Changes in Triangular Economic Relations between Japan, China and Taiwan in the 21st Century

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Abstract

After World War II, Japan's successful experience in adopting industrial policies of import substitution and export expansion, as proposed by Akamatsu's model of the "flying geese pattern of development" (1935), was held up as a lesson for Taiwan and other developing countries such as Korea, Hong Kong, and Singapore in the 20th century. They were also successful in becoming the newly-industrialized countries, being referred to as the "Four Asian Tigers".

The background for this successful model was that the United States of America provided a big market for those countries, especially for Taiwan, and that Japan played an important role in constructing a triangular relationship between Japan, the United States and Taiwan. In that relationship, Taiwan imported machinery, equipment and industrial materials from Japan for producing manufactured products, and then exported them to the United States. That was during the 20th century.

However, entering the 21st century, this triangular relationship has changed into the one between Japan, China and Taiwan due to China's ascendancy. China's GDP was closed to that of the United States in 2011, and it is forecasted to become the biggest one during the first half of the 21st century. Will China play the same role as the United States did in the 20th century ? It is for us to guess. Are Japan and Taiwan ready to respond to this change ? This paper, therefore, focus on this and its effects.

I Introduction

By 1950, Japan was starting to recover from the devastation of World War II. Its real GDP per capita was one-eighth that of the United States. During the 1950s, "Made in Japan" meant cheap and poor-quality products. In the 1990s, "Made in Japan" meant top-quality and high-tech products at high prices. By the 1990s, Japan's real GDP per capita exceeded that of the United States. That rapid economic growth occurred in Japan that lacks natural resources, so almost all of its oil and other important minerals must be imported. During the 1970s, its remarkable success story, therefore, was called the "Japanese miracle".

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The “Japanese miracle” was usually attributed to many factors, one of which was that the government adopted the industrial strategies of import substitution and export expansion proposed by Akamatus’s “flying geese pattern of industrial development.” In the process of import substitution and export expansion, Japan introduced machinery and equipments from the United States or Western Europe, and then modified them to fit Japanese firms at low costs, thereby producing the products imported before re-exporting to the United States and the rest of world. The modified machinery and equipment were transferred to developing countries in Asia, especially to Taiwan in the 1960s and 1970s, when some products made in Japan lost their competitive advantages in the world market.

The “Japanese miracle” was often held up as a lesson by Taiwan. Taiwan, therefore, followed the same strategies of industrial development during the 1960s and 1970s as Japan did in the 1950s to produce the products imported before for exporting to the United States and other countries. In other words, Japan played a role in constructing a triangular relationship between Japan, the United States and Taiwan. It could be said that Taiwan, thanks to Japan transferring its modified machinery and equipment with other technologies, and to the United States for providing the big market at low tariffs, also developed its industries to become a “newly-industrialized country”. During the late 1980s there was the “Taiwanese miracle”.

However, China’s economic ascendancy during the 1990s has resulted in its GDP becoming closest to that of the United States in 2011, and will be the biggest one in the first half of the 21st century. As for Taiwan, will the triangular relationship between Japan, the United States and Taiwan in the 20th century be changed to another one between Japan, China and Taiwan in the 21st century ? Will China play the same role in the 21st century as the United States did in the 20th century ? Are Japan and Taiwan ready to respond to that possible change ? These issues should be a matter of concern for Japan and Taiwan.

In order to understand the changes in triangular relations between Japan, China and Taiwan in the 21st century and some issues stemming from those, this paper will focus on five points :

1. Theoretical basis for Japan’s role in constructing the Triangular Relationship between Japan, the United States and Taiwan ;
2. Case Study for Japan’s role in the Triangular Relationship ;
3. Changes in the Triangular Relationship :
   China substitute for the United States ; Taiwan substitutes for Japan ;
4. China’s role in the new Triangular Relationship between Japan, China and Taiwan ; and
5. The effects of China’s ascendancy on Japan and Taiwan.

II Theoretical Basis for Japan's Role in Constructing the Triangular Relationship between Japan, the United States, and Taiwan

(I) Akamatus's "Flying Geese Pattern of Industrial Development"

The "Japanese miracle" has been attributed to many factors, one important being that Japan adopted the strategies of import substitution and export expansion proposed by Akamatus's "flying geese pattern of industrial development (1935)." The focus of Akamatus's model is that a catching-up country like Japan should develop its industries through the process of import → import substitution → export expansion at different times.

Import substitution means that domestic productions substitute for the products imported from the leading country, by which, an infant industry can be developed in the catching-up country. Export expansion means that the infant industry has grown and become more experienced to reduce price and improve quality so that it can compete with foreign products in the world market. The structure of industry will be improved in the catching-up country if this process of each imported product can be repeated by this process.

Akamatsu's follower, Kiyoshi Kojima, has devoted his academic life (1958～2003) to study and further extend the Akamatsu's model since the 1950s. He argued that industrial developments in the catching-up country like Japan, except by adopting the industrial policies of import substitution and export expansion, should be promoted by industry transferring inward through foreign direct investments from the leading countries, the Unite States and west European countries.

In practices, Akamatsu empirically proved that Japan's development of cotton & textile[1] (1935) and machinery & tools industries[2] (1956) were in accordance with what his model has predicted. Since then, Akamatsu's students and his followers also used this model to test the process of various industrial developments. For example, heavy chemical industry was conducted by Yosihisa Hukushima (1985),[3] steel industry by Kiyoshi Kojima (1985)[4] and Ippei Yamazawa (1985),[5] and fabric industry by Sigeharu Matzwura (1985),[6] and they all got the same results as Akamatsu

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[1] Akamatsu, Kaname (1935) "The Trade Trend of Woolen Products in Our Country", Review of Business and Economy, First Half in Vol. 13.

[2] Akamatsu: "Flying Geese Pattern of Industrial Development in Our Country Japan) — Case of Machine & Tools", *Review of Hitotsu Bashi University*, No. 5, Vol. 38.

[3] Yosihisa Hukushima: "Industrialization or Heavy Chemical Industrialization and Flying Geese Pattern of Industrial Development", Published in *World Trade* in 1985, PP. 63-84.

[4] Kiyoshi Kojima: The "Flying Geese Pattern of Industrial Development in Steel Industry in Japan" Published in *World Trade* in 1985, PP. 151-180.

[5] Ippei Yamazawa: The "Flying Geese Pattern of Industrial Development in Steel Industry" Published in *World Trade* in 1985, PP. 183-197.

[6] Sigeharu Matsuwura: "Flying Geese Pattern of Industrial Development: Diversified Products in the Fabric Industry" Published in *World Trade* in 1985, PP. 201-236.

did before.

Finally Kojima, at the age of 83 (2003), made a big contribution to those who study industrial development by publishing a great book "The Flying-Geese Theory of Economic Development"[7] that collected all the papers he wrote earlier. Akamatsu and his followers, therefore, would probably be called "Akamatsu or Hitotsubashi School" that dominated the Japan's policies of industrial developments after World War II.

(II) Raymond Vernon's "Product-Life-Cycle Pattern of Industrial Developments"

Akamatsu first introduced his model of flying geese pattern of development in the western journals by publishing two papers in English in 1961 and 1962 as follows:

(1) "A theory of unbalanced growth in the world economy"[8]

(2) "A historical pattern of economic growth in developing countries"[9]

Four years later, in response to Akamatsu's model derived from the viewpoint of the catching-up country, Raymond Vernon (1966) and Louis T. Wells, Jr., (1968, 1969, 1972), from the viewpoint of leading country, applied the concept of product life cycle, new product → maturing product → standardized product, to explain that most new products are firstly created in the leading country, the United States, because of its big population and high income level, and then transferred from the United States to other advanced countries through trade and foreign direct investment, and finally the standardized product was produced and exported back to the United States from the less developed countries. This is a cycle of an innovated product from the United States back to itself.

In practices, some researchers made empirical tests of product life cycle model. For examples, motion picture was tested by Gorden K. Douglass (1963),[10] synthetic materials by Gary C. Hufbauer (1966),[11] U.S. export of consumer durable goods by Louis T. Wells, Jr. (1969),[12] electronic product by Seev Hirsch (1967),[13] petrochemicals by Robert B. Stobaugh (1972),[14] the role of the "middle countries" in the Phase III of the product life cycle by Tsurumi (1972),[15] Mousouris

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[7] Kiyoshi Kojima: "The Flying-Geese Theory of Economic Development", Wen-zen Book Company, 2003.

[8] Akamatsu: *Weltwirtschaftliches Archiv*, Band 86 (1961) Heft 2, pp. 196–217.

[9] Akamatsu: Ditto, *The Developing Economies*, Preliminary Issue No. 1, March-August 1962, pp. 3–25.

[10] Gorden K. Douglas: "Product Variation and Trade in Motion Picture", *Departmen of Economics, Massachuselts Institute of Technology* 1963.

[11] Gary C. Hufbauer: "Synthetic Materials and the Theory of International Trade", Cambridge: Harvard University Press, 1966.

[12] Louis T. Wells, Jr.: "Test of a Product Cycle Model of International Trade: U.S. Exports of Consumer Durables", *Quarterly Journal of Economics*, February 1969.

[13] Seev Hirsch: "The United States Electronics Industry in International Trade" edited in *The Product Life Cycle and International Trade, Harvard University*, 1972, PP. 39–52.

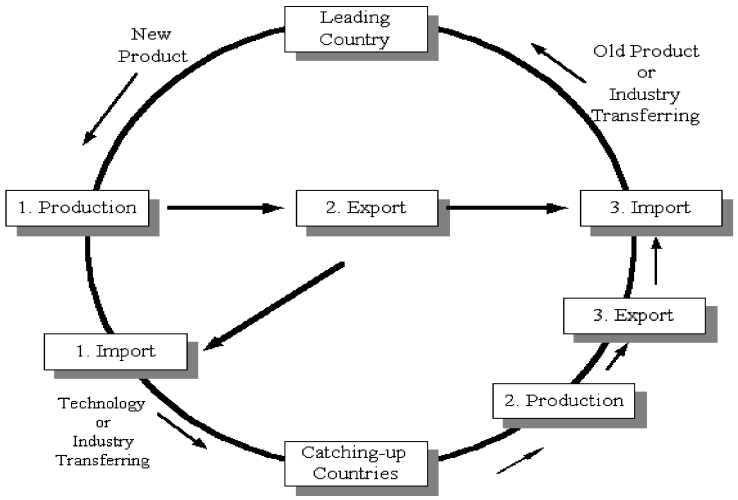
[14] Robert B. Stobaugh: "The Neotechnology Account of International Trade: The Case of Petrochemicals" edited in The Product Life Cycle and International Trade, Harvard University 1972, PP. 83–105.

(1972),[16] and Hirsch (1972),[17] the exports of the less developed countries such as Mexico, Colombia, and Nicaragua in the Phase V of life cycle by De La Torre (1972), etc. These cases indicate that they were highly consistent with what the model of product cycle has predicted.

In fact, both models are two sides of the same coin showing the idea that a ladder type of industrial development from the leading country to the less developed has been established, and they can be combined to constitute a circle as in Figure 1. In Figure 1, the upper-half portion shows Vernon's model that the leading country would first produce and export the new products one-by-one to the catching-up country, and finally re-import them back to itself from the catching-up country. This process can be expressed by the following path: (1) production (2) export (3) import. On the other hand, the lower-half portion in Figure 1 shows Akamatsu's model that catching-up country would change this process by following different procedures: (1) import (2) production (import substitution) through foreign technology or industry transferring inwardly (3) export.

It is noted that the (2) export and (3) import in the leading country are in response to the (1) import and (3) export in the catching-up country, respectively, and that the catching-up country would probably transfer the old industry back to the leading country so as to avoid trade friction

Figure 1: The Circular Flow for the Track of Industrial Development among Countries



Source: Summarized from the combination of "flying geese pattern of development and product-life-cycle pattern.

[15] Yoshihiro Tsurumi: "R & D Factors and Exports of Manufactured Goods of Japan", edited in *The Product Life Cycle and International Trade*, Harvard University Press, 1972, PP. 161–189.

[16] Sotiros G. Mousouris: "Manufactured Products and Export Markets: Dichotomy of Market for Greek Manufactures" edited in *The Product Life Cycle and International Trade*, Harvard University Press, 1972, PP. 193–221.

[17] Seev Hirsch: "Technological Factors in the Composition and Direction of Israel's Industrial Exports."

such as the car industry that was transferred from Japan to the United States in the 1980s.

This entire process of production, export, and import among countries in the circular flow mentioned above will never be stopped in a dynamic economy and with globalization. The industry transferring abroad among countries will also never be stopped in this circular flow so that the leading country will continue to improve its structures of industry and trade by the evolution of P_1, P_2, P_3, . . . , and P_n through trade and innovation ; the catching-up country will thereafter also follow the leading country's footsteps to improve its structures of industry and trade by the evolution of industries as shown by P_1, P_2, P_3, . . . , and P_{n-1} through trade and foreign investment in the domestic economy.

However, the completed track or process of industrial developments for both leading and catching-up countries in Akamatus's and Vernon's models can be modified from Figure 1 as follows :

1. Leading country : (1) production (innovation) → (2) export expansion → (3) industry transferring abroad (export substitution) → (4) import. This same process would be repeated for each innovated product, and the process of industrialization can be expressed by the innovation of industries of P_1, P_2, P_3, . . . , and P_n.
2. Catching-up countries : (1) Producing primary products for export (2) import → (3) production (import substitution) → (4) export expansion → (5) industry transferring abroad (export substitution) → (6) import. This same process would be also repeated for each imported product, and the process of industrial developments can be expressed by the evolution of industries of P_1, P_2, P_3, . . . , and P_{n-1}.

The track of industrial development for a catching-up country is, therefore, the same as that of a leading country. The only difference is that there are always time and industry lags for P_n and P_{n-1} n the process of industrialization between the leading and catching-up countries due to technology lags in the catching-up country. In addition, Figure 1 also shows that the greater the speed for an innovated product to go around one circle, the shorter the time it needs to finish.

The time period for an innovated product introduced by the leading country to complete one circle from stage 1 (production) to stage 3 (importation) will be different at variable historical time points. For example, before globalization, industrial developments, shown in Akamatus's or Vernon's models, were led by the leading country, and were so-called "ladder type" of industrial development from the leading country to the lower catching-up country in sequence. The time period for an innovated product to complete one circle was longer before globalization because of the time and technology lags between the leading and catching-up countries.

However, globalization occurred in the 1990s, so that this ladder type of industrial development among countries has been gradually flattened out. Consequently, the time period for an innovated product from the leading country to complete one circle has become shorter and shorter with the

speed of that globalization. With this, the world has become flatter and flatter in the development of industries among countries. Finally, new products created in the leading or advanced countries are being simultaneously produced in the catching-up countries through technology transfer or direct foreign investments. In other words, the world is being flattened out in the development of industries as the time and technology gaps are closed through technology transfer or direct foreign investments.

Globalization stemmed from two factors: one being the revolution of information technology in the 1990s, by which the "walls" between countries were penetrated by the intangible Internet and E-Mail; the other being that the world became integrated into one capitalist market resulting from China's shift to market capitalism in the 1980s, the fall of the Berlin Wall in 1989, the collapse of communism in the Soviet Empire during in 1989-1991, and India's turn from autarky to an opened economy in 2000, respectively. As for the capitalist market, the production resources can easily be moved across over the national borders through industries transferring abroad or foreign direct investments.

It could be said, therefore, that the 1990s were the watershed, since which globalization has occurred, and that the ladder type of industrial developments among countries shown in Akamatus's or Vernon's models has gradually be flattened out by that globalization since then.

After World War II, Japan, whether Akamatus's or Vernon's models, was regarded as a catching-up country, produced products imported from the advanced country — the United States, and finally re-exported them back to the United States and developing countries such as Taiwan and the ASEAN member states. Before globalization occurred in the 1990s, Japan, as a leading country in Asia, naturally played a role of intermediate between the United Stated and Taiwan, and constructed the triangular relationship between them.

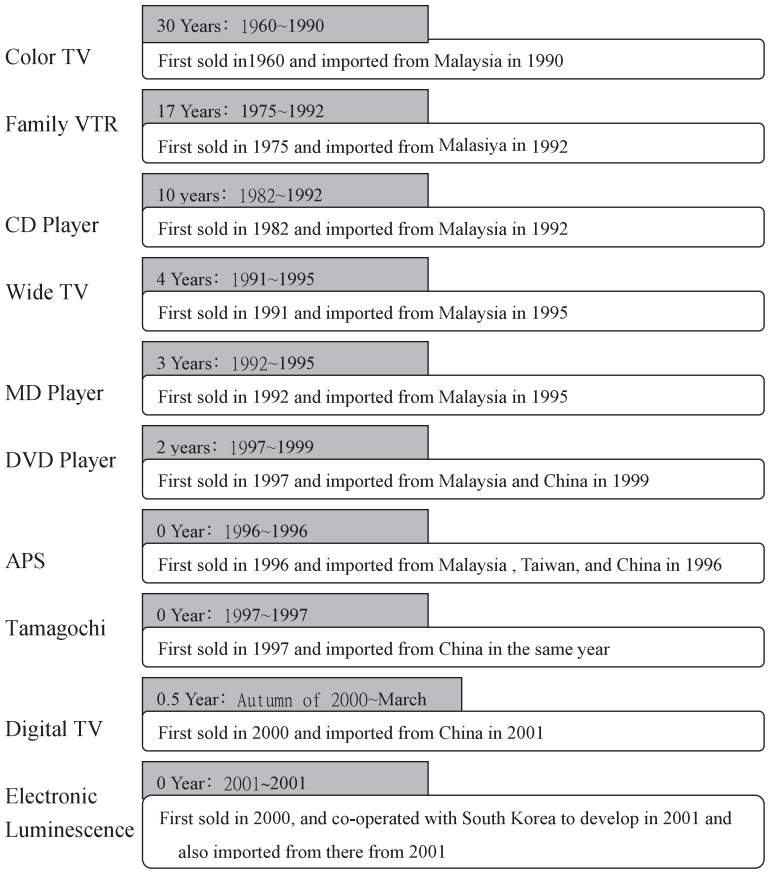
However, this relationship has gradually changed to become a new one between Japan, China and Taiwan in the 21st century because of globalization and China's ascendancy during the 1990s. For Taiwan, the market of United States has been gradually substituted by China in the 21st century and Japan, in supplying the machinery and equipment to China, has also been substituted by Taiwan in the new triangular relationship. However, Japan, as for Taiwan, still plays the same role in the new triangular relationships as it did in the old. The changes will be discussed in the following sections.

III Case Studies for Japan's Role in the Triangular Relations between Japan, the United States and Taiwan

1 A Bridge between the United States and Taiwan: Viewpoint of Industrial Development

The development of audio-visual (AV) industry in Figure 2 shows that the ladder type of industrial development among countries as suggested by Akamatus's or Vernon models really occurred before the mid-1990s, but since then, has been gradually flattened out by globalization.

Figure 2 : International Product Cycle for Japan's AV Products



Note : APS (Automatic Photograph System)
Source : Hideo, Kobayashi : *The Methods to Overcome Industry Hollowing-out*, 2003, p. 30.

In the case of the AV industry, Japan introduced the technology of the AV industry from the United States in the 1950s, and has been leading the catching-up countries such as Taiwan, Korea, and the ASEAN states to develop the AV industry from color TVs to MD players for re-exporting to the United States and the rest of world since the 1960s. This ladder type of industrial development was in accordance with what was predicted by Akamatus's or Vernon's models.

As for Taiwan, it can be noted that "Export Zones for Assembling Spare Parts" and "Scientific Zones of High-Tech Industry" in Taiwan were also provided for Japanese firms to produce AV products and other electrical goods as shown in Figure 2 for exporting to the United States and other countries in the 1960s and 1970s. During that period, it was not surprising that Taiwan was the Japanese "manufacturing plant." However, since then, these Industrial goods have been well developed well in Taiwan through the process of import substitution and export expansion. Therefore, Japan has played as a key intermediary role in constructing the triangular relationship

between Japan, the United States, and Taiwan before globalization since the 1960s.

However, with the speed of globalization, other products listed on Figure 2 from DVD players down to even electronic luminescence were innovated by Japan and produced by Taiwan, Malaysia, and China in almost the same year in the late 1990s or early 2000s. It can be seen that the development of the AV industry between countries has been flattened out from 30 years in the case of color TVs to zero years in the case of Tamagochi and Electronic Luminescence due to globalization.

Therefore, it can be said that the time period for flattening the ladder type of development in the case of the AV industry would be in accordance with that of globalization in the 1990s and with that of argument that the world is flat proposed by Thomas L. Friedman (2006), and that the adaptability of Akamatus's or Vernon's models should be questioned in the 21st century.

2 A Bridge between the United States and Taiwan: Viewpoint of Foreign Trade

The role played by Japan in the triangular relationship is also reflected in the foreign trade dates shown in Table 1. The figures show that Taiwan, trading with Japan, greatly increased its trade deficits from −$9.67 billions in 1991 to −$33.91 billions in 2010; and that Taiwan, trading with the United States, kept a trade surplus of $8.21 billions in 1991 rising to a peak of $11.52 billions in 1999, and then gradually shrinking year by year to $6.09 billions in 2010. However, as for Taiwan, almost 40% of the trade surplus from the United States and China has been offset by the trade deficit with Japan since the 1990s. This indicates that the role played by Japan in the 21st century, whether from the viewpoint of foreign trade or from the viewpoint of industrial development, will be the same as it did in bridging the United States and Taiwan in the 20th century, due to the differences in the structure of industry between Japan and Taiwan.

As for being a leading country, Japan, even entering the 21st century, still exports high-tech equipment and industrial materials to Taiwan like it did in the 20th century, and Taiwan uses them to develop its advanced industries on the one hand, and export its products to the United States for making foreign exchange on the other. In other words, Japan has not changed its role in acting as a bridge in the triangular relationship between the United States and Taiwan in the early 21st century.

IV Changes in the Triangular Relationship in the 21st Century: China Substitutes for the United States; Taiwan substitutes for Japan

Table 1 can be summarized into Figure 3 to show that the year 2000 was a turning point for Taiwan in trading with China and the United States. Taiwan, since then, has greatly increased its trade surplus with China, but gradually reduced its surplus with the United States. It indicates that the market of Unite States has been substituted by China since 2000, and that the triangular relationship has changed from the old one between the United States, Japan, and Taiwan in the 20th

Table 1 : Taiwan's Trade Balance with the Triangular Nations

unit : 1/10 billion

Nations / Year	U.S.A	China	Japan	Taiwan's Trade Surplus
1991	82.1	−2.9	−96.7	133.2
1992	78.0	−7.5	−128.8	94.6
1993	68.6	−10.0	−142.1	80.3
1994	62.9	−17.3	−145.6	77.0
1995	56.4	−2.7	−171.1	81.1
1996	68.9	−2.4	−138.3	135.7
1997	63.2	−32.9	−173.3	76.6
1998	101.1	−32.0	−176.2	59.1
1999	115.2	−19.3	−185.9	109.0
2000	96.9	274.1	−217.4	83.1
2001	97.3	259.1	−129.1	156.3
2002	91.1	338.6	−149.9	180.7
2003	95.6	411.0	−202.9	169.3
2004	69.7	504.3	−299.1	61.2
2005	79.4	557.7	−309.4	78.0
2006	97.0	627.6	−299.8	115.7
2007	55.7	709.1	−300.0	168.3
2008	44.6	670.6	−289.5	43.5
2009	54.0	584.4	−217.2	202.6
2010	60.9	774.5	−339.1	110.1

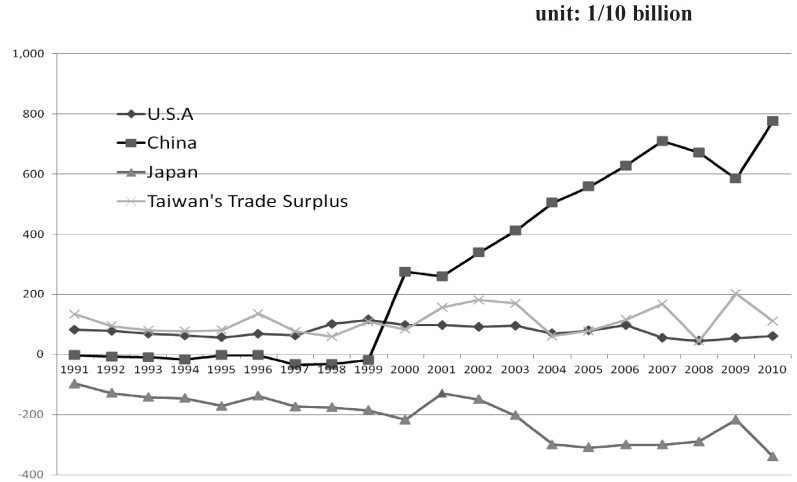
Source : *Taiwan Statistical data Book* published by Council for Economic Planning and Development, 2011.

century to the new one between Japan, China, and Taiwan in the 21st century.

However, Taiwan has kept the trade deficit with Japan since the 1990s, and significantly increased it, the more the trade surplus with China has grown since 2000 due to its need for importing more high-tech equipment and industrial materials from Japan so as to export for getting trade surplus with the United States and China. Therefore, Japan plays the same role in the new triangular relationship in the 21st century as it did in the old one in the 20th century.

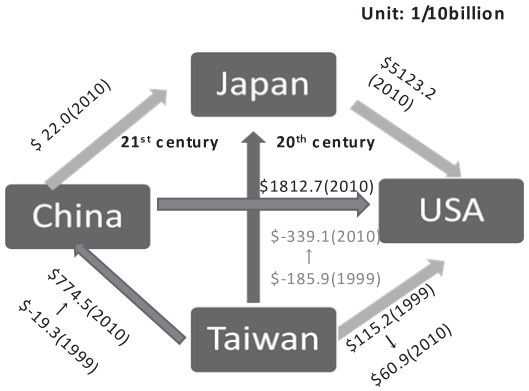
Table 1 can also be summarized into Figure 4 to show that the triangular relationship between Japan, the United States, and Taiwan in the 20th century has changed to become the new one between Japan, China, and Taiwan in the 21st Century. The Unite States has been gradually substituted by China in the new relationship since 2000. It can be seen in Figure 4 that Taiwan, in trading with China, reduced its trade deficit to −$1.93 billion in 1999, and then turned to a trade

Figure 3: Taiwan's Trade Balance with the Triangular Nations



Source: Summarized from Table 1

Figure 4: The Changes in Triangular Relationship among Japan, China, and Taiwan in the 21st century



Source: Summarized from table 1

surplus from $27.41 billions in 2000 to reach as much as $77.45 billions in 2010.

In contrast to the continuing increase in the trade surplus with China, Taiwan's trade surplus with the United States fell from the high point of $11.52 billions in 1999 to just $6.09 billions in 2010. This would prove that the **United States has been gradually substituted by China** in a new triangular relationship since 2000.

In contrast to the trade deficits with Taiwan, China, in trading with the United States, has kept trade surpluses with that country since the 1990s and reached as much as $181.3 billions in 2010 and with Japan $22.0 billions in the same year.[18] It could be said that China has increasingly imported machinery and equipment from Taiwan so as to produce the products for exporting to

the United States and Japan. This would indicate that Taiwan has probably substituted for Japan in exporting the machinery and equipment to China in the new triangular relationship between Japan, China and Taiwan. In other words, Taiwan is playing the same role in bridging Japan and China and bridging the United States and China in the 21st century as Japan did between the United States and Taiwan in the process of industrial developments in the 20th century.

The reason for these changes creating a new triangular relationship is that China, thanks to globalization and its economic opening to the world in the 1980s, has been taking preferred policies to attract Taiwanese and other foreign investments for developing its industries so as to export its manufacturing products at cheaper prices for making foreign exchange. China, therefore, has become the so-called "world manufacture plant" since the 1980s. Therefore, China needs to import great quantities of machinery and equipment from Taiwan due to the difference in the structures of industry. It can be said that Taiwan is an important engine for China to develop its industries and promote its economic growth.

As for trading with Japan, Taiwan greatly increased its trade deficit from −$18.59 billions in 1999 to −$33.91 billions in 2010. Table 1 also shows that about 40% of Taiwan's trade surplus from China and the United States was offset by trade deficit with Japan during the same time period. This would indicate that Japan, in trading with Taiwan, has not changed its role in bridging the old relationship between the United States and Taiwan and the new one between China and Taiwan since the 1990s. It could be said that Taiwan's trade surplus has stemmed from its deficit with Japan caused by different structures of industry.

In short, in the process of these changes, Taiwan's industrialization and its economic growth have apparently depended on Japan to supply high-tech equipment and industrial materials, and on the United States to provide the big market in the old triangular relationship since the 1960s. But entering the 21st century, except for the imports from Japan, Taiwan gradually changed to depend on China for providing the big market. It could be said that Japan, the United States, and China have been playing the role of engine in promoting Taiwan's industrialization and its economic growth. They are indispensable for Taiwan to improve the structure of industry and promote economic growth during this century.

As for the roles, after WWII, played by the United States in Figure 4, it had got trade surplus until 1960s through exporting machineries and equipment to catching-up countries, especially to Japan and the West Europe that were devastated by the war in response to their needs for recovering their economies. However, since then, the United States has changed its trade from surplus to deficit and reached as much as −$634.90 billions in 2010.[19] It resulted from some factors: the United States opened its market with preferred tariffs to the rest of the world, the catching-up countries set various import restrictions to protect their domestic markets from

[18] Computed from JETRO 2000～2011, Japan.

[19] Computed from JETRO 2000～2011, Japan.

foreign competitions, and the United States has gradually lost its industrial competitive advantages in the world market since the 1970s because of the catching-up countries' ascendancy. It could be said that the United States really made big contribution to countries such as Japan and the West Europe in recovering from the devastation of WWII and to other catching-up countries such as "Four Asian Tigers", ASEAN, and China in developing their industries.

V China's role in the Triangular Relationship between Japan, China and Taiwan : from "World Manufacturing Plant" to "World Market"

In the process of industrial development proposed by Akamatus's model, China, unlike other catching-up countries such as the "Four Asian Tigers", did not experience the stage of import substitution, but directly jumped into the stage of export expansion by means of attracting foreign firms to transfer their industries to that country through foreign direct investment. Its exports, – say at least 50%, were contributed by foreign industries and joint ventures in 2010. It could be said that the basis for China's industrial development (industrialization) is still weak relative to Taiwan's in the 20th century, because it missed the stage of import substitution at the beginning of industrialization.

If a country does not develop its own infant industries by means of import substitution at the beginning of industrialization so that its exports are heavily dependent on foreign firms, its industrial development will not be well rooted in its own country. The role played by China appears to only provide a "world manufacturing plant" for foreign firms to produce the products for exports from China. Even if its industrialization has been done well by foreign firms' investments, this type of industrial development is still empty and dangerous because it could easily be controlled by foreign firms or governments.

As for China, of course, it recognizes this negative effect of missing the stage of import substitution on its way to industrialization, and has gone back to aggressively develop its own industries by using its giant accumulation of foreign exchanges in the purchasing of machinery and equipment. In addition, China's GDP has virtually grown at 10% or over per year since the 1980s, and was closest to the United States in 2011. It is predicted to become the largest in the world at the current growth rate within 16 years. This indicates that China, entering the 21st century, could change its role from being the "world manufacturing plant" to becoming the "world market." How can it be imagined that the effects of China's ascendancy with its big population of 1.32 billions and high income level will be on the world ? Japan and Taiwan, meanwhile, will certainly benefit from China's changes due to their difference in structures of industry and the close geographic proximity between the three of them. It is the century for Japan, China and Taiwan to construct an increasingly close triangular relationship between themselves.

VI The Effects of China's Ascendancy on Japan and Taiwan

With China's ascendancy in its economy, its level of industrial development could catch up with or even overtake that of the "Four Asian Tigers" in the next 10 years, and so with that of Japan and the United States in the second half of the 21st century. China would play the same role in providing the biggest market to Japan and Taiwan in the 21st century as the United States did in the 20th century. If these forecasts turn out to be correct, the positive effects of China's ascendancy are that Japan and Taiwan will expand trade with China, and then create employment in their exporting industries and increase their GDPs.

However, some negative effects would probably occur in Taiwan and Japan. As for Taiwan, it opened the door to China in the late 1980s, and so did China to the world at almost the same time. However, some negative effects have occurred in Taiwan as follows:

1. The unemployment rate has always been greater than 4% since 2008, which is the highest in the "Four Asian Tigers." One of the important reasons is that Taiwan has been experiencing industrial hollowing out as its industries have been increasingly transferred to China through direst investment since the 1980s. The percentages of Taiwanese investments in China greatly increased from 53.4 in 2002 to 70.5 in 2008 when Mr. Ma won the presidential election in that year, and then jumped to 81.3[20] in 2010 after the Ma administration signed the "Economic Cooperation Framework Agreement (ECFA)" with the Mainland in the summer of that year.

   This indicates that the Taiwanese investments have greatly biased in favor of China. Taiwan could become China's economic vassal if the direction of investments is not changed by the new Government of 2012.
2. Wage levels in 2011 have fallen to those of 13 years ago so that the unequal distribution of income has greatly increased from 48 times (the ratio of the top 5% income earned to the bottom 5% income earned) in 2008 to 75 times[21] in 2010.

   This result was attributed to Taiwan's foreign direct investments that were greatly biased towards China. The other reason is that according to the "theorem of factor-price-equalization," the wages in a leading country, through trade, will decrease, but increase in the catching-up country. Therefore, wages will be equalized between China and Taiwan this century.
3. The prices of houses in the Taipei area have also greatly risen from a stable level in 2008 by about 50～100% in 2010 because giant house investments came from China and Taiwanese firms in China.
4. Taiwan will finally be united by China through both economic exchanges. This seriously

[20] Taiwan Statistical Data Book, 2011, published by the Council for Planning and Development.

[21] Statistical Data published by Directorate-General of Budget, Accounting and statistics, Executive Yuan, Taiwan.

negative effect is usually attributed to the Ma administration that conceded the argument of "one China" insisted upon by China under ECFA at the expense of Taiwan's independent ascendancy as a nation insisted upon by the former island administrations, and that intends to sign a "peace agreement" with China in the next 10 years after he won the Taiwanese Presidential Election on January 14th, 2012.

In addition to President Ma's policies that are paving the way for Taiwan to be united by China, one day when China's economic and military powers are strong enough to fight against the United States, it will force the United States to choose "whether to give up Taiwan and co-operate with China" or "stand up with Taiwan and expose itself to war." The United States will have no choice but to give up Taiwan for its national interests, and Taiwan will be finally united by China. Some cases happening in the campaign of Taiwanese Presidential Election can prove that the expectation is reasonable and it will be true:

1. China publicly intervened the Election by providing the chartered airplanes at 50%-off price of tickets to encourage about 0.3 million Taiwanese voters working in China to come back Taiwan for voting Mr. Ma.
2. The United States, during the campaign of Election, intended to support Mr. Ma to win the Election by means of announcing that Taiwan is a candidate for free visa and its necessary process will be completed in the first half of 2012.
3. Douglas H. Paul, a former chief of American Institute in Taiwan (AIT), came to Taiwan before the voting day to support Mr. Ma's policies about China by saying in public that the "Mutual Understanding of 1992" is a necessary way of compromise to peacefully settle political conflicts between China and Taiwan that will benefit both sides of Taiwan Strait and the United States. Mr. Paul's speaking was apparently negative to the Democratic Progressive Party (DPP). The DPP, an opposite party, insists that the Understanding based on "One China" expressed whether by Chinese or by Taiwanese government does not exist[22] and refuses to accept it.

It could be reasonably said that the United States, through the campaign of the Election, has already stood up with China to push Taiwan on the way of no return to be united by China. In other words, the United States and China are struggling for their individual national interests at the expense of national ascendancy.

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[22] During the period of Lee administration (1992～2000), the so-called "Mutual Understanding of 1992" was personally created by Mr. Su-chi, a former Secretary of Taiwanese National Security, on the base of the meeting about the documents approved by both sides of Taiwan Strait in 1992. But it did not reach any agreement about "One China" shown in the document due to the argument of national ascendancy. Former President Lee announced in public that "Mutual Understanding of 1992" does not exist.

Taiwan is on the edge of losing its national ascendancy under that struggle

As for Japan, the role it played in bridging the United States and Taiwan is fading away in the triangular relationship. But it is increasingly important in bridging China and Taiwan because Japan will keep expanding its exports of high-tech equipment to Taiwan in response to the latter's need for exporting its manufactured products to China. It could be said that the new triangular relationship between Japan, China and Taiwan will be increasingly close in the future.

However, if one day Taiwan is united by China, the triangular relations between Japan, China, and Taiwan will change to become the bilateral relation between Japan and China. Since then, Taiwan Strait will become China's territorial waters and Japan's oil ships will pay greater costs to reach Japan. In addition, if China substitutes for the United States to be the biggest market for Japan, Japan's economic growth will be greatly linked with that of China, and Japan will be probably more easily influenced by China than by the United States this century.

Japan will expand its imports from China at low prices, which will force uncompetitive manufacturing industries to close or transfer abroad, so that unemployment will increase. It is a great surprise that "One-hundred ¥ shop" can be easily found in a high price level country like Japan. Most of the products in the shops are imported from China. Deflation has been probably occurring due to the low prices of imported products, and it could be a negative factor in the process of developing industries in Japan.

So far, China is not a democratic country. If China does not move toward being a democratic country along with its economic growth this century, and still leaves its people full of nationalism, how can it be expected that China will play the same role in the new triangular relationship in the 21st century as the United States did in the 20th century ?

VII Conclusion

With China's ascendancy, its ability to speak in a powerful way on economic and political issues in the world will be much stronger than before. As for Taiwan, in the new triangular relationship between Japan, China and Taiwan, Taiwan is falling into the trap of "One China" set by China. Will Taiwan be forced to be united by China in the next 10 years ? The possibility for this question will be more expected after Mr. Ma wan the Taiwan's Presidential of 2012.

As for Japan, with the China's ascendancy with its big market during this century, Japan will be more easily influenced by China with its big market during this century. Is the Japanese government ready to respond to the new triangular relationship between Japan, China and Taiwan ? Is it also ready to respond to the unification of Taiwan with China ? It is for us to guess. As to democratic values and consideration of geographic location, it is to be expected that Japan should pay more attention to establishing an increasingly close relationship with Taiwan so as to benefit both countries.

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