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The Classical Origins of Akamatsu's "Flying-Geese" Theory:  
A Note on a Missing Link to David Hume\*

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ABSTRACT

The 'flying-geese' theory of economic development introduced by Kaname Akamatsu (1897-1974) of Hitotsubashi University in the mid-1930s is the *only* "Japan-born" theory that has so far attracted wide attention and some acceptability in the academia worldwide. Studying in Germany for two years in 1924-26, Akamatsu was strongly influenced by a number of development-stages theories expounded by the German historical school, notably Friedrich List (1789-1846), Bruno Hildebrand (1812-1878), Karl Marx (1818-1883), and Gustav von Schmoller (1838-1917). Akamatsu also drew on the ideas of Alexander Hamilton (1757-1804) and Henry Carey (1793-1879), both Americans, who along with List, advocated infant-industry protection in order to build national industrial development. Surprising is, however, that there is no mention of David Hume (1711-1776) in Akamatsu's works despite the fact that Hume was a noted thinker on economic development and a major philosopher, who impacted both Immanuel Kant (1724-1804) and Georg Wilhelm F. Hegel (1770-1831). Akamatsu was very much engrossed in Hegelian dialectic. His analysis was, in fact, couched in dialectical perspectives. What is most fascinating was that Hume (1754) observed how a rich country is destined to lose its competitiveness in manufacturing and compels its producers to "gradually shift their places, leaving those countries and provinces which they have already enriched, and *flying to others*, whither they are allured by the *cheapness* of provisions and labour" (emphasis added). Hume thus zeroed in on the *core* mechanism of cross-border industrial transmigration and a sequential spread of economic growth and prosperity from one emerging economy to another. His insightful observation amply adumbrated Akamatsu's flying-geese theory, though the latter apparently missed to notice it.

\* An earlier version of this paper was presented at a seminar at the Graduate School of Economics, Kyoto University, Japan, organized by Professor Takafumi Kurosawa, March 1, 2013. I am grateful to him and his graduate students who willingly served as a sounding board for my ideas. This paper is woven into a book manuscript in progress, *The Evolution of the World Economy: The "Flying-Geese" Theory of Multinational Corporations and Structural Transformation*, Elgar (forthcoming), which is the third volume in a trilogy on the reformulated flying-geese theory of economic development.

## 1. Introduction

The “flying-geese (FG)” theory of economic development is now known the world over, having gained some respectability in the academia and wide popularity in the media—especially against the backdrop of a series of catch-up economic successes across Asia during the last few decades of the 20<sup>th</sup> century. The speech made by Saburo Okita (1914-1993), former Japanese Foreign Minister, referring to the theory at the fourth Pacific Economic Cooperation Conference in Seoul in 1985, made policymakers and the mass media aware of it. It is the only Japan-born theory that has so far been well recognized outside Japan. It is also accepted as a major doctrine of catch-up development strategy, along with the “big-push” theory and the “import substitution” approach (Radelet and Sachs, 1997).

This FG theory was set forth by Professor Kaname Akamatsu (1897-1974) of Hitotsubashi University, Tokyo, Japan, in the mid-1930s. He studied in Germany for two years in 1924-26 and was strongly influenced by the German historical school and Hegelian dialectic. Akamatsu’s theory of trade-driven structural change and growth in catching-up economies is a theory of economic development in a global context. It is basically built on the stages-of-growth theories advanced by German historical economists such as Friedrich List (1789-1846), Bruno Hildebrnad (1812-1878), Karl Marx (1818-1883), and Gustav von Schmoller (1838-1917), as cited in Akamatsu (1955). He also drew on the ideas of Alexander Hamilton (1757-1804) and Henry Carey (1793-1879), both Americans, who along with Friedrich List (1789-1846), advocated infant-industry protection in order to build national industrial development. Nationalism plays a key role in Akamatsu’s FG theory.

In his works, however, Akamatsu surprisingly did not refer to any works of David Hume (1711-1776), who so much impacted Immanuel Kant (1724-1804) and Georg Wilhelm F. Hegel (1770-1831), the founder of Hegelian dialectic in which Akama himself was deeply absorbed and his works were often couched. The first section that immediately follows briefly reviews Akamatsu’s three flying-geese patterns of trade and domestic production he empirically found in the development experiences of Japanese industries, the second section examines similarities and dissimilarities between List’s growth-stages model and Akamatsu’s own stages theory, “a theory of unbalanced growth in the world economy” (1961), the third section reveals how his FG theory has a Humean origin, though there was no mention of Hume whatsoever in Akamatsu’s works, and the final section sums up.

## 2. Three Patterns of FG Formation

A mention of the FG theory usually conjures up the image of a regionally clustered group of economies advancing together in leader-follower relations. And it is for this particular pattern that the FG theory has come to be popularly known. According to Akamatsu’s analysis, however, this popularized pattern describes “the alignment from advanced nations to backward nations according to their stages of growth” (1961, p. 208) and is just one of two “derived/secondary” (*fukujikeitai* in his own word) patterns, “derived”

from what he considered the “basic/fundamental”( *kihonkei*) pattern. The other derived pattern is industrial upgrading in manufacturing activities “from consumer goods to capital goods and from crude and simple articles to complex and refined articles.” (1961, p. 208) What Akamatsu identified as the basic/fundamental pattern is a sequence of import (M) → domestic production (P) → export (X)—that is, a three-stage progression from *import dependence* to *import substitution* to *export expansion*.

Although there is no clear explanation of why he called the MPX pattern basic, we can surmise that it was the very pattern he empirically found in the development histories of many Japanese manufacturing industries (such as woolen goods, cotton yarn, cotton cloth, spinning and weaving machines, general machinery, bicycles, and industrial tools during the pre-World War II period, mostly in 1870 through 1939). He plotted the time-series trend lines of imports, domestic production, and exports for each industry and noticed a wave-like consistent pattern of three types of activities, in which imports first rise and then decline, while domestic production begins and eventually substitutes for imports, and exports finally become successful (Akamatsu, 1935). He then dubbed this pattern “flying-geese formation” because “wild geese fly in orderly ranks forming an inverse V, just as airplanes fly in formation”(Akamatsu, 1962, p. 9) A second reason, which is more important for economic analysis, is that this combined progression of import substitution and export expansion was nothing but the powerful engine of development of each Japanese manufacturing industry, which was jumpstarted by international trade—and which enabled initially import-dependent Japanese industries to develop into export competitive industries through the MPX progression. And this progression in each manufacturing industry kept on driving the Japan’s entire economy up the ladder of growth, thereby resulting in the sequence “from consumer goods to capital goods and from crude and simple articles to complex and refined articles” and altering the “alignment of countries.”

Looked in this light, we can say that Akamatsu was quite correct in identifying the other two as derived/secondary, since the pattern 2 is merely the *outcome* of trade-driven industrial development (via the MPX progression, i.e., the pattern 1) and the pattern 3 (an alignment of countries) depicts the parametric—external--conditions under which developing countries *initiate* industrialization and that alter as developing countries catch up in industrialization or more advanced countries build up their economic lead. In other words, these secondary patterns themselves *do not* explain any driving force for structural change but merely describe the outcome of, and the changing external conditions for, the MPX progression of development in each manufacturing industry.<sup>1</sup>

### 3. Growth-Stages Models of the German Historical School and Akamatsu’s Own Model

Akamatsu was clearly interested in, and influenced by, a variety of growth-stages models introduced by German historical school economists. Even in his introductory economics textbook, *Keizai Tsuron* [Economic Principles] (1957), Akamatsu covered the topic of growth-stages models (5 models of German origin: by Friedrich List; Bruno Hildebrand, 1812-1878; Gustav von Schmoller, 1838-1917; Karl W. Bucher, 1847-1930; and Lujo

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<sup>1</sup> For other features of Akamatsu’s FG theory, see Ozawa (2009, 2011).

Brentano, 1844-1931. In another introductory textbook, *Boeki no Riron* [Trade Theories] (1955), Akamatsu also devoted one whole chapter to the topic of structural change in the world economy, which he considered the essence of economic development and cited Bernhard Harms (1876-1939) as the first economist who had conceptualized and emphasized the notion of “economic structure” and who also was the founder of the Kiel Institute for the World Economy.

Akamatsu was probably most impressed by Friedrich List’s stages model, which became the foundation for his own stages model that he named “a theory of unbalanced growth in the world economy” (1961). In his *Boeki no Riron*, before Akamatsu sets forth his own growth theory, he first described List’s four-phase model of national development<sup>2</sup> as follows:

- Phase I: An agricultural economy exports resource/agricultural goods in exchange of manufactured imports;
- Phase II: Domestic manufacturing begins but imports still continue side by side;
- Phase III: Domestic consumption is satisfied by domestic manufacturing;
- Phase IV: Manufactures are exported in exchange for industrial resources and agricultural goods. (Akamatsu, 1965, pp. 186)

This is, indeed, a good description of what List actually said in *The National System of Political Economy* (1841/1856) in his own words:

“In the economical development of nations by means of external trade, four periods must be distinguished. In the first, agriculture is encouraged by the importation of manufactured articles, and by the exportation of its own products; in the second, manufacturers begin to increase at home, whilst the importation of foreign manufacturers to some extent continues; in the third, home manufactures mainly supply domestic consumption and the internal markets; in the fourth, we see the exportation upon a large scale of manufactured products, and the importation of raw materials and agricultural products.” (List, 1841/1856)<sup>3</sup>

What is most fascinating in the above quote is the fact that List *was already talking about the sequence of import substitution (Phases II & III) and export expansion (Phase IX)*—the *same* sequence of MPX, the very “fundamental/basic” FG pattern emphasized by Akamatsu. Didn’t, then, the latter’s finding of the same MPX sequence in the histories of several Japanese manufacturing industries merely give empirical support to List’s conceptualization of the MPX sequence?

Of course, there are some important differences between Akamatsu’s MPX sequence and List’s. The former focuses on *individual* industries, whereas the latter on *the economy as a whole* where its structure changes from “natural resources/ agriculture” to “manufacturing” in a broad manner, as seen above. In Akamatsu’s

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<sup>2</sup> In Japanese, but here translated into English by the author.

<sup>3</sup> As cited in *New World Encyclopedia* on Friedrich List, [www.newworldencyclopedia.org/Friedrich\\_List](http://www.newworldencyclopedia.org/Friedrich_List), downloaded 4/8/2013.

model, the MPX process is repeated in each of *different* manufacturing industries as each gradually developed in a staggered fashion--ultimately resulting in a shift of the economy away from the primary sector and toward the secondary sector in composition. Also, Akamatsu's model looks at the "quality" levels of each manufacturing sector in greater detail—that is, "from consumer goods to capital goods and from crude and simple articles to refined and complex articles." Therefore, the Akamatsu model yields strategic policy implications as to how an unindustrialized country should select, prioritize (in sequence), and encourage the development of different manufacturing industries under infant-industry protection and promotion. Interestingly enough, moreover, Akamatsu's analytics is *global* in the sense that it concerns a series of alternating structural changes (from "differentiation/ heterogenization" to "homogenization/uniformization," and vice versa<sup>4</sup>) among *interacting economies in the world economy*—again, strategic policy implications at the global level. In short, the Akamatsu model is more refined since it is built on *both* the intra-economy, intra-manufacturing, individual sub-sector details and the changing structural features deriving from interactions between the more advanced countries and catching-up ones during the alternating periods of differentiation and homogenization, as will be discussed below.

Indeed, these differences were stressed by Akamatsu himself in formulating his own "flying-geese" growth model of national industrial development in terms of interactions of Asia with the advanced West, what he called "a theory of unbalanced growth in the world economy" (Akamatsu, 1961):

Stage 1: "When an underdeveloped nation first enters the international economy, the primary products which are her specialties are exported and industrial products for consumption are imported from advanced industrial nations. ...there is great growth in the underdeveloped nation's trade not with neighboring countries which have *homogeneous* economic structures." (1961, p. 206, emphasis added.)

Stage 2: "...domestic production of imported goods is initiated, with the domestic market as an outlet...The development of consumption by imports is nothing less than an establishment of the foundation for self-production. ...national economic policy stimulates this trend toward domestic production... When a consumer-goods industry comes into being in this manner, the underdeveloped nation's economic structure becomes homogeneous with that of advanced nations insofar as that industry is concerned, and the import of manufactured consumer goods from advanced nations...decreases. On the other hand... machinery must be imported from advanced nations because of the sudden rise of consumer goods industries. Thus, the underdeveloped nation's imports from advanced nations *shift from consumer goods to capital goods*. With regard to these capital goods, the difference in comparative costs is extremely large, and the comparative cost differentials between the imported

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<sup>4</sup> In modern economic parlance, "homogenization" means "convergence," while "differentiation" translates into "divergence."

capital goods and the exported primary products or the manufactured consumer goods are widened, giving rise to ‘*advanced differentiation*.’ In other words, along with the progress of *uniformization* of consumer goods industries, the capital goods industries in advanced nations, on the other hand, advance still further, and advanced differentiation progresses.” (1961, p. 206, emphasis added.)

Stage 3: “... growth of consumer goods industries in the developing nation makes possible the export of these products. ...the developing nation [thus] becomes *homogeneous* with advanced nations with respect to consumer goods industries, but *differentiation* takes place relative to neighboring nations with which she was previously homogeneous as a primary industry nation... Thus, the developing nation’s light industrial products come to be exported to neighboring, primary industry nations, imports of raw materials and food stuffs from these nations follow, and the trade with underdeveloped nations increases markedly. ...domestic production, which was initiated by the import of finished goods, develops into export industries. Also, domestic production of capital goods begins. ...The import of capital goods began at the second stage, and the formation of an import market for them provides the inducement to establish capital goods industries at home.”

Stage 4: “Capital goods industries develop into export industries...” (1961, p.207) “The wild-geese-flying pattern sees its completion in [this] stage, with respect to capital goods..., by going through the importation beginning from the second stage, the initiation of domestic production in the third stage, and the switch-over to export in the fourth stage. Here, domestic industrialization is also achieved for the capital goods industry. However, there is a possibility that another new stage will be developed in regard to the capital goods industry.” (1962, p. 14)

Akamatsu’s growth stages model is thus more elaborate and more refined in conceptualization than List’s. Yet the MPX progression had already been conceptualized by List back in 1841 when Akamatsu detected it in his empirical/statistical studies of the development experiences of several Japanese industries as latecomers to the industrialized world.

#### 4. A Missing Link with David Hume

It is well known that David Hume (1711-1776), a Scottish philosopher and political economist, had a close friendship with Adam Smith (1723-1790) and the former’s influence is reflected in the moral philosophy and economic writings of the latter (SEP, 2009, p. 1) According to Hume, a surplus in the supply of commodities motivates the producer to sell them in exchange for other things needed. This idea was adapted by Adam Smith into the “surplus” theory of trade (Myint,1958). Hume also is considered the originator of many important economic ideas, such as the labor theory of value (which was used later by David Ricardo in his formulation of the doctrine of comparative

advantage and also by Karl Marx), infant-industry protection (which accounts for the MP segment of the MPX progression), and the quantity theory of money (credited to Hume by P.A. Hayek and Milton Friedman [McGee, 1989]).

Given by the fact that Hume's influence on modern philosophy and economics is so pervasive and evident, it comes rather as a surprise that there is no mention of his works at all in Akamatsu's writings. What is more, the following paragraph in Hume's essay, can be easily considered the *precursor* of the FG theory:

Where one nation has gotten the start of another in trade, it is very difficult for the latter to regain the ground it has lost: because of the superior industry and skill of the former, and the greater stocks. But these advantages are compensated, in some measure, by *the low price of labour* in every nation which has *not* an extensive commerce, and does *not much abound in gold and silver*. *Manufacturers, therefore, gradually shift their places, leaving those countries and provinces which they have already enriched, and flying to others*, whither they are allured by the cheapness of provisions and labour, till they have enriched there also and are again banished by the same causes...[I]n general, we may observe, that the *dearness of everything*, from plenty of money, is a disadvantage, which attends an established commerce, and sets bounds to it in every country, by enabling the poorer states to undersell the richer in all foreign markets." (Hume, 1754/1985: pp.283-4, emphasis added)

Here, Hume identified the "price of labor" (i.e., workers' wages) and the "cheapness of provisions" (i.e., the prices of land and industrial goods) as the key factors that compelled manufacturers to relocate production across the borders. In modern parlance, he was talking about the "labor- (and other inputs-) seeking" type of foreign direct investment (FDI). It is, indeed, the main feature of the sequential transmigration, flying-geese style, of labor-intensive industries across the developing economies as wages rise higher in one host country than in another that in turn will soon host inward FDI. Hume was unquestionably insightful, since in his day not many manufacturers were engaged in such FDI activities.<sup>5</sup>

## 5. Summing Up

Akamatsu clearly drew on the German historical school scholars who formulated a variety of growth stages theories and those American thinkers who, along with List, conceptualized the strategic doctrine of infant industry protection for national industrial development. List's simple stages model, which displays a sequence of import substitution and export expansion, must have given Akamatsu the basic idea of the MPX progression, a pattern he later on empirically detected in the developmental experiences of several Japanese manufacturing industries, and called the fundamental "flying-geese"

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<sup>5</sup> It is worth noting in passing, furthermore, that Hume's view on how a rich nation may lose competitiveness due to "the dearness of everything from plenty of money" (i.e., a key message from the quantity theory of value) has significant long-term policy implications to the U.S., the EU, and Japan, all of which have recently fallen into the trap of super-easy money supply by a series of quantitative easing (QE) measures.



pattern. He gave solid empirical foundation to List's idea of MPX. And Akamatsu did give credit to List by citing the latter's model—if not specifically and explicitly for the notion of MPX itself. After all, nevertheless, Akamatsu's growth stages model is more refined, more detailed, more comprehensive, and more dynamic an analytic than List's elementary/crude model, since the former applies the MPX progression at the industry level (instead of the economy level), emphasizing the development process of each of different individual industries in interacting economies that operate at varying stages of industrial modernization. Thus, a group of the economies involved is conceptualized as a hierarchy that provides the developing ones the opportunities to catch-up and grow by emulating the more developed ones—under infant-industry protection and export promotion and in a staggered/wave-like fashion over time.

What is most surprising and puzzling is, however, that Akamatsu's works have no reference to David Hume who contributed so much to modern economics by originating such ideas as infant industry protection, the labor theory of value, and the quantity theory of money—and most importantly the basic notion of industrial transmigration in labor-intensive manufacturing from one developing country to another (an activity that Hume even described as “flying to others”), the *core* mechanism of cross-border industrial transplantation in Akamatsu's FG theory of economic development. David Hume's insightful observation no doubt adumbrated and anticipated Akamatsu's theory.

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