

International Capital Movement and Agricultural Development

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Abstract

Agriculture has been considered to be a land or labor intensive industry for a long time. Recent agricultural competitiveness, however, is heavily determined by currency exchange rates. At the same time, agricultural development depends on food processing sectors established by foreign direct investments (FDI). International capital movement causes these phenomena that is typical under the global economy.

After the middle 1980s, Japanese currency appreciated against dollar, and the income of agricultural sector stagnated in spite of various political supports for the sector. In Thailand, to the contrary, traditional agricultural sectors such as rice and upland crops turned to an upward trend due to the currency depreciation accompanied by the economic crisis in 1997. Thus the macroeconomic impact on agricultural sector is considerable.

Agriculture in Thailand has changed drastically from crop oriented to processing oriented. In the beginning of 1990s, the export of broiler meat and frozen shrimp increased tremendously. Recently they have been replaced by further high value added products such as cooked chicken (“yakitori”), canned tuna and fried shrimp, that are mainly exported to Japan. These industries are often managed by foreign capital companies.

In addition, China has begun to export a lot of vegetables and cooked eel to Japan. Technological transfer and investment from Taiwan play important roles for these cases. Since the aquaculture sector contributes to regional employment and fish resource conservation, the shift from marine capture fishery to aquaculture is promoted there.

The author presents the impact of economic globalization on agricultural sector, especially from viewpoints of exchange rate volatility and foreign direct investment by illustrating rapid changes in agriculture for cases of Japan, Thailand and China.

1. Background

In expectation of an increase in demand for agricultural products and industrial products, free market nations showed favorable response to the acceleration in China’s shifting to a free market, which began to be seen in the lectures by Deng Xianoping on his visiting southern regions in 1992. As a result, direct investment to China expanded rapidly, and Chinese economic reforms and liberation realized a rapid economic growth, which is called “the factory of the world”. It also created a problem of torrential exports of vegetables and grilled eels as well as manufacturing products to Japanese market.

Furthermore, Thailand had been enjoying an economic growth of nearly 10% p.a. for 10 years until the Asian currency crisis occurred in 1997, and there was a heated atmosphere that the “Baht economic bloc” may be created in Indo China

peninsular. At that time the weighting of exports of rice declined and exports of value added processed agricultural products such as processed chicken and shrimp sharply increased.

These experiences have brought about a hypothesis that the role of the food processing industry is very influential in determining the exports of agricultural products especially in terms of value. In addition, significant part of capital for processing industries in developing countries comes from advanced countries. This hypothesis will therefore lead to a proposition that the trend of trades of agricultural and fishery products is determined by direct or indirect capital movement and diversion of industrial structure, rather than by the theory of static comparative advantage where a certain resource endowments is assumed.

2. Review of the theory of comparative advantage and economic development

In the theory of comparative advantage, a conditional proposition, “*if* each nation specializes in an industry with comparative advantage and carries out trade, each economic welfare level will be improved.” is developed. Advantage of agriculture is determined by land conditions because capital equipment ratios and wage levels are high between advanced nations, and the difference in wage levels will become an important determinant in cases between advanced and developing nations. Japan will therefore come to import a vast amount of agricultural products from the world.

Based on the static comparative advantage theory, many tend to criticize that the free trade is to fix the existing economic order, in other words, the free trade affirms the dependent position that developing countries are the bases providing primary products to advanced nations. Of course, expansion of production frontiers by population growth, domestic savings and capital accumulation is considered. But it is difficult to explain the actually occurring economic development of newly industrializing nations in ASEA with this way of thinking, because of generally high

population growth rates of the area.

However, in reality the actual world economy changes very dynamically due to the following reasons:

- a) Labor piling up in rural areas in developing countries does not make useful contribution to agricultural production, which does not create comparative advantage of agriculture.
- b) A vast amount of labor is supplied from rural districts to manufacturing industries, and at the same time economy of scale and benefit of agglomeration sometimes work in the manufacturing industries.
- c) Capital inflows from advanced nations facilitate capital accumulation and technology transfer.

Economic development in NICs in Asia and ASEAN countries after the World War II was the result of a good mixture of exports to the USA in the free trade regime and various forms of capital movement from advanced nations beginning with Japan. Historically speaking, in addition, investment from European nations had a very important role in railway construction and mining development in the economic development of America and Australia before the World War 1. This linked agricultural production in western America with the export markets.

3. Exchange rate fluctuations and agricultural competitiveness

In the past it was thought that exchange rates under a floating exchange rate system were determined by the purchasing power parity theory (PPP) on which the trade balance would be balanced. Figure 1 shows estimated equilibrium rates by using GDP deflators both of Japan and the US based on the yen/dollar rates in 1980, when the trade balance was nearly in equilibrium and that the yen/dollar rate has been in a trend of PPP.

However, currency transactions arising from direct/indirect capital investment and portfolio reshuffle of financial assets have come to overwhelmingly exceed those deriving from trade settlements at present. Exchange rates therefore deviate substantially in practice from PPP in the short and medium term and the trade balance and the current balance tend to remain out of equilibrium.

According to the author's analysis (1991), discrepancy of a yen/dollar rate from PPP consists of the current balance, the crude oil price, and the difference of the interest rate, the inflation rate, and the economic growth rates between Japan and USA.

Looking at the movement of the yen/dollar rate in the first half of the 1980s, interest rates in the USA were high because of fiscal expansion and financial tightening under the Reagan administration. As a result, the US agricultural and manufacturing industries lost competitiveness and trade frictions between Japan and the US were very serious issues.

This appreciated dollar situation turned around by the Plaza accord in 1985, since then the yen started to rise sharply. As a result, competitiveness of Japanese agriculture showed a major decline and imports increased, which led to sluggish income in agriculture for the period from 1986 to 1988. After that the yen sometimes rose to a level where a dollar was below 100 yen, and agricultural income fell again in a declining trend in the latter half of the 1990s (See Figure 1).

In Thailand where the occurrence of the Asian currency crisis started in 1997, the baht/dollar rate had been fixed at about 25 bahts per dollar until the occurrence of the crisis. This means that the real baht rate appreciated, allowing for the inflationary gap of both the countries. As a result, competitiveness of agricultural products and the manufacturing industries declined, and industries based on the domestic

demands such as finance, real estate and importation of luxurious products flourished. The ratio of the deficit of current balance to GDP rose to about 8% and selling pressure started on the Baht.

While the fall of the rate against the dollar was declining in this way, net prices obtained by farmers increased, which became an incentive for agricultural production. Table 1 shows the cases of rice, maize and broilers, which have strong links with international markets. As a result, rice export increased and maize import was restrained. Furthermore, imported feed was replaced for domestic products in broiler production, and an increase in domestic chicken prices reduced domestic demand and expanded exports.

The depreciation in the currency of its own country had an effect on export promotion in general. For the case of Thailand this time, however, it did not have an effect to the extent that agricultural income could continue to rise because many production materials such as fertilizers and agricultural chemicals were dependent on imports. Furthermore, because many currencies in Asian nations whose industrial structures were similar to that of Thailand also fell, the recovery of competitiveness of these commodities was limited compared to the case where only the Thai currency depreciated (ref. Tada (1999)).

As has been seen in the above, there is a tendency that a depreciation of currency will give a boost to agriculture and exporting industries of its own country. Conversely, where the currency value of its own country appreciates, its impact may offset the effect of domestic policies on agriculture. Under the WTO regime, restrictions on domestic agricultural policies have been strengthened, and the influence of macro economic environment on agriculture might have been rising in relative terms.

4. Foreign direct investment and competitiveness of agriculture

In the table of the international balance of payments, the balance of capital account is classified into short term and long term balance of capital account. Long term balance of capital account consists mainly of securities investment such as government and corporate bonds (indirect investment) and direct investment.

As far as long term foreign investment is concerned, domestic production frontier will shrink because the capital that should have been directed for domestic capital formation drains overseas. On the other hand, if foreign investment bears fruits as expected and the fruits are remitted back to domestic country, the domestic purchasing power will rise. But fruits of foreign investment are often reinvested and do not return to the home country.

A study of the effects of foreign direct investment on economic development was initiated as the product cycles theory by Vernon (1966) and has been succeeded by the theory of economic growth, which incorporates endogenous technological change after that. However, it has been neglected in actual discussions regarding agricultural policies. Furthermore, it is also worth noting that effects on capital exporting countries vary to a great extent, depending on whether foreign direct investment is made by a declining industry or a rising sector (Kojima (1977)).

In Southeast Asia, Thailand is an important nation that has received corporate launches from Japan and has received many corporations not only from Japan but also from USA and Europe in the food industry as well. Export of broiler meat is carried out by CP company which is funded by Thai capital, but European and US corporations have a major role in exports of processed products of shrimp, canned tuna, canned pineapples, etc., and contribute to gaining foreign currencies and stability of farming. A vast local labor force is employed in factories of these products, and it is considered to be impossible to feed workers on such a large scale by agriculture and fisheries for themselves.

Regarding broiler meat export from Thailand, export in a form of final consumer products such as grilled chicken has shown a rapid increase in recent years while boneless meat, which is a value-added product by extra labor, still occupies a most portion. Figure 2 presents the difference between added value of frozen products and that of prepared products by showing that the share of prepared products is higher in terms of value than in terms of quantity for a case of export of broiler meat as an example. In a case of shrimp export, the share in value of prepared products such as fried shrimp or “shrimp sushi” is also high, but among prepared products there are category of very low unit prices such as shrimp pilaf. It is therefore difficult to read the trend of the shift to higher value added products visually.

In China from around 1993 when the aftereffect of the Tiananmen incident had finished, acceptance of foreign capital has started to be carried out on a full scale (Figure 3). However, investment from Japan was relatively small. The peak time of acceptance of foreign capital by Thailand was 1990 and 1998, which were synchronized with the peak time of foreign direct investment from Japan. However, the peak time of acceptance of foreign capital by China was for the period of 1993 to 1995, implying that Southeast Asian nations and China were competing for capital attraction.

Next, constructions of processing factories and technology transfer by Taiwanese capital have largely contributed to the Chinese export of broiled eels to Japan (Figure 4). The latest Japanese facilities have been installed into these factories, while the gap in quality among factories still varies to a great extent. However, it is said that superior factories have a labor force more diligent than that of Japan and their eel quality is better than that of Japanese standard products.

Finally, the import of green tea, which symbolizes Japanese culture, has also increased especially from China for a similar reason. Volume of import rose from the

level less than 3,000 tons in the 1980s to over 10,000 tons at present and import from China exceeds that from Taiwan. Furthermore, regarding the exercise of the safeguard on vegetable imports taken up as an issue last year, development imports made by Japanese corporations have been largely influential.

5. Concluding remarks

In this paper, we have examined features of the global economy from the aspect of international capital movement, which is seen in the influence of foreign exchange rate fluctuations and the influence of foreign direct investment. In that process, we pointed out that export of agricultural and fishery sectors is highly depending on foreign exchange rate fluctuations, and that added value created by certain agricultural production can vary greatly depending on the effect of foreign direct investment.

Regarding the international economics, the final consequence of free trade regime based on the assumption of standard labor, capital and technology is known as a theorem of factor price equalization, where it will bring about a wage rise in low wage countries and a wage fall in high wage countries. In the actual world, capital movement and technology transfer in addition to international trades are carried out on a major scale, and the speed towards factor price equalization is therefore considered to be much faster than cases of trades only.

Therefore, comparative advantage of each industry for a certain country is not so static as is usually thought. If international capital movement is introduced, comparative advantage changes very drastically. Thus, policy makers should give a careful attention on rapidly changing comparative advantages of individual industry arising from the capital movement.

We have focused on desirable aspects of accepting foreign capitals for the agricultural sector in developing countries, and strengthen their roles for gaining

foreign currencies and employment in rural areas, in this paper. However, problem of sustainability has become serious issues such as contamination around shrimp farms and tuna resource exhaustion, though they are not limited to foreign capital activities. Therefore, further study is necessary to investigate total aspects of international capital movements.

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Figure 1 Exchange Rate and Agricultural Income of Japan

Figure 2 Broiler Meat Export from Thailand

Figure 3 Foreign Direct Investment to Thailand and China

Figure 4 Japanese Import of Eel

Table Trend of the exchange rate and agriculture in Thailand

		95	96	97	98	99
Exchange rate	BT/\$	24.9	25.3	31.4	41.4	37.8
Farmgate price of rice	BT/ton	4,764	5,522	6,962	5,579	4,817
Farmgate price of maize	BT/ton	4,050	3,930	4,400	3,930	4,640
Retail price of broiler meat	BT/kg	40.96	42.77	48.02	49.57	50.19
Export of rice	1000ton	6,323	5,619	5,567	6,597	6,839
Planted area of maize	1000rai	8,346	8,665	8,729	9,008	8,052
Export of broiler meat	ton	149,935	137,214	150,799	212,479	217,735
Agricultural GDP		11.2	11.1	11.5	13.4	11.5

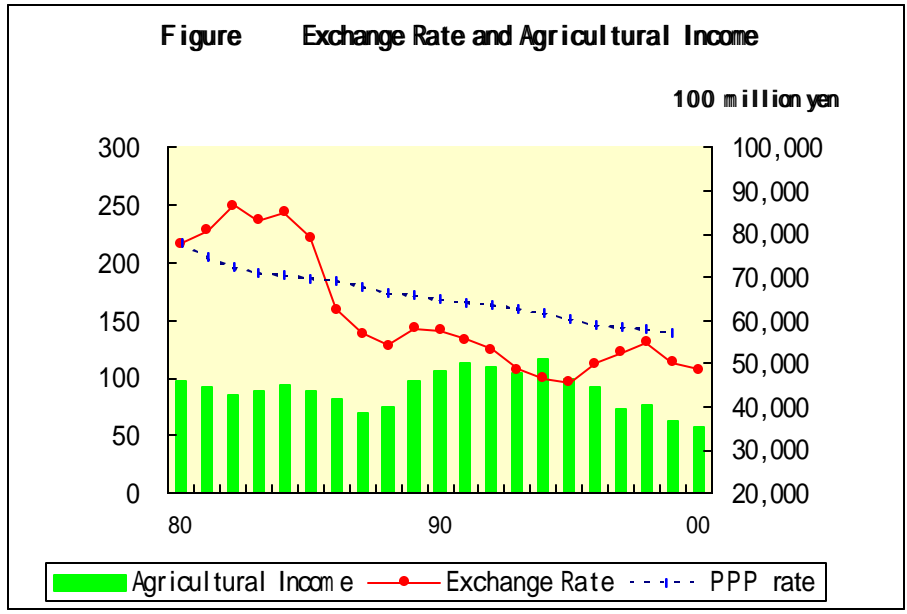
Notes 1) Crop year consists of the rainy season of the year and the dry season of the next year.

2) Maize planted year of 99/2000 decreased sharply due to an abundance and low price of the previous year.

3) 1 rai = 0.16 ha.

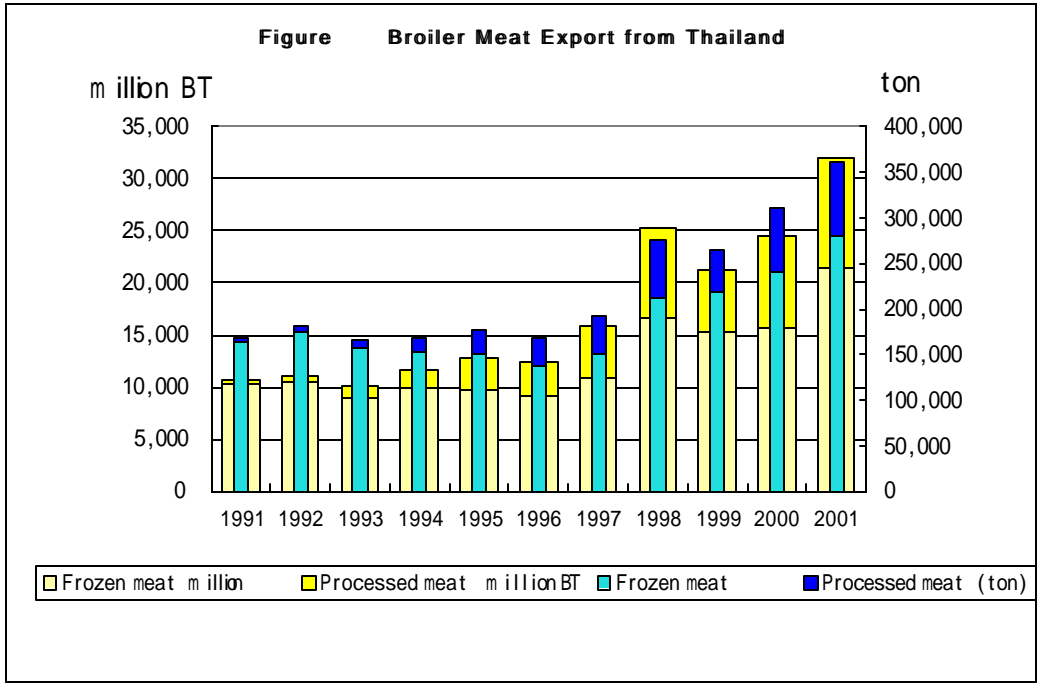
Data: Ministry of Agriculture & Cooperatives "Agricultural Statistics of Thailand"

Japanese Chamber of Commerce in Bangkok "Outlook of Thai Economy"



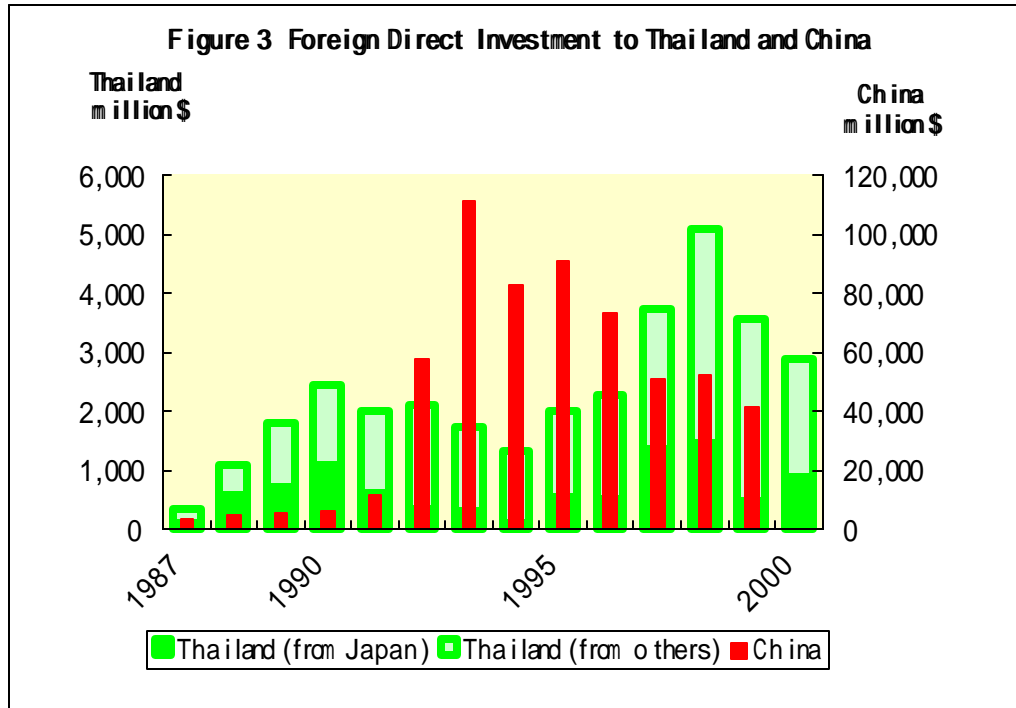
Data: MAFF "Statistics of Agricultural Income produced"

Toyokeizai "Yearbook of Economic Statistics"



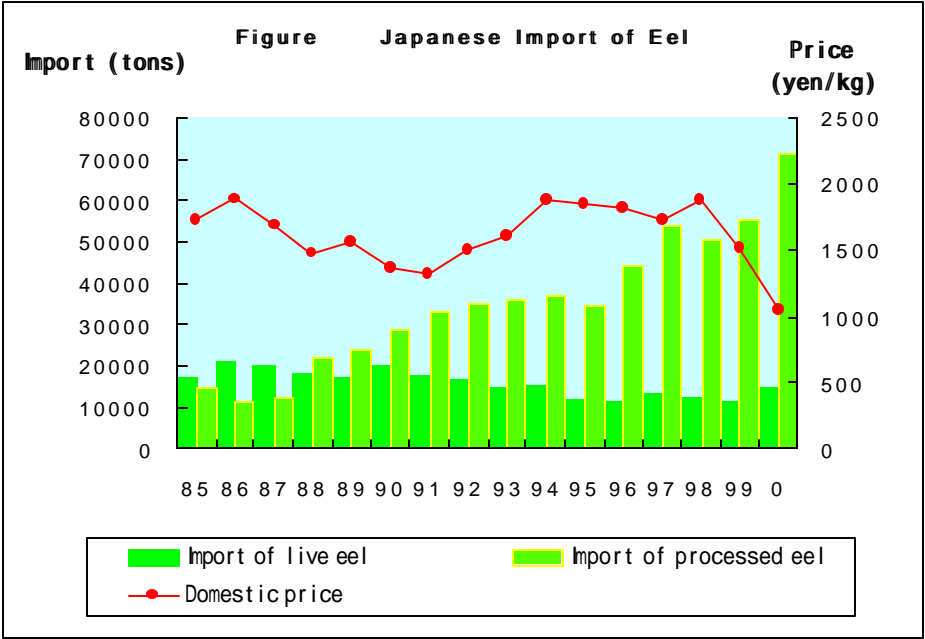
Data: Ministry of Agriculture & Cooperatives “Agricultural Statistics of Thailand”

Data of processed meat is based on hearing at the Office of Agricultural Economics, Ministry of Agriculture & Cooperatives



Note) In the figure, a division of the right scale is 20 times greater than that of the left scale, but the impact on the economy may be almost equal, because the population of China is also 20 times greater than that of Thailand.

Data: JETRO Data Base



Data: JETRO "Agro Trade Handbook"