports. For one, the process of tighter integration with the rest of the world economy exposes domestic industry to world-class competition and thus both fosters industries which are globally competitive and imposes cost consciousness on economic planning and policy choices. Another advantage is that it draws on market mechanisms to encourage private-sector vitality" (Ōkita 1985: 19).

Thus, at the time when the flying geese approach was most influential in the political discourse in Japan, it was not Akamatsu's original model, but Kojima's "westernized" interpretation that dominated the debate. Not only did it fit the perception of Japan's interests (as viewed by liberal internationalists) better than Akamatsu's original ideas, it also corresponded to the new economic reality in Japan, which had overcome most of the initial problems of economic development, leading to a perception of economic issues from an advanced country's viewpoint. Later, even Kojima, closer than Ōkita to the academic debate in general, and more aware of Akamatsu's intellectual heritage in particular, states that Ōkita would overly focus on the international aspect of the flying geese model, neglecting the intra- and interindustrial aspects, which are more closely related to the viewpoint of the developing countries (Kojima 2000a: 99).

4. The Japan–World Bank Controversy

Although the dominant interpretation of Akamatsu's flying geese model underwent major changes during the last decades, his fundamental ideas are not forgotten in Japan. Many Japanese economists, especially scholars of development theory as well as government officials in the field of development assistance, are critical of the neoclassical approach (Ohno and Ohno 1998).

In the 1990s, this led to a debate between Japan's government, especially the Overseas Economic Cooperation Fund (OECF), and international financial institutions, in particular the World Bank, which has since been called the Japan–World Bank controversy. In 1991, the World Bank complained about market distortions caused by Japanese "two-step" loans, which are lent on by local development agencies. For its part, the OECF emphasized the lack of functioning financial markets in developing countries and the nonexistence, ineffectiveness, or negative consequences of the market mechanism in many economic sectors in developing countries and stressed the need to strengthen institutions in developing countries and to devise suitable policies in the absence of strong institutions and functioning markets (OECF 1991).

Since the publication of the World Bank's East Asian Miracle study (1993), a result of this debate, Japan and the World Bank have reached some form of compromise with regard to day-to-day policymaking, but the academic discussion and background discussions between officials continue (OECF 1999; Ishikawa 1996; Gotō 1997; Yanagihara and Sambommatsu 1997; Ohno and Ohno 1998; Stiglitz and Yusuf 2001).

That the differences are to be found not in the details, but in the very fundamental assumptions of both viewpoints is also recognized by the people involved in the discussions themselves. Thus, in 1997, Yamada Katsuhisa, then President of the Institute of Developing Economies, highlighted the fundamental differences, criticizing the World Bank East Asian Miracle study as being "… based on neo-classical economics, deeming market economics omnipotent and taking its position from the mechanistically rational paradigm of science founded by René Descartes in the 17th century. We believe, however, that this view may oversimplify matters" (Yamada 1997: v). Yanagihara Tōru, OECF's "point man" on the East Asian Miracle study (Terry 2000: 86), describes his Economic Systems Approach (ESA) as a "historical, evolutionary perspective", while the "neoclassical paradigm, modeled after classical physics, is essentially ahistorical and non-evolutionary" (Yanagihara 1997: 1). He also characterizes the World Bank's approach as "based on the 'framework' thinking of neoclassical economics". "In contrast", he claims, "the dominant school of thought in Japan is informed by the 'ingredients' thinking" (1997: 9–10).

Many of the basic issues of the debate, especially with regard to the analysis of production factors or resources and the role of economic policy, relate to the same aspects that distinguish Akamatsu's original thinking from both neoclassical economic theory and many of the later interpretations of the flying geese pattern of economic development.[11] While most of the Japanese participants in this debate do not refer to Akamatsu or the flying geese approach in their writings, the linkage theory, or "ingredients thinking," an important aspect of Akamatsu's flying geese approach, is, according to Yanagihara, still the underlying theoretical foundation of most Japanese theories on economic development. "The Japanese have never developed a macroscopic theory, but imported it from the West" (Yanagihara 2001).

The Japan–World Bank controversy therefore shows that the differences between Akamatsu's approach and other theories are not due to any sin-

[11] Within the scope of this article, however, the differences, which are not only related to development theory, but also to numerous aspects of development assistance policy, cannot be explained in detail. An important issue in the current debate, which is largely absent in Akamatsu's Flying Geese theory, is the role of institutions. For detailed accounts on the Japan–World Bank controversy, see Emig 1999 and Wade 1996.

gular characteristics of Akamatsu's thinking. Rather, Akamatsu's flying geese approach is one example, although probably the most accessible, of the different underlying theoretical assumptions of "Japanese" and "Western" theories on economic development. The fact that this controversy was (and still is) not restricted to the academic sphere, but led to intense discussions at the highest levels of Japan's major aid agencies and the World Bank underlines the importance of these fundamental differences in the viewpoints of both sides in the debate.

5. Conclusion: Contrasting Mindsets of Japanese and Western Scholars

Akamatsu's original flying geese theory, taking the perspective of the developing country, is obviously different from the neoclassical approach, which is still highly influential within global financial institutions such as the International Monetary Fund and the World Bank. Advocating active government policies to promote industrial development, it also differs considerably from the New Institutionalism that gained much support within the World Bank during the 1990s. The emphasis on the entire process of industrial development within a country and the concept of linkages distinguishes it from Raymond Vernon's product cycle theory. Furthermore, Akamatsu's generally favorable view on trade between advanced and developing countries is at odds with most theories of the *dependencia* school.

As the theoretical background of Akamatsu's original flying geese approach does not easily fit into the categories of contemporary Western theories, it is often either ignored or taken as a pure descriptive account of the economic development of rapidly growing East Asian countries. The reformulation of the flying geese model by Kojima and others has certainly helped to popularize the theory internationally by restating Akamatsu's thinking in theoretical terms commonly used in Western debates – but at the risk of dropping much of the theoretical analysis on which Akamatsu based his original approach.

As has been described earlier, Akamatsu's theoretical ideas are not completely unknown in Western countries. Indeed, Akamatsu used various ideas from economists belonging to the German Historical School, as well as from several scholars well known at the time, including Marshall, Hobson, Schumpeter, and Hirschman, to create a comprehensive theory of industrial development and trade. Yet many of their economic theories and thoughts on economic development are today largely forgotten in Western countries. In particular, the successors of the Historical School, which dominated economic debate in Germany for about a century, became "outsiders" in their profession after the Second World War (Schefold 1999: 379).

In the 19th century, the German Historical School, arguing from the perspective of the continental European countries, which were relatively backward economies, was pitted against the classical school dominant in Great Britain, the most advanced economy of the time. In the second half of the 20th century, as the continental countries of Western Europe caught up with Great Britain in terms of economic development, the classical, or neoclassical, school largely replaced the economic thinking of the Historical School.[12]

It is very likely that a similar change of perspective, from the developing to the leading country's viewpoint, has influenced the interpretation of the flying geese model as well. Robert Rowthorn states that, "[a]s the Japanese economy has developed, its economic relations with the rest of East Asia have changed. So too has the wild geese paradigm. … [Akamatsu's] version of the paradigm reflected Japan's own experience and the country's interests at the time he was writing" (1997: 37).

Yet Japan, compared with Germany and other European countries, has rather recently experienced the conditions prevailing in the early periods of economic development. Thus, although the mainstream interpretation of the flying geese model today is clearly based on neoclassical economic terms, Akamatsu's ideas – which were shared by many of his contemporary scholars, have not been forgotten in Japan, as the debate between Japanese aid institutions and the World Bank demonstrates. According to Yanagihara, the "… controversy between the Bank and Japanese critics may be understood as a manifestation of contrasting mindsets underlying the formal pronouncements of both camps" (Yanagihara 1997: 9).

Japan offers a variety of theories on economic development that are either largely unknown in Western countries or are being subsumed under well known, but different, theories of Western origin. To investigate and understand the differences between the "contrasting mindsets" of Western and Japanese scholars would certainly broaden the horizon of development economics and might thus help the discipline to escape from the theoretical *impasse* often deplored in the West.

[12] In addition, after the Second World War, many prominent scholars of the German Historical School were discredited due to their support of or involvement in the Nazi government and administration.

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