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The development trajectory of vegetable oil industry based on the global oil-crops in agro-extractivism: An example of Japanese sogo-shosha and oil-related industry

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# The development trajectory of vegetable oil industry based on the global oil-crops in agro-extractivism: An example of Japanese *sogo-shosha* and oil-related industry

Midori HIRAGA

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## 1 Introduction

Oil crops, namely soybean and palm oil, are major agricultural products in agro-extractivism, as its demand being increased flexibly for food, feed, and fuel markets (Oliveira and Schneider 2015), (Alonso-Fradejas *et al.* 2015). Reflecting the increased extraction currently taking place in South America, the structure of facilitating extraction for soybean has once again been gathering attention in the literature (see *The Journal of Peasant Studies* 2016, 43-2). China is often regarded as the world largest importer of soybeans, used for feeding its rapidly growing industrial livestock sector (Schneider 2012). China's increase in income and consumer demand are discussed as the usual suspects; however, not all soybeans imported into China, nor the animal products locally raised on soybeans, enter the stomachs of Chinese people. Significant amounts of soybean-derived products—including soy meal, oil, animal products, dairy products and processed fried foods—are exported from China to the world. This includes Japan, the major export destination of China's agricultural and food products.

Meanwhile, Japan has also joined the race to extract soybeans from South America, and is currently aiming to expand its extraction to Africa. Japanese *sogo-shosha* (general trading companies) have been actively investing in Brazil. For example, Mitsui & Co. invests in Multigrain AG, Mitsubishi Corporation in Los Grobo Ceagro do Brasil S.A., and Marubeni in Terlogs Terminal, among others (Sano 2016, Hall 2015). Remembering little success from their involvement in the development of Cerrado in the 1970s, *sogo-shosha's* recent investments focus on upstream and logistic sectors of the soybean value chain, especially in the Northern part of Brazil (AGRI in Asia, 2016; Fig.1). Food security is often said to be the reason behind these investments, but when Japanese traders actively invest to secure the soybean supply, the actual trade data shows a decline in Japan's soybean imports beginning in the early 2000s (Fig. 2).

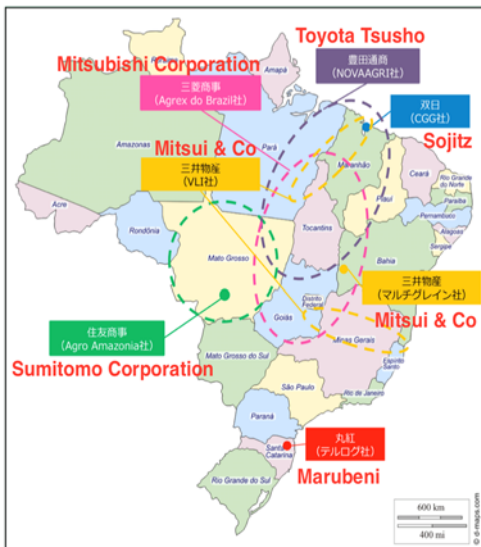


Fig. 1 The locations of Japanese *sogo-shosha* investments in Brazil (AGRI in Asia, 2016; translation added by the author)

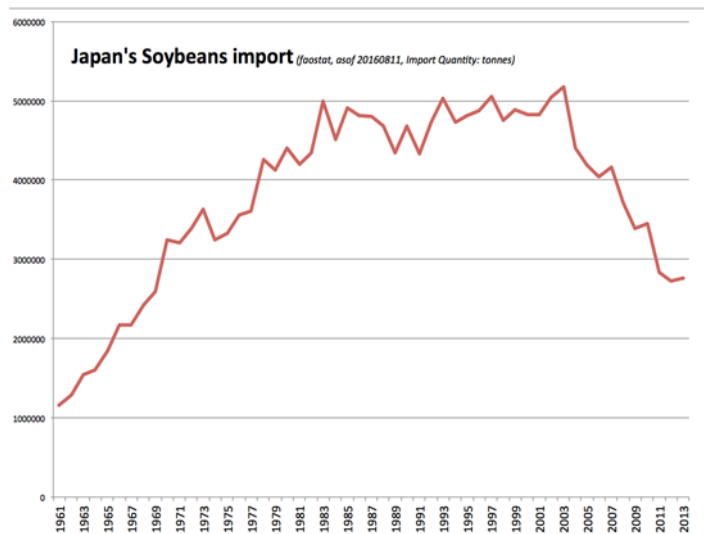


Fig. 2 Japan's soybean imports (Faostat, accessed on 11 Aug. 2016, Import Quantity: tonnes)

While most research predicts Asia will continue to increase its demand for soybean and palm oil, the decrease in imports noted above suggests some shifts are occurring in the soy-corn-animal complex and the durable food complex (Friedmann and McMichael 1989) in Asia. In order to understand the driving forces on the demand side of agro-extractivism, this paper examines how the Japanese *sogo-shosha*, oil industry and food industry structurally promoted or facilitated increases in oil crop demand as they participated in developing the current global vegetable oil complex. Suspecting the existence of rather political and structural drivers than pure business-motivation to respond "consumers'

demand", this paper uses the Food Regime framework (mainly (Friedmann and McMichael 1989), (McMichael 2006)) to examine the structural development of Japan's oilseed crushing/vegetable oil industry and oil-related food industry, within three historical periods: imperial Japan (1880s-1945), post-World War II Japan (1945-1970s; referred to hereafter as post-war Japan) and the current global phase. The paper argues that they have procured industrial mass diet to Japanese people mainly with imported wheat, maize, soybean and other vegetable oils. Now they have been exporting this structure overseas, especially to nearby Asian countries, as far as to Africa.

The Food Regime is a framework to analyze food and capitalist history (McMichael 2013). The First Food Regime focuses on European states import of wheat and meat from the settler states (especially US) between the 1870s and 1914. Wheat produced in the settler-states entered the world trade, which was imported into European states to provision cheap-food for their wage-labour to support their industrial and capitalist development. In this way, agriculture contributed to the creation of independent nation-state. The Second Food Regime covers relations of production and consumption under US hegemony after WW2. Agricultural products shifted from final food into "inputs to transnational food corporations" (p.110 (Friedmann and McMichael 1989)). With strong state involvement, US surplus grains (especially wheat and soybean) were exported to Third World countries as food aid. Defeated Japan became one of major receivers of US grains.

The original Food Regime literature focuses on intensive meat complex (soy-corn-animal) and the durable foods complex (processed food) (Friedmann and McMichael 1989). In addition to that, this paper argues the global complex also developed for vegetable oils, because modern industrial vegetable oil industry was developed along with the development of agro-food complex with most oil-crops imported from colonial territories to European countries, like copra and palm oil from Southeast Asia, palm kernel and groundnuts from Africa, and soybean from China and Manchuria (Commonwealth Secretariat 1937 - 1970).

In order to understand the development of oil and food industries as a part of the global vegetable oil complex, the paper pays attention to the location of oil crop crushing facilities. The Japanese oil industry's concept of the "mountain factory" and the "sea factory" reflects the different characteristics of historical development between rapeseed crushing and soybean crushing in Japan. Since the time of modernization—from before WW2 until the 1960s—small-scale, locally-based "mountain factories" were built inland, often in rural mountainous areas near rapeseed production sites, mainly crushing domestic rapeseed. On the other hand, soybean crushing began with the use of imported soybeans. These soybeans were first imported from Manchuria (the Northeastern part of today's China)<sup>1</sup> in the early 20th century, then mainly from the United States in post-war Japan. Large-scale "sea factories" were built in industrial districts near ports, mostly with facilities of solvent-extraction and highly chemical refinement processes, crushing imported oilseeds and supplying cheap soybean oil and soy meal for industries (Nonaka ed 2013). Such sea factories normally required significant capital accumulation. The paper hopes Japan's example provides useful model to compare with other countries, because of its vivid development trajectory of vegetable oils into the national diet.

## **2 The current situation and major players in Japan's soy and vegetable oil industry**

Trade data suggests there have been major shifts in soybean-animal industry and vegetable oil industry around Japan. While China attracts attention for its rapid increase in soybean import since 1996—becoming by far the largest soybean importing and crushing country in the world—Japan reduced its soybean imports and, instead, increased its import of soy meal (Fig. 3). Although the source countries of soy meal to Japan fluctuate rapidly year by year, Japan has steadily increased soy meal imports

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<sup>1</sup> Manchuria is a term for a historical region of Northeastern China. Strictly speaking, the name "Manchuria" or "Manchukuo" means a puppet state built by Japanese in 1932-1945. Some regard the term to be used with the quotation marks ("Manchuria"), but to avoid complication, this paper use the term without them.

from China and India (Ministry of Finance). Japan is China's largest soy meal exporting destination, importing about a half of its total soy meal export in 2012 - 2015 (JETRO, 2015). Around the same time Japan decreased its import of soybeans, it increased its import of meat and meat-containing processed food (Fig. 4). China exports over 1 billion dollars worth of meat and processed food products to Japan annually, although China is not the only exporter of these products to Japan. In total, China is the second largest food exporter to Japan in the food and agriculture sector, following the United States (JETRO 2015). Itochu, one of dominant *sogo-shosha*, is especially active in China and has established an alliance with CITIC (China International Trust and Investment Corporation) and the CP Group (Itochu 2016). Their strategy map for food and agriculture reveal that these *sogo-shosha* are targeting a much larger market beyond Japan (Fig. 5 and 6).

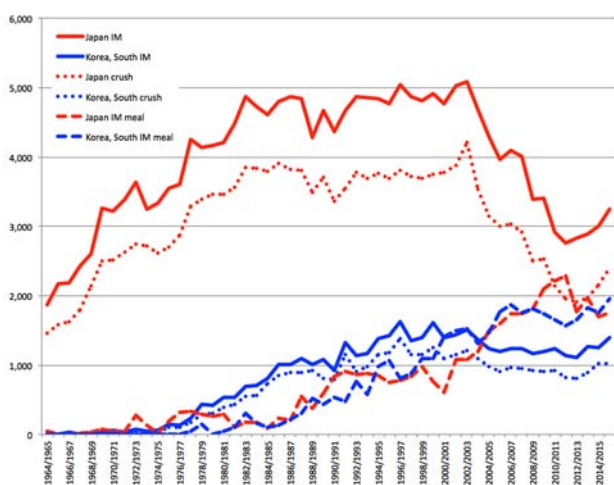


Fig. 3 Soybean import and crush; and soy meal import to Japan and S Korea (USDA PSD Online 1964-2016; 1000MT)

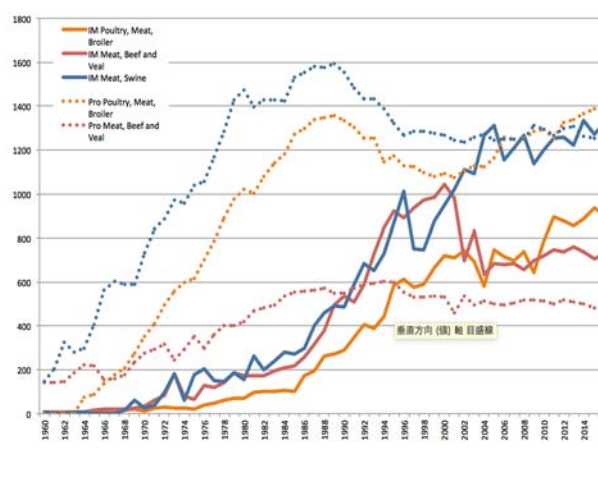


Fig. 4 Japan's meat production and import shift (USDA PSD Online 1964-2015; 1000MT)

Ultimately, trade data suggests a structural shift in Japan's oil industries, including: a decrease in soybean imports (for meal and oil), a change in the production site of animal and processed food products (from local sites to those overseas, especially China). The global expansion of the Japanese food industry and the business strategies of *sogo-shosha* promote these structural shifts, and their business targets have expanded beyond food security for the Japanese population.

### 2.1 Globalization of the Japanese food industry in collaboration with *sogo-shosha*

Many Japanese food companies have globalized to become transnational corporations, and some companies, like Ajinomoto and Kikkoman, receive more than half of their sales revenue from overseas (Food Industry Newspaper 2015). Due to a plateau in domestic markets, Japanese oil companies are also looking for opportunities to develop overseas markets. *Sogo-shosha*, who are often the pioneers of new market development and expansion overseas, have been actively investing in overseas oilseed and oil industries, targeting the growing overseas market and enforcing intermediary trade, especially in the trading soybeans from Brazil to China (Monthly Oils 2015). *Sogo-shosha* used to say that they feed Japan, but their annual reports in recent years talk more about feeding Asia and the world. Marubeni has been increasing grain trade, not to Japan, but for the intermediary trading. It claims that the company handled about 20% of the soybean import to China; about 10 million tons out of the total import of 55 million tons (Marubeni 2012). Mitsui & Co. also says that it handles about 4 million tons of soybeans in the intermediary trade, while about 400,000 - 500,000 tons of soybeans to Japan (Monthly Oils 2015).



Fig. 5 Marubeni's Grain Trade Map (Marubeni, 2015)

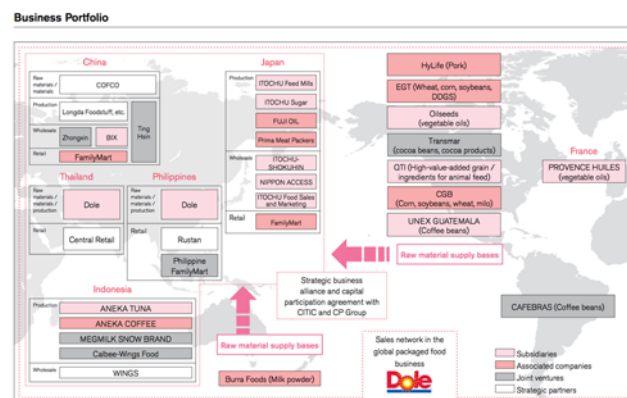


Fig. 6 Itochu's Food Company's Business Portfolio (Itochu, 2016)

*Sogo-shosha* do not conduct business alone. They consolidate collective forces by making allies with a wide range of companies, both Japanese and foreign.

## 2.2 Unique characteristics of Japanese *sogo-shosha* (general trading companies)

General trading companies are said to be unique in Japan. They are “general”, trading almost anything “from mineral water to communications satellite”<sup>2</sup>, from procuring raw materials (up-stream) to retailing products (down-stream) (Mitsubishi Corporation 2013). In fact, “trading” may no longer fully represent their characteristics because they are not only trading or supporting Japanese manufacturers to expand their international trading. Instead, *sogo-shosha* are equally, or possibly more, active in the investment and development of new projects. As such, it may be more suitable to call them general “investment companies” (JFTC 2014). Today's dominant *sogo-shosha* have been deeply involved in the industrial and capitalist development of Japan from its birth as a nation state (discussed in more detail below<sup>3</sup>).

For *sogo-shosha*, food is one of wide range of sectors including machinery, metal and non-metal resources, energy, chemical, development infrastructure, textile, information technology and others. Their association says that the member *sogo-shoshas*' food sector made about 20% of total profit in 2009 (JFTC 2009). For the Japanese food industry, however, *Sogo-shosha* play an extremely dominant and influential role. *Sogo-shosha* hold shares in hundreds of companies in a wide range of food industries, including private wholesale distributors, large-scale food companies especially those based on global commodities like sugar, meat (feed), and vegetable oils, retail sections (supermarkets and convenient stores) and an eating-out section (Table 1). Just as Western “ABCD companies” operate in farm and manufacturing process while also actively participating in the financialization of food and agriculture (Murphy et al. 2012), Japanese *sogo-shosha* are involved from up-stream to down-stream processes. For example, Mitsubishi Corporation owns KFC Japan as well as companies in chicken processing, the livestock sector, feed manufacturing, and the grain import sector (Mitsubishi Corporation ed 2013).

<sup>2</sup> Its original version is said to be “from Ramen noodle to missile”.

<sup>3</sup> The Japan Foreign Trade Council, an industry association of *sosha*, says “the SHOSHA are exploring ways to take advantage of high powered, diversified and value-added functions, built up over long years of experience in (1) information collection, analysis and market development capabilities (2) project management and risk management know-how and (3) IT (information technology), LT (logistics technology), FT (financial technology) and MT (marketing technology), etc.” [http://www.jftc.or.jp/shosha/english/function/index.html]. The business volume of its 44 member companies was over 76 trillion yen in 2013 (Mitsubishi Corporation ed. 2013)

Table 1 Examples of *sogo-shosha* and their stakes in major food companies:

<p><b>Mitsubishi Corporation</b> wholesale distributor: Mitsubishi Shokuhin 62% sugar: Dai-Nippon Meiji Sugar 100% frozen fish: Toyo Reizo 81% meat: Yonekyu 62% cornstarch: Nihon Shokuhin Kako 59% meat: Ito Ham 24% fastfood: Japan KFC 65% convenience store: Lawson 32% supermarket: Life Corporation 19%</p>	<p><b>Mitsui &amp; Co</b> wholesale distributor: Mitsui Foods 100% Brazil grain: Multigrain AG (Brazil) 100% sugar: Mitsui Sugar 32%</p>
<p><b>Itochu</b> wholesale distributor: Itochu Shokuhin 50% wholesale distributor: Nippon Access 93% fruits: Dole (Asia fruit section) 100% meat: Prima Meat Packers 39% veg oil: Fuji Oil 25% convenience store: Family Mart 35%</p>	<p><b>Marubeni</b> meat: Wellfam Foods 100% feed: Marubeni Nisshin Feed 60% sweets: Yamaboshiya 96% US grain: Gavilon 100% sugar: Toyo Sugar Refining 39% veg oil: Nisshin OilliO Group 15% supermarket: Tobu Store 31%</p>

(Shikiho 2015; summarized and translated by the author)

The development of these dominant Japanese *sogo-shosha* was not purely oriented to respond to consumers' demand, but was also promoted politically in the process of Japan's modernization over a century ago. *Sogo-shosha* worked for the government and played a significant role in Japan's industrial and capitalist development. They have shifted their roles and functions over time, becoming less focused on domestic markets and more interested in expanding globally.

### 3 Using the Food Regime framework to map the development trajectory of Japan's soybean and vegetable oil complex

Original Food Regimes framework was developed mainly focusing on relations between Europe and settler states (Friedmann and McMichael 1989) and little mentioned Asian countries including Japan. Some literature discusses Japan as one of receivers of US grains in the Second Food Regime (Friedmann 1993). In fact, Japan was one of major destinations for US grains especially in the Second Food Regime. Defeated Japan was incorporated into US-centred intensive meat complex (soy-corn-animal) and the durable foods complex (processed food) under the strong involvement of US government. Once establishing the structure of depending on imported grains, Japan today remains to be a major importer of wheat and soybean, and still the world largest importer of corn (Maize). Japan's self-sufficiency rate for concentrated feed became about 10%, and as low as 2% for vegetable oil in post-WW2 era (MAFF food balance).

### 4 The historical development of Japan's vegetable oil complex (*sogo-shosha*, oilseed crushing/vegetable oil industry, and oil-based food industry)

The institution developed with *sogo-shosha*, oil industry and oil-related food industry, has procured an industrial mass diet to the Japanese people based on an organized importation of wheat, maize, soybean and other oil crops. The paper argues that they have been exporting this structure overseas,



especially to nearby Asian countries but also to other part of the world as far as to Africa.

#### ***4.1 Imperial Japan (1880s - 1945): Capitalist development of Japan taking advantage of colonial soybeans as a case of the First Food Regime in Asian context*** <sup>4</sup>

##### **The Japanese state and *sogo-shosha* in the First Food Regime**

Most of today's active *sogo-shosha*, including Mitsui & Co., Mitsubishi Corporation, Marubeni, Itochu, and Sojitz Corporation, originally developed in Japan's modernization process over a century ago, with the great support from Japanese state.

When Japan opened its country in the middle of the 19th century and the modern nation-state was established by Meiji Restoration in 1867, the state of Japan was disparate to resist foreign investments and traders to avoid being colonized by Western forces. The state of Japan 1) limited the foreign trade only in the designated concessions near the ports (starting with Yokohama) and prohibited foreign traders to enter Japanese domestic market; 2) it quickly modernized Japan's own financial institutions in 1870s to 80s by establishing national banks, the central Bank of Japan, and special banks to handle foreign trade like Yokohama Specie Bank; and 3) it promoted its own trading companies to increase foreign trade and secure foreign currencies among Japanese hands. Mitsui & Co. was a typical example: the company began with previous cabinet member of Meiji State government, it handled up to 20% of the country's entire trade, and was called *de facto* "Trading Department of Japan Inc." Japan managed to conduct its industrial and capitalist development unlike other colonized Asian countries, and soon, Japan's consulate office, special banks, and traders like Mitsui & Co. together expanded into Asian countries since the 1890s. As one of their imperial, political, and economical activities in Asia, Japanese colonial institution and *sogo-shosha* began international trade of Manchuria soybean products (bean, meal, and oil), mainly in order to supply soy meal to fertilize Japanese farmland. Soy oil was not eaten by Japanese then, so most was exported to Europe or the USA.

##### **Trade of Manchuria soybean as a global commodity**

Although most English literature on soybean starts with the USA then proceed to the South America, the international trade of soybean started from Manchuria, today's Northeast part of China, around the beginning of the 20<sup>th</sup> century (Bertrand et al. 1983). Soy meal was exported mainly to Japan, and soybean and soy oil to Europe and the USA, and by the 1930s, Manchuria had become the world centre of soybean production and export. Local and European traders were active as well, but the emerging nation state of Japan and *sogo-shosha* contributed to the transformation of soybean from traditional Asian food into a globally traded commodity mainly to be crushed into meal and oil for industries.

##### **Development of soybean crushing industry with "sea factories"**

Mitsui & Co. was one of pioneers entering in Manchuria and exporting its soybean products; it contributed to establish trade of Manchuria soy meal to Japan by the 1890s. Japan's import of Manchuria soy meal grew rapidly especially after the Sino-Japanese War in 1894-95, as the Japanese government promoted to use more purchased fertilizer, instead of subsistent soil management, as Japan accelerated its industrial development and export of raw silk. After Japan won the Russo-Japanese War of 1904-05 and obtained railway in Manchuria and Dalian port from Russia, Japanese government founded the South Manchuria Railway, a "national policy corporation" and *de-facto* colonial arm of Japan. The South Manchuria Railway restructured transport of soybean products centering Dalian, and promoted soybean crushing industry in and soy product export via Dalian. One of today's dominant oil companies in Japan, Nisshin Oil Group, was founded in 1907 as "Japan-China Bean Meal Manufacturing Company", with their main factory in Dalian. The origin of the other dominant oil company, J-Oil Mills Group, was Honen Oil in 1922, which succeeded the soybean

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<sup>4</sup> The primitive version of this section was presented at the Agrifood XXII (Agri-Food Research Network), Otago, NZ in December 2015, and fully discussed in Hiraga and Hisano forthcoming

project from the Central Research Laboratory of South Manchuria Railway and its Dalian factory with solvent extraction facilities.

In this way, soybean was transformed into a raw ingredient for industries and became an internationally traded commodity. Manchuria soy meal to Japan, especially in the earlier stage, contributed to modernize Japanese agriculture, especially for the export of raw silk to accumulate foreign capital, and to be invested into industrial and capitalist development of Japan. Trade of Manchuria soy products also supported the expansion of Japanese imperial forces, *sogo-shosha*, and related companies. Thus, this can be argued as a case of the First Food Regime in Asian context (Hiraga 2015).

Japanese capital also began to build soybean crushing factories inside of Japan to crush imported Manchuria soybean near port area (Fig. 7). Most of those "sea factories" were large-scale, introducing leading-edge technology of oil press or solvent extraction. Post-WW1 is said to be Japan's "golden era of soy meal industry" (Nisshin Oil 1969). While soy meal was used as fertilizer in Japan, soy oil was mainly exported - soy oil began to enter Japanese diet only after the 1930s, with the strong marketing effort by Honen Oil company (Honen Oil 1963).

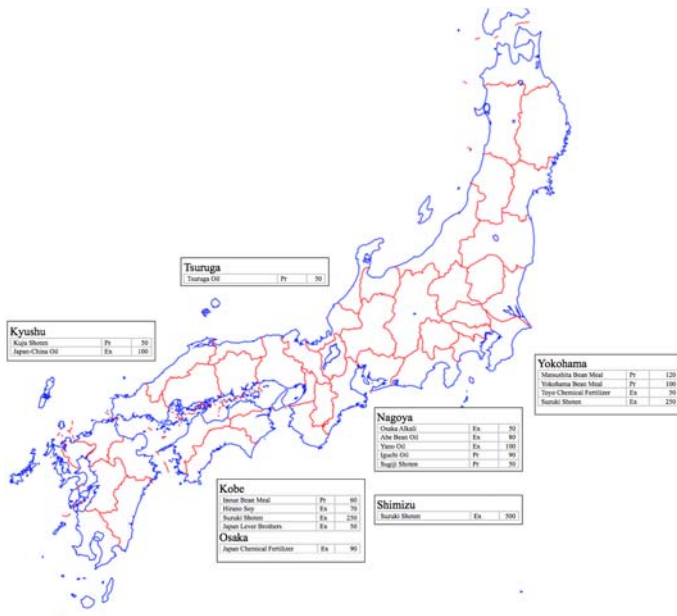


Fig. 7 Soybean crushing factories (daily crushing capacity more than 50 tons) around 1918 (data from Nisshin Oil 1969; map made by the author)

As Japan entered wars in the 1930s - 40s, expanding its battlefields to China, Southeast Asia and the Pacific, the export of Manchuria soybean as well as coconut (copra) and palm oil from Southeast Asia was gradually cut off from Europe and the US by the end of WW2 (Commonwealth Secretariat (1937 - 1970). Japan's oil industry was reorganized under the government and military control to support war, and was consolidated into one Imperial Oil Control Company in 1942.

#### 4.2 Post-WW2 (1945-1970s): Importing US soybean to Japan in the Second Food Regime

##### The Japanese state and sogo-shosha in the Second Food Regime

Following the defeat of WW2 in 1945, Japan was occupied by the Supreme Commander for the Allied Powers (SCAP) led by the US General Douglas MacArthur. *Zaibatsu* (financial and industrial conglomerate) and related sogo-shosha were dismantled, and international trade as well as foreign currency exchange went under the control of the government (thus SCAP). Japan lost supply of rice, sugar, soybean, oil crops, salt, and other important materials that by that time Japan had become depended on import from its Asian territories like Taiwan, Korea, Manchuria and China, and the Southeast Asia. Starvation in Japan was severe, and it opened

entry of US surplus grain, especially wheat and soybean, as food aid in the international food order of the postwar era (Friedmann 1982).

**Soybean trade in advantage of established large-scale companies**

In the first few years of turmoil after WW2, some food aid were provided including the Licensed Agencies for Relief in Asia (LARA) and the US Government Appropriation for Relief in Occupied Areas (GARIOA) and some of the aid was used to provide school lunch for starving Japanese children, mainly with bread and skimmed powdered milk (Cwierka 2006). After US lost its European wheat market, US surplus wheat secured more consolidated outlet with the PL-480 (the Agricultural Trade Development and Assistance Act) since 1954. US soybean, as well as wheat, were major commodities under this policy (Friedmann and McMichael 1989).

Imported soybean to Japan was allocated by the authorities to the existing large-scale oilseed crushing companies, which gave advantageous condition for larger companies to resume their business. Oil companies that had developed in the pre-war era by mainly crushing Manchuria soybean either in Manchuria or in Japan, like Nisshin Oil and Honen Oil, lost their major production facilities in Dalien and other overseas asset, and their facilities in Japan were badly damaged by war as well. Still, these oil companies survived and quickly re-structured themselves in a few years. Imported soybean under the government control was allocated according to the companies' previous performance: nearly half of the imported soybean quota in 1953 were allocated to top three companies; Honen Oil (21.0%), Ajinomoto (15.0%), and Nisshin Oil (10.7%), (MAFF Oil Statistics 1956). Such controlled allocation provided larger oil companies certain benefit and promised market, while making market condition unfavourable to smaller-scale companies and domestic rapeseed production (Nakajima et al. 1967). Korean War of 1950-53 provided a business opportunity to oil industry and following crash, as well as the reverse course in the occupation policy of Japan, once dismantled *sogo-shosha* reassembled, like Mitsubishi Corporation in 1954, and Mitsui & Co. in 1959. *Sogo-shosha* strengthened their relationship with oil companies especially from around 1961, with larger oil companies allied with certain *sogo-shosha* mainly in oil crop procurement, and middle to smaller oil companies received investment from *sogo-shosha* (Nakajima et al. 1967).

Trade (import) of oil crops were liberated gradually, with most of oil crops, including soybean, started to be liberated since 1961. The liberalization of a few kinds of oil crops, including rapeseed, was delayed until 1971 in order to protect domestic production of oil crops. However, imported rapeseed rapidly replaced domestic rapeseed from the latter half of the 1960s, even before the trade liberalization. The concentration rate rapidly increased to large-scale oilseed crushing factories. The 1961 MAFF report on oil industry facilities shows that rapeseed was crushed by 1,012 factories; with 772 of them small-scale (daily crushing capacity less than 1 ton) and 34.3% of the total rapeseed was crushed by large-scale factories (daily crushing capacity more than 100 ton). On the other hand, soybean was crushed by only 71 factories with 93.2% crushed by large-scale factories (p.26, MAFF Oil Industry Survey 1961). The number of small-scale oilseed crushing factories reduced rapidly as the dependency on imported oilseeds progressed in the 1960s, as shown in the chart (Fig. 8). The shift suggests that oil crushing facilities had concentrated into large-scale factories, mainly built on port, crushing imported oil crops, mainly soybean from the US. The dominance of such "sea factories" (large-scale oil crushing and refinery plant on port area), together with completed trade liberalization of oil crops and stronger yen against US dollar since 1971 facilitated more and cheaper vegetable oil supply in Japan based on imported oil crops (Japan Oilseed Processors Association 2012).

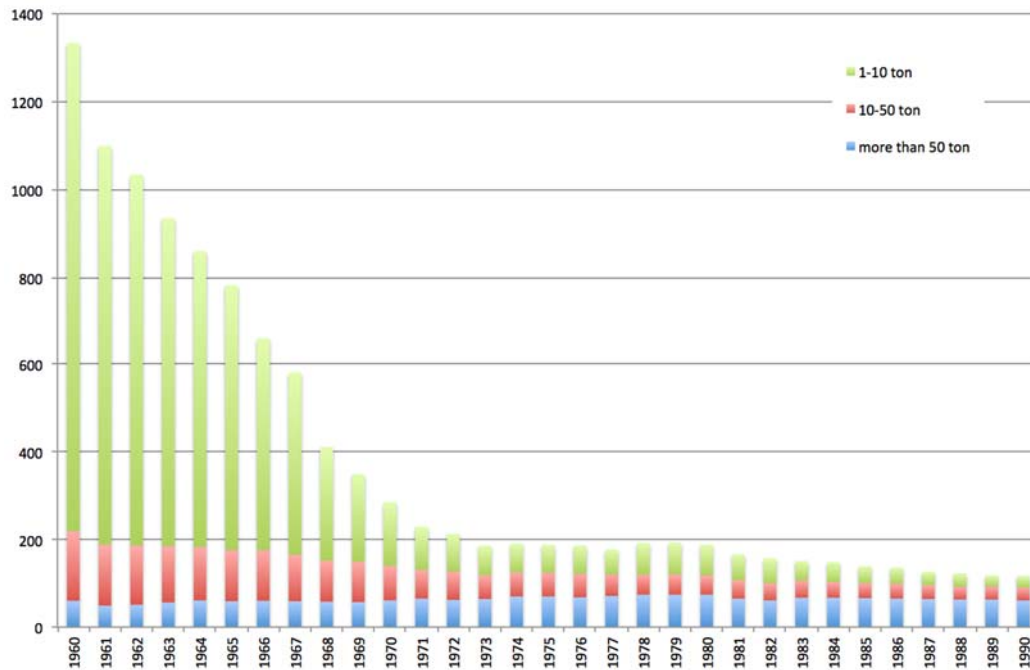


Fig. 8 The number of oil crushing factories according to their daily crushing capacity size in Japan (MAFF Oil Industry Survey 1961 - 1992)

Food supply data of Japan from the 1960s and 2000s shows rapid increase of fats and oils, as well as meat and especially milk and dairy products (Fig. 9). So-called "Westernization of Japanese diet" was promoted by the US and Japanese governments. The US Grains Council was established in 1960 with a task to develop US grain market in Japan. In the following year, the Japanese Feed and Grains Council was established and became the counterpart of the US Grains Council to promote meat and dairy products in Japan, with the 65% of promotion budget from the US side. They promoted modern industrial way of livestock development with grain feed mainly imported from the US (Suzuki, 2003). "Nutrition Improvement Movement" promoted Western diet and oily cooking, by running kitchen cars in rural area of Japan and "frying pan" movement recommended to use frying pan to Japanese housewives, thus using more oil (mainly soybean oil) for cooking. Rapid increase and prevalence of vegetable oils to Japanese nation can be found in supply data; among food items which supplied fat nutrient to Japanese nation, vegetable oil supplied most fat with more rapid increase than fat from animal products after WW2 (Fig. 10).

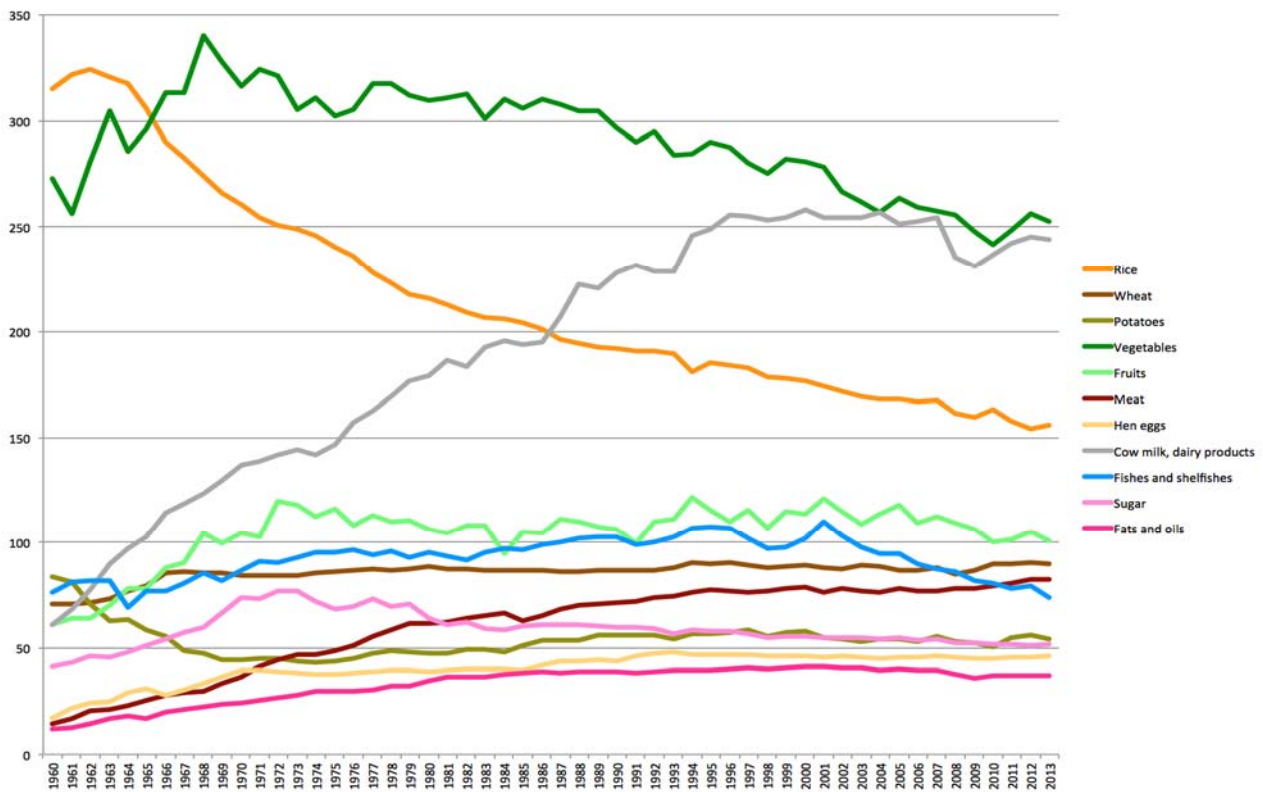


Fig.9 Net food supply to Japanese (gram; per person/day) from MAFF food balance data

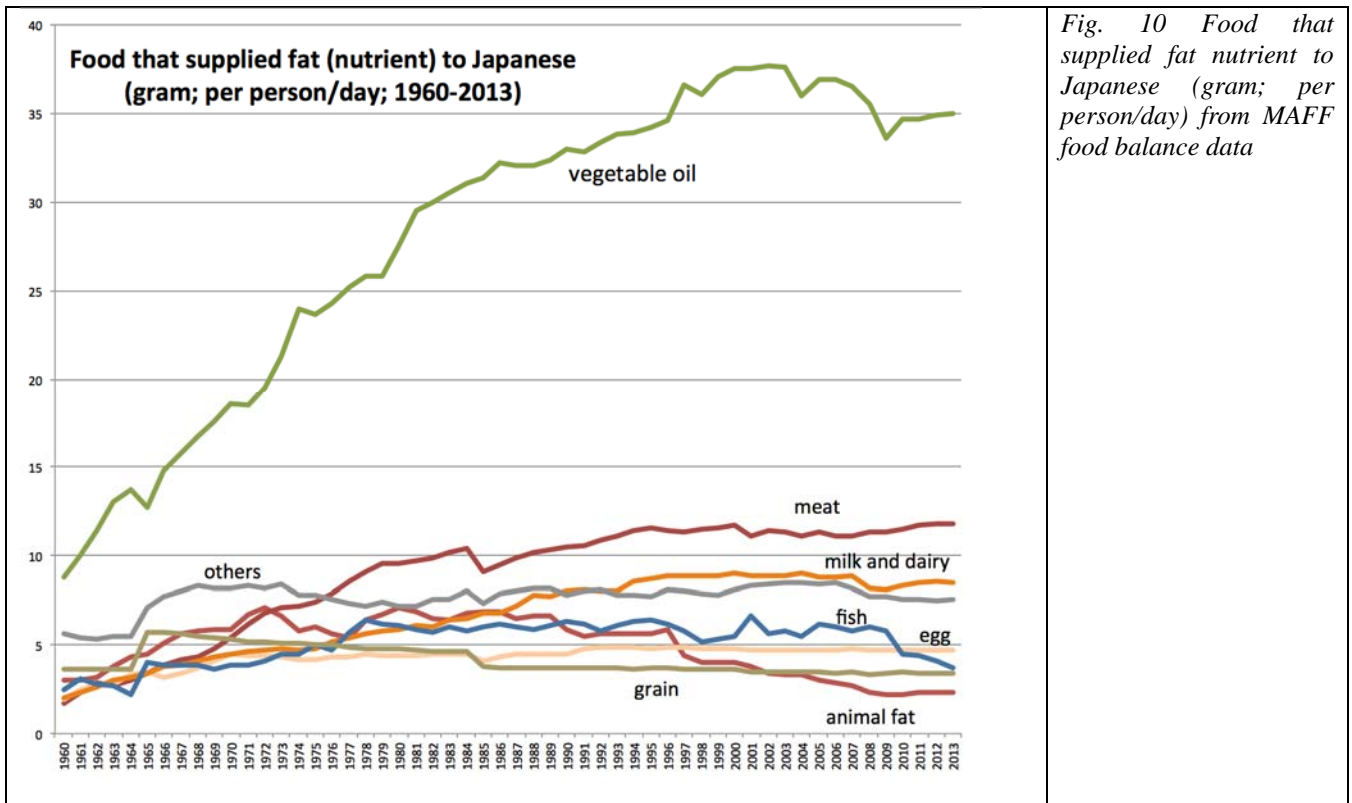


Fig. 10 Food that supplied fat nutrient to Japanese (gram; per person/day) from MAFF food balance data

### **Developing a food industry based on the ample supply of cheap oil**

Japanese food companies began to sell oil-related processed food as Japan achieved recovery. Oil containing products like salad dressing came into the market at the end of 1950s, a can of meat sauce for pasta in 1959, and ready-made roux for curry in 1960 as well as margarine, ice cream, mayonnaise and others. Japanese housewives learned how to prepare new cuisine like salad, spaghetti, and curry with these processed food products made by Japanese food company, rather than the way of cooking these dishes from scratch (Iwamura 2010). As one of major deep-fried processed food, instant noodle was invented by the Japanese entrepreneur Momofuku Ando. He founded the Nissin Food company, which began selling instant noodles in 1958 and the cup-type instant noodle in 1971.

In addition to Japan's food industry development taking advantage of cheap and ample supply of vegetable oils, foreign direct investment in the Japanese restaurant sector was gradually deregulated at the end of the 1960s, and this facilitated the rush of so-called American fast food into Japanese market; with Kentucky Fried Chicken in 1970, McDonalds in 1971, Mister Donut and Dunkin' Donuts in 1971, among others (Kozuka 1999). Often, *sogo-shosha* supported the entry of American fast food into Japan.

By the 1980s, Japan had established the structure of vegetable oil and food industries provisioning oil-related food (mainly processed products and many eating-out food) depending on imported soybean and other oil-crops, supported by the state and *sogo-shosha*. MAFF food balance statistics since 1960 to today show that Japan's self-sufficiency rate for vegetable oil and soybean dropped down as low as 2% in the lowest years in post-WW2 era. Imported soybean is crushed mostly on port by "sea factories", then meal is supplied to feed industry and oil supplied to food and other industries. Two of today's dominant oil companies, J-Oil Mills (originally Honen Oil and Ajinomoto) and Nisshin Oillio have factories on ports. J-Oil Mills, who has the largest market share in oil for food industry, says 100% of their oil crops are imported (J-Oil Mills 2015).

Once this structure (large-scale sea factories crushing imported oil crops) is established as a part of the global vegetable oil complex, it is rather easy to shift the source of oil crops flexibly; as Japan has shifted its source of soybean from its colonial Manchuria before WW2, then mainly from the US after WW2. Japan diversified its source to Brazil, by actively investing and promoting Cerrado development in the 1970s, and now the trade data show it has been increasing soybean import from Uruguay (JETRO, 2015).

This is a rough sketch of Japan's experience to argue that there must have been structural drivers that promoted or facilitated increase of vegetable oil supply, based on imported global grains like soybean, which are extracted from the production site overseas. Now this structure of Japanese state, *sogo-shosha*, and oil and food industries has been exported overseas, especially to Asian countries and as far as to Africa, supposedly promoting demand increase for more vegetable oils.

### ***4.3 The Global Corporate Food Regime (1980s-current)***

Thus, with active involvement of *sogo-shosha* and large-scale oil and food industries, Japan had established significant food dependency, with especially low self-sufficient of wheat, maize, soybean and other oil crops. This structure was established in a bilaterally-managed food trade with the US post-WW2, and then it has diversified for more multilateral food trade in a global corporate food regime, establishing the "Japan-centered East Asian import complex" (McMichael 2000). This complex, however, has no longer remained in Japan only. Japanese players who have established this structure of provisioning oil-based industrial diet based on global oil-crops have now been exporting this structure overseas, in the global corporate food regime (McMichael 2005).

### **Exporting the structure of food industry based on the global oil-crops**

Japanese companies began to seek new production bases overseas especially after the G5 agreement of

Plaza Accord in 1985<sup>5</sup>, which intervened the currency market to depreciate the US dollar against the Japanese yen. In following year, the Committee on Economic Structural adjustment for International Cooperation in Japan submitted a policy recommendation, so-called Maekawa report, to the Japanese government, recommending that the government to promote outbound FDI, and increase imports of agricultural products (including processed food) if that product can be imported cheaper than produced domestically (with the exception of staple agricultural products) (Maekawa report, 1986). It was also about the time that China began opening the country to encourage incoming foreign investment, and that other matured Asian countries like South Korea, Hong Kong and Taiwan were looking for overseas lower-cost manufacturing locations.

Among many industries that rushed into China was the instant noodle industry. Japanese and Taiwanese instant noodle companies actively invested into China since the 1980s, and facilitated China's instant noodle industry to develop from almost zero into the world largest producer, producing 8.28mt in 2011. The production process include deep-fry, and this rapid development of the instant noodle industry is suggested to be a factor of promoting China to be the world largest importer of vegetable oil (Hiraga 2012). Taiwanese company of Tingyi (though registered in Cayman Islands) began producing instant noodle in China in 1992. The company allied with Japanese sogo-shosha of Itochu, which facilitated collaboration among Tingyi and Japanese instant noodle manufacturers, Sanyo Foods Co (Nikkei, 2009). Nissin Food, the founder and the largest instant noodle manufacturer in Japan, began its production in China in 1993, then later made a joint venture with Chinese Hualong Foods (today's Jinmailang Food) in 2004 (Tsuruoka, 2006). China Data Online show that over half (54.4%) of the gross industrial output value of China's instant noodle market was produced by foreign funded enterprises.

#### **Foreign Direct Investment facilitating China to be the world largest oil-crop importer**

The shift of oilseed crushing facilities to "sea factory" was found in recent China, when it rapidly increased import of soybean since the middle of the 1990s. Large, modern crushing facilities were built mostly in the Southern coast of China, to be convenient to handle imported soybean. Until then, smaller crushing facilities had been historically located in the Northeast part of China, close to domestic soybean production area (Hiraga 2012). In the background, the Chinese state shifted its policy to facilitate import increase of soybean in the years proceeding its accession to the WTO; like reducing import tariffs of soybean from 40% to 3% in 1996 and increasing VAT on soy meal to 13% in 1999, to favour importing whole soybeans and crush the beans in China rather than importing soy meal. It also encouraged FDI into the country that facilitated transnational corporations to build large-scale oilseed crushing facilities in China. ADM invested in China's oilseed crushing business and opened 10 joint venture of processing plants with the Chinese state-owned COFCO and Singapore's Wilmar, being one of the first TNC to take this opportunity (Goldsmith et al., 2004). Cargill followed suit and since 2006 has invested particularly in oil crushing facilities. Bunge began its activities in China in 2004 (Ozawa, 2010). In its peak era, these TNCs accounted large part of China's oilseed crushing businesses, controlling up to 80% of crushing facilities and 60% of soy oil refining (Schneider 2011). China Data Online shows that foreign-funded enterprises made as high as 44.1% of the gross industrial output value in the vegetable oil processing industry of China in 2008, though they were only 6% in number (unit). Meanwhile, domestic production of soybean in China had plateaued. This shift was accompanied with the rapid development of industrial livestock in China (Schneider 2011) as well as in food industries with active FDI. Japanese sogo-shosha and food companies also joined the trend. Compared to the major ABCD companies and the emerging Chinese traders (Murphy *et al.* 2012), direct investment from Japanese companies to China's soybean crushing industry might be small. Still, the recent trading data showing increase of soy meal, as well as meat and processed food import to Japan suggest that Japanese companies taking advantage, though more detail study is required in this section.

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<sup>5</sup> The Plaza Accord was an agreement of G5 (France, West Germany, Japan, the US and the UK), signed in 1985 at the Plaza Hotel, US, to intervene currency markets to depreciate the US dollar against the Japanese yen and German Deutsche Mark.

## 5 Conclusion

Japan's development trajectory demonstrates the establishment of a structure of provisioning industrial diet based on global grains of soybean, maize, wheat, and sugar. Currently dominant oil industry and food industry based on ample and cheap vegetable oil supply have developed not only to respond consumers' demand, but rather with more political, sometime imperial, drivers in the industrial and capitalist development of Japan under the Food Regimes. Soybean crushing industry for meal and oil extraction developed based on internationally traded soybean with "sea factories" in Japan from the beginning, rather than complementing or substituting domestic soybean. In this process, soybean was transformed from traditional Asian food into industrial ingredient for fertilizer, feed, and food industries. Large-scale factories which can equip solvent-extraction and highly chemical refinery are built on port industrial districts to crush imported oilseeds. This requires large-scale capital investment. States of both exporting and importing countries also have played active roles in the development of this complex.

As for the First Food Regime framework, the Imperial state of Japan strongly promoted trading companies. They contributed to developing international trade of Manchuria soy products (bean, meal, and oil), first to Japan, then to Europe and the USA. Japan's colonial arm, the South Manchuria Railway, also played great role in developing soybean crushing industry and its international trade. Manchuria soybean from colonial territory contributed to modernization of agriculture in Japan, which in turn supported industrial development as Japanese players accumulated capital.

In the Second Food Regime, these established oil companies became the counterparts to accept imported soybean from the US, first as food aid, then as liberalized trade commodity. Sogo-shosha was once dismantled, but re-assembled to be dominant traders and investors for Japanese oil and food companies, especially those based on imported wheat, soybean, maize, and sugar.

In the Global Corporate Food Regime, this established structure of Japanese sogo-shosha and food industry have been exported to other part of the world. *Sogo-shosha* have been all over the world, targeting wider Asia as their main markets. Instant noodle industry has also been expanding even to non-noodle culture of India or in Africa.

The paper argues that the established structure of Japanese traders (*sogo-shosha*), oil and food companies, has been now exported to the world. Their expansion contribute to proliferate industrial mass diet led by large-scale food companies, and is suspected to have been increasing demand for global grains, promoting the agro-extractivism.



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**Agro-extractivism inside and  
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