[Article]

General Trading Companies and International Trade: Theoretical and Historical Perspectives from Meiji era Japan

総合商社と国際貿易:

理論的視点及び明治期日本についての歴史的視点から

Kiyoshi Matsubara 松原 聖

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(Abstract)

This article examines the roles of Japanese General trading companies (GTCs or Sogo Shosha in Japanese) in the development of the Japanese economy, especially as they were associated with the growth of exports in Meiji era. As the title of this article suggests, two perspectives are applied. First, from a theoretical perspective, this article surveys the previous literature on the roles of trading companies in economics, including some empirical studies. Through the survey, this article shows how trading companies work to facilitate international trade by their trade intermediation, what mechanisms make such facilitation possible, and remaining problems with trading companies in previous studies in economics. In relation to the second point of mechanisms, how a trading company determines its optimal scope of trade intermediation (i.e. how many of manufacturing products it exports) is examined by trading company's spending on the establishment of necessary networks abroad. Also, to complement the last point, this article overviews a theoretical analysis by the author to try to overcome some of the problems associated with previous studies.

From a historical perspective, the emergence of Japanese trading companies after the Meiji restoration, the diversification of their businesses in the Meiji era, the factors that made such diversification possible such as government policies, and the factors characterizing Sogo Shosha are examined by surveying previous studies on (Japanese) business history. To synthesize the two perspectives, this article also attempts to relate the previous literature in economics to that in business history to conclude the analysis.

1. Introduction

Globalization of the Japanese and other economies is not a phenomenon peculiar to today's world, although its impact is widely discussed in many places today with debates over Trans-Pacific Partnership (TPP) being a typical example. In considering economic history of a country especially that of an island-country like Japan, globalization is an important aspect, because its interactions with other countries have led to the globalization of the Japanese economy in various forms. For instance, for many years Japan imported advanced technology and culture from China and Korea, including those originally from further West, through international trade, sending students, and migration.

Therefore, examining how our ancestors kept pace with globalization seems to give us important implications to understand today's various problems associated with globalization. From this point of view, this paper focuses on globalization and Japan in the Meiji era, when its economy very quickly made the transition from an artificial closed economy lasting more than two hundred years through to the Edo era, to the open economy after the Meiji Restoration, even when compared to today's speed of For instance, according to Minami (2002 p.154), Japan's degree of globalization. dependence on foreign trade, measured by the ratio of the sum of exports and imports to GDP, increased rapidly from 18.4% of 1885 to 1900 to 38.8% of 1921 to 40. The number of 1921 to 40 is much higher than 28.4% of 2012 from the database of Institute for International Trade and Investment (ITI), which suggests that the globalization in Meiji era Japan was much deeper than that of the Japanese economy today in some sense. At the same time, separate regional economies were integrated into the one national market in the Meiji era by the development of railway, postal, and telecommunication networks¹.

About the Japanese exporters' entry into the foreign markets in the Meiji era, to help potential exporters get information about the distant local markets, especially about the U.S. and European markets, and develop sales networks in those markets, the roles of the following four economic agents have been examined by previous studies in economic history².

- Central and local governments (Sugihara 1995).
- Organizations, such as chambers of commerce (Kataoka 1996).
- Trading companies (Hagimoto 1996).
- Commercial Banks (Saito 1983).

Among these agents, this paper focuses the role of trading companies, especially general trading companies (GTCs), which deal with various kinds of goods, and provide services such as trade intermediation and others. There are two reasons why the author believes trading companies are important to facilitate international trade and economic

growth for developing countries like Japan in the Meiji era. One is that trading companies themselves commit to international trade as intermediary agents, exporters, or importers. The roles of other organizations are basically to support potential exporters or trading companies, although government policies may directly affect trading companies' businesses³. The other is that the argument about how the (fixed) costs of exporting can be decreased by trading companies may be applied to discussing the justification for the roles of other institutions, especially government policy and organizations. For instance, Rauch (1996) points out the failure of Turkish foreign trade companies, which imitated Japanese and Korean GTCs, and were encouraged by the Turkish government, to show that GTCs, especially established by the central governments, have not been successful in many countries⁴.

The latter part of this article is arranged as follows. To give some theoretical background to the following discussion in this article, section 2 first reviews previous studies in economics on the main role of trading companies, i.e. trade intermediation between producers and consumers in different countries. Next, section 2 briefly explains an economic model of trade intermediation developed by Matsubara (2013) to attempt to overcome some problems with previous literature. Finally, section 2 goes back to the previous literature to discuss an important ability of trading companies, i.e. facilitating international trade by decreasing fixed costs of exports for producers. Section 3 reviews previous studies on the roles of trading companies in the business history literature. Lastly, some concluding remarks are stated.

2. Studies on the roles of general trading companies in economics

(1) Previous theoretical studies: firms' productivity and mode of exports

Previous theoretical studies of trade intermediation have two strands. One strand has built variants of the heterogeneous-firm trade model a la Melitz (2003), which formulates a dynamic process of (manufacturing) firm's choice of its mode of business from two options depending on its stochastically given productivity operating only domestically; and operating both domestically and internationally by exports in a general-equilibrium setting with a trade-intermediation (wholesale) industry which has the following two properties: (1) wholesalers are homogenous and the industry is free entry, i.e. zero (economic) profits, and (2) wholesalers buy products of the monopolistically-competitive manufacturing sector, and resell them on foreign markets by adding extra fees, i.e. markup (Ahn, Khandelwal, and Wei 2011, Akerman 2012, for instance)⁵.

The second strand is an application of search theory, originally developed in labor economics to analyze matching between employers and job seekers and now applied to various fields of applied economics, to the international trade model, assuming that it takes some search costs for manufacturers to find clients demanding their products, called "search frictions" (Rauch 1996, Antràs and Costinot 2011, for instance). Although those two strands focus different aspects of international trade with intermediary, both of them show that manufacturers with intermediate productivity levels use trade intermediation, while those with high productivity levels do not, as Figure 1 from Akerman (2012) describes⁶.

In Figure 1, horizontal axis measures the productivity of manufacturing firms, and vertical axis measures the level of profits they earn. Π_x indicates the operating profits of a manufacturing firm that exports on its own, and Π_w indicates the operating profits of a manufacturing firm exporting through a wholesaler, i.e. trading company. F_x indicates fixed costs for exporting on its own such as developing distribution networks in the foreign market. Because the wholesaler charges the fee of trade intermediary, Π_w has a smaller slope than Π_x for any level of productivity a manufacturing firm has. If the productivity of a manufacturing firm is low like ϕ_w , this firm should use the service provided by the trade intermediary. To get positive profits from exporting on its own, the level of productivity equal to ϕ'_x or higher is necessary. If a manufacturing firm's productivity is equal to ϕ_x , this firm is indifferent to the choice of exporting on its own or exporting with the trade intermediary because the both productivity is higher than ϕ_x , this firm should export on its own.





Source: Figure 1 of Akerman (2012, p.14).

However, some empirical studies show that wholesalers are heterogeneous and concentrated in Japan, US, and some EU countries. For instance, Tanaka (2013) shows that in 2008, the top one and five percent respectively, of wholesale exporters account for 64.5 and 84.5 percent of total exports by Japanese wholesale firms. These figures suggest that the sector of wholesale exporters in Japan is highly concentrated. Typical examples are the so called *Sogo Shosha* (or GTC in English), many of which have long business histories since the Meiji era and have conducted various businesses, including trade intermediation, both domestically and internationally⁷. Although the main finding of the previous theoretical studies described above is supported by some empirical studies, their models are not consistent with observations in some set of countries such as Belgium, Italy, and Japan⁸.

(2) Overview of Matsubara (2013)

To capture another aspect of trade intermediation in some countries, i.e. market concentration in the industry, Matsubara (2013) developed an oligopoly model. According to the model, two manufacturing firms that produce the same product and want to export their products cannot do so by themselves at the beginning, because of the lack of distribution networks or other necessary facilities for exporting⁹. It is assumed that they have two choices about their mode of exports: (1) paying fixed costs to be able to conduct exporting by themselves (direct exports), or (2) paying a per-unit commission fee to a trading company to use its trade intermediation (indirect exports). After choosing their ways of exports, they compete in quantity in the foreign market (no foreign incumbents are also assumed for simplicity).

Matsubara (2013) shows the following tentative results. In the benchmark case (symmetric manufacturers with zero production costs), depending on the fixed costs with direct exports and the commission fee with indirect exports, the choices of the two manufacturing firms may be threefold: (case 1) both choose indirect exports, (case 2: asymmetric choices) one chooses indirect while the other chooses direct exports, although the two firms have the same cost structure, or (case 3) both choose direct exports.

Figure 2 describes the choices of the two manufacturers in the benchmark case. f_M on the horizontal axis denotes the level of fixed costs of direct exports, which is exogenously given to the two manufacturers, and c_T on the vertical axis denotes the level of per-unit commission fee charged by the trading company in case of indirect exports. Roughly speaking, with a high level of f_M and a low level of c_T , the both manufacturers prefer indirect exports (case 1). On the other hand, with a low level of f_M and a high level of c_T , the both manufacturers prefer direct exports (case 3). The reason why either cases 1 or 3 occur is quite intuitive: case 1 may occur when indirect exports are attractive to both of the two manufacturers due to high fixed costs of direct exports and low commission fees, and the opposite is true for case 3. Case 2, i.e. asymmetric choices by the two manufacturers, may occur when both f_M and c_T are high. f_M and c_T represent the

costs of direct and indirect exports respectively, so the balance of these two cost variables, associated with a property of Nash equilibrium that each agent maximizes its objective function, i.e. profits of the each manufacturer, for a given choice of other agents, makes this weird case possible. However, the trading company always prefers case 1 and sets its commission fee at a low level to let the two manufacturers choose indirect exports. The reason is that case 1, i.e. the both manufacturers use the service provided by the trading company, gives the highest profits to the trading firm.

In the asymmetric production-cost case (firm 1's constant marginal cost is zero while firm 2's is positive), case 2 in the benchmark case bifurcates, about whether high- or low-productivity firms chooses indirect exports. One possibility is indirect exports by firm 1, i.e. the high-productivity firm, and direct exports by firm 2, i.e. low-productivity firm, and the other possibility is indirect exports by firm 2 and direct exports by firm 1. The latter is the possibility that is only observed in the models of previous literature, so it is very interesting if the former would occur. However, as in the benchmark case, the trading company always prefers case 1 and sets its commission fee at a low level to let the two manufacturers choose indirect exports, so neither of other cases is realized.

Figure 2: Fixed costs of direct exports, commission fees, and manufacturers' optimal choices



Source: Figure 1 of Matsubara (2013, p.13)

In the model of Matsubara (2013), the case when the both manufacturing firms choose indirect exports always occurs, whatever the two manufacturers' productivity levels are. This result is totally different from that in the previous literature, stating that

high-productivity manufacturers tend to choose exporting on their own. One possible reason for this difference is the market structure of trade intermediation; in the model of Matsubara (2013), the market structure is monopoly, while in previous literature, trade-intermediation firms are homogeneous and the industry is free entry as stated above¹⁰. In previous literature, the trade intermediary does not play any role except for adding its fee to the price of manufacturers' products, so only manufacturers with intermediate levels of productivity use it while such extraction of profits is not attractive for those with high levels of productivity. One the other hand, in the model of Matsubara (2013), providing trade-intermediation to both manufacturers always gives higher profits to the monopoly trading firm than providing its service to only one manufacturer. Also, because the market of the manufacturing good is duopoly with only one kind of product, if a firm chooses indirect exports, it virtually increases the production-cost of this firm and thus gives a cost advantage to the rival firm. However, because of the fixed costs of direct exports, the resulting profits of the each of the two manufacturing firms and thus the exporting mode are not determined solely by the net production-cost (dis) advantage that the each firm has, although this property is important only when either cases 2 or 3 occur (unfortunately they do not as explained above).

The results of Matsubara (2013) are neither widely applicable nor interesting. One reason is the assumption about the timing of the game; in the model of this article, the trading company first chooses the level of per-unit commission fee, and then the two Besides the market structure of manufacturers choose their modes of exports. trade-intermediation industry (monopoly), this timing of the game gives big bargaining power to the trading company, which is the so called "first-mover advantage". Therefore, to get more general results consistent with some empirical evidence, changing this assumption is necessary. One possible solution is to introduce "Nash bargaining" between the trading company and the manufactures in the model. Another reason is an assumption that the trading firm can provide its trade intermediation service to any number of manufacturing firms at no costs. This assumption is not realistic either. As discussed in the next subsection, how the costs of building networks for distributing and information gathering for trading firms are a key to the rationale for significance of the existence of them.

So far, the main result of the previous theoretical studies with some empirical evidence supporting their results, problems with them, and an attempt by the author to fix the problems have been discussed. In the next subsection, the question of how previous literature in economics has examined one (socially) desirable property with trade intermediation, i.e. decreasing costs for potential exporters to enter the foreign market, is discussed.

(3) Decreasing costs of entry in the foreign markets.

With trade intermediation, exporters may save on extra expenses that they have to

pay when exporting on their own. One natural question is why the trade intermediation industry is able to provide such services? Especially, GTCs provide various manufacturers with intermediary services, whose contents may vary industry by industry. We can imagine that the intermediary service necessary for exports of agricultural products is different from that for exports of machinery (different types of ships have to be used respectively, for instance). To do so, GTCs should have enough knowledge of markets of various goods and services as well as skills to provide services demanded by manufacturers and the costs of getting all of them are not negligible. One related question is that whether GTCs are more efficient than trading companies specializing in one or few number of product(s). Actually, GTCs are not a dominant form of trade intermediation all over the world. In many countries specializing trading companies are For instance, in grain trading, some multinational trading companies prevalent. specializing in the grain trade dominate the world market¹¹. Therefore, the second question can be rewritten as follows: how do economies of scope work in trade intermediation. To answer this and other questions related with trade intermediation, Akerman (2012) formulates the total fixed costs of foreign market entry for a wholesaler in his theoretical model as follows.

total fixed costs

= fixed term, i.e. expenses necessary for the trade intermediation business,

regardless of the number of manufacturing goods it exports (even in case of no exports)

+ a convex function of number of manufacturing goods it exports.

The first term may consist of costs for back office and a minimum level of logistics for trade intermediation business. If the second term does not exist, the degree of wholesaler's economies of scope is so large that only one wholesaler exports all manufacturing goods, i.e. monopoly as in the model of Matsubara (2013). With the second term, the degree of the wholesalers' economies of scope has an upper bound. That is, exporting many kinds of goods becomes so costly that no trading company can do it without paying huge costs. One example of a convex function is a quadratic one. To estimate a difference in terms of scope between wholesalers and manufacturing firms, Akerman (2012) uses Swedish firm-level data to perform an OLS (ordinary least squares) regression. The estimated equation is as follows:

Log (number of products exported by a manufacturer or wholesaler)

= constant + 0.443·wholesale dummy(= 1 if the product is exported by a wholesaler)

 $+ 0.216 \cdot \log(\text{firm size measured by revenue}) + \text{fixed-effect terms.}$

The last term of the estimated equation is to capture industry and other differences among sample firms. The coefficients for both the wholesale dummy and firm size are one-percent statistically significant. From this estimated equation, Akerman (2012) claims that there is an important difference in terms of scope between wholesalers and manufacturing firms.

In Akerman (2012)'s regression equation, the firm-size term is to take the following

two facts into account: (1) the average size of manufacturing firms is larger than that of wholesalers (in Sweden) and (2) larger (manufacturing) firms tend to produce and export a wider scope of products. Besides his own claim, this regression equation also implies that a larger wholesaler exports more number of products, which might support GTCs' higher economies of scope than specializing trading companies.

However, this result is not consistent with the fact that GTCs are prevailing form of trade intermediation *only* in East Asia, because Akerman (2012) uses Swedish firm-level data. One might attribute this fact to cultural differences between (East) Asia and other regions¹². From Japanese experiences, Rauch (1996) and other studies, especially the studies of business history discussed in the next section, emphasize the importance of government subsidies at the startup of GTCs. Using Akerman (2012)'s formula of total fixed costs for wholesalers, government subsidies through procurements and government surplus might decrease either the fixed term or the costs related with economies of scope¹³.

In the next section, some studies on trading companies other than in economics and how they may be related with previous literature in economics are discussed.

3. Studies on the roles of trading companies in the business history literature

In the studies of business history in Japan, trading companies have been an important research topic. Within Zaibatsu, that is, Japanese conglomerates dissolved by GHQ after World War II, *Sogo Shosha* played important roles such as getting raw materials and advanced technology from foreign countries for group businesses. To play such roles, the businesses of GTCs have traditionally been highly diversified¹⁴. About this diversification, Morikawa (1976) asserts "the logic of synthesizing" from a human-capital point of view. Morikawa argues that as a developing country, the Meiji era Japan had to develop various sectors simultaneously for its economic growth and catchup to the advanced economies in the West, while its human resources, especially entrepreneurial resources, were scarce in firms as well as in the whole country. Therefore, Morikawa emphasizes, developing multi-sector management was necessary to attain long-run profits as well as to satisfy the need of the entire country.

From this point of view, Togai (1976) argues that Mitsui & Co., Ltd. is the original model of *Sogo Shosha*. He raises the following five features as the characteristics of *Sogo Shosha* and argues that Mitsui satisfied all of the five features already in the Meiji era.

- 1) dealing with many kinds of goods and services.
- 2) having many branches/local offices inside and outside Japan, and it deals with domestic merchandizing, exporting and importing, and third-country trade, i.e. international trade between countries other than Japan.
- 3) huge trade volumes (whose level is enough to realize the economies of scale: added by the author).

- 4) playing a role as an organizer for an industry, providing firms in the industry with machines, technology, and raw materials at one hand, and developing markets for the firms at the other hand.
- 5) playing a role as an holding company for many subsidiaries and affiliated companies by supplying capital to get distribution rights.

These features are not mutually exclusive. For instance, features (1) to (3) together work to realize economies of scope and economies of scale at the same time in GTCs' trade intermediation business¹⁵. Besides Mitsui, Mitsubishi is also considered to be a pioneer of Japanese GTCs. However, Togai (1976) argues that the latter's main function was the purchase and sales division of Mitsubishi Zaibatsu and it took long time for Mitsubishi to perform all of the five conditions as *Sogo Shosha* listed above^{16,17}.

The business history literature also has tried to answer the following question: why Japanese trading companies did or did not become GTCs. For instance, Yamazaki (1987) discusses about the following four factors that made Mitsui a GTC^{18} .

- 1) the leadership of the founder of Mitsui, Takashi Masuda.
- 2) the role as a purveyor to the central government in its early stage of development¹⁹.
- 3) forming an organization for risk management and its success in the speculative resale business.
- 4) the relationship with Mitsui zaibatsu.

The first factor might be peculiar to Mitsui, but the fact that Masuda contributed to the establishment of a school to turn out specialists for (international) trade (*Shoho Koshujo*), and recruited many of graduates from the school is pointed out by the many studies (Yonekawa 1990, p.26). This fact might be consistent with the argument of "the logic of synthesizing in *Sogo Shosha*" by Morikawa (1976), because to succeed in the simultaneous management of diversified sectors, GTCs should have needed versatile employees as many as possible. As discussed above, Rauch (1996) makes a similar argument, with the second factor emphasizing the role of financial stability. The third factor is related with the organization of a firm. Yonekawa (1990) argues that, "in the West, specialized trading companies emerged upon the development of modern industrial society and remained family businesses (p.11)". His argument suggests that how an economy has evolved may affect the emergence and structure of trading companies in that country²⁰. Finally, the fourth factor is also raised by Rauch (1996, 2001), who discusses the roles of various networks in international trade, and raises Zaibatsu and *Keiretsu* as an example of Japanese business networks²¹.

4. Concluding remarks

This article examines the roles of Japanese GTCs for the development of exporting industries and the entire Japanese economy in the Meiji era from two perspectives: theoretically by economics and historically by studies on business history. From the

theoretical perspective, how the costs of building necessary facilities for exporting are determined is widely discussed, as well as market analysis of trade intermediation. From the historical perspective, the characteristics of *Sogo Shosha* or GTCs, especially their diversified businesses are examined. Besides these two perspectives, some government policies to facilitate international trade through the development of GTCs, especially about their effectiveness, are also discussed.

As concluding remarks, some issues related with GTCs are noted. First, although *Sogo Shosha* are usually private companies, the author would like to emphasize their role as a social capital, at least in the Meiji era²². The author considers the business networks inside Japan centered by *Sogo Shosha* to be a social organization satisfying the property of social capital, as well as the foreign networks developed by *Sogo Shosha*. Especially the foreign networks are like the ethnic business networks and their functions are quite similar in a sense that both facilitates domestic firms' international activities and such activities are also beneficial for the holders of those networks.

Second, this paper does not discuss another important business for Sogo Shosha, i.e. investment in resources and businesses by other firms both domestically and internationally, except for the development of some manufacturing industries in the Meiji Today, investments in resources in foreign countries are the one of most profitable era. business for Sogo Shosha, while the weight of trade intermediation business to get commission has been declining²³. However, the decline of the trade intermediation business does not necessarily imply the decline of the importance of Sogo Shosha in international trade. FDI for resource is another important way of generating profits in international business. Moreover, the business resources used for trade intermediation might be useful for investments and other activities of Sogo Shosha. This is especially so in the existing foreign networks which may work as information gathering machines in many countries, and help their own investments as well as those by their clients²⁴. Finally, small and medium size Japanese firms that wants to enter the markets of emerging economies, either by exports or FDI, but do not have enough information on the markets, Sogo Shosha's assistance continues to be important.

(Notes)

- Nakabayashi (1997) shows that in the Meiji era, the development of railway and telecommunication networks in eastern and central Japan made the manufactures of silk-reeling industry in *Suwa* area of central Japan possible to purchase cheapest cocoons from distant regions, leading competition among cocoon-producing regions. In Nakabayashi (1997), an article of *Shinano-Mainichi Newspaper*, June 17, 1905, is referred as one of historical sources (p. 190).
- 2) Like many developing countries, in the Meiji era, Japanese exporters consisted of both farmers and manufacturers, many of the both of which produced processed goods of agricultural products such as silk and cotton products. About products exported (and imported) in the Meiji era, see Table 1 of Bernhofen and Brown (2004,

p.57).

- 3) In the Meiji era Japan, trading companies also took some roles to develop domestic manufacturing industries. See the discussion in the business history literature in section three. For instance, Togai (1976, pp. 86-88) discusses how Mitsui developed Japanese cotton spinning industry. About the roles of the central government to assist the takeoff of GTCs in Japan, see also section three. Fujita (2011, pp. 46-47) points out that in the early Meiji era, one of the most import profit sources for Mitsui was rice sales to Ministry of Finance.
- 4) From a search-theoretic point of view, Rauch (1996) compares the failure of GTCs in many countries, other than Japan and Korea, as a failure of large employment services by the government. He argues that "the quality of information possessed about the client (i.e. a job seeker: added by the author) is inadequate compared to the information possessed by the client herself or by her friends (p.13)." Therefore, both the quality and quantity of information and ability of collecting it is a key to the success of GTCs in their trade intermediation.
- 5) Instead of reselling manufacturers' products, a trading company may charge a commission for the sale of the products to the foreign customers. While Ahn et al. (2011) and Akerman (2012) assume reselling manufacturers' products in the model, in Matsubara (2013) discussed in the next subsection, charging a commission is assumed. Among trading companies, which business style of trade intermediation is prevailing and its causes are interesting questions. For instance, Ishii (2003, pp.124-125) argues that the reasons why in the late Meiji era Mitsui won the competition with foreign trading companies were (1) its low commission rate, i.e. percentage of sales of manufacturing products it charged as the commission, and (2) its active reselling strategy, i.e. speculatively buying and selling agricultural and manufacturing products. For details, see also Ishii (2001).
- 6) Rauch (1996) does not show the same result, because he does not explicitly analyze the effect of productivity difference (difference in unit cost of production in his model) among manufacturers on each of manufacturer's behavior.
- 7) About characteristics of *Sogo Shosha*, see Togai (1976)'s definition of it listed in subsection 3(1).
- 8) Ahn et al. (2011) and Akerman (2012) use firm-level data of China and Sweden respectively, and their empirical results by estimating gravity equations support the main finding of their theoretical models, i.e. manufacturers with intermediate productivity levels use trade intermediation, while those with high productivity levels do not. With Japanese firm-level data, Tanaka (2013) also shows that the productivity of exporting wholesalers is higher than that of non-exporting ones by the non-parametric Kormogorov-Smirnov test. His result is consistent with the prediction of Melitz (2003) that exporting firms are more productive than those operating only domestically.
- 9) For simplicity, in the origin country of the two manufacturers, no domestic market

and thus no imports of the same product from a foreign country are assumed. One justification for such a assumption is that the domestic market is so small due to low income of domestic consumers that it can be ignored by the manufacturers. As an origin country, a developing country like the Meiji era Japan is supposed. According to Maddison Project, estimated per-capita GDP in 1870 of UK and Japan were 3,190 and 737 (1990 US Dollar) respectively, which implies that this assumption is plausible. About Maddison Project and its database, see its website: http://www.ggdc.net/maddison/maddison-project/home.htm.

- 10) Changing the trade-intermediation sector from monopoly to oligopoly does not seem to change the main results of this article as long as the each of trading companies has some degree of bargaining power against manufacturers, although such extension is not done yet.
- 11) See Annex 4 of Food and Agriculture Organization of the United Nations (FAO) (2003) for details.
- 12) Rauch (2001) extensively discusses relationship between various kinds of "networks," including ethnic (business) networks such as those formed by overseas Chinese and Indian, and international trade.
- 13) Examples of government surplus, i.e. state own enterprises disposed to private companies, were mines and factories originally developed by the central government. The business history studies discussed in section three show that in the Meiji era, they helped *Sogo Shosha* develop their diversified business basis at their startup. For instance, in 1876, Mitsui got exclusive distribution rights of Miike coalmine, owned by the central government at that time. Exports of coal produced from Miike was one of most important profit sources for Mitsui (Fujita 2011 pp. 46-47).
- 14) Sogo means "general" and Shosha means "trading company" respectively in Japanese.
- 15) Yoshino and Lifson (1986) call a vertical relationship from upstream (raw materials in case of manufacturing) to downstream (distribution) organized by GTCs "invisible link (p.6)," which (a part of) the five conditions for GTCs listed in the text make possible. From this point of view, they classify subsidiaries and affiliates of GTCs as the following five types (p.114):
 - 1) resource development affiliates in such fields as mining, paper and pulp, and agricultural products.
 - 2) sales organizations that handle specialized products such as certain types of textiles and machinery.
 - 3) support service organizations such as warehousing and forwarding agents.
 - 4) manufacturing firms whose law materials and output may be handled by *Sogo Shosha*.
 - 5) financing organizations that are set up to deal in specialized services and financial markets.
- 16) Mishima (1976) shows that during the Meiji era, the main business of Mitsubishi

Corporation was the sales of coal produced in its own mines. He also argues that unlike Mitsui, Mitsubishi committed marine transportation business indirectly as a big shareholder of NYK Line (Nihon Yusen Kabushiki Kaisha). Also, both Togai (1976) and Mishima (1976) point out that Mitsubishi entered the textile industry much later than Mitsui. However, as Mitsui helped the development of the Japanese cotton industry (Togai 1976 pp.87-89), Mitsubishi contributed to the development of industries such as shipbuilding and machinery (Mishima 1976, pp. 143-150).

- 17) It should be noted that the sales of coal produced in its own mines was also the one of most important businesses for Mitsui as well. For instance, Fujita (2011, p.47) argues that the reason why Mitsui established its first foreign branch in China (Shanghai) was to export its coal produced at Miike coalmine in Kyushu region, which was state-owned first and then disposed of to Mitsui Zaibatsu in 1889.
- 18) Yonekawa (1990) makes a similar argument about the factors that made Mitsui a pioneer of GTC.
- 19) Sakamoto (1990) describes the details for the early stage of development of Mitsui, including its startup as a purveyor (*Seisho*) to the Japanese government.
- 20) Yonekawa (1990, pp. 12-22) shows the history of some western trading companies, including those in the former British colonies. The changes in their business forms after WWII were quite diversified, but few of them became GTCs like *Sogo Shosha*.
- 21) *Keiretsu*, in Japanese, usually coordinates a Japanese business affiliation. Rauch (2001) classifies *Keiretsu* as follows.
 - 1) vertical *Keiretsu*: consisting of an assembler and many component suppliers (p.1186).
 - 2) horizontal *Keiretsu*: stretching across many unrelated industries; a main bank forms the center of the network (p.1190).

An automaker and its affiliates with multi layers such as a parent company (automaker), some subsidiaries (half-finished parts makers), many sub-subsidiaries (individual parts makers), and so on is an example of the former, and in many cases of the latter, former Zaibatsu banks are the center of the networks. Besides the former Zaibatsu banks, which are usually called "main banks" in Japan, some GTCs have been also the center of the networks, especially before WWII due to the fifth feature of GTCs raised by Togai (1976).

- 22) Putnum (1993, p.167) defines social capital as follows: Social capital refers to features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions.Rauch (1996) argues that family or ethnic ties facilitating international trade are a kind of social capital, although he does not say that GTCs are an example of it.
- 23) One former employee of Mitsui told the author that it was by the mid or late 1990s that the trade intermediation business for commission was the center of businesses for the company. Since the late 1990s, the weight of the resource related businesses has been increasing due to boom in the international resource market

associated with the development of emerging economies. See Kiyama (2011) about investment businesses by Mitsui and other Japanese GTCs in the 2000s.

24) As another device of gathering the information on the foreign markets in the Meiji era, the role of the reports from Japanese consulates to the central government should be noted. For instance, Motomiya (1997) describes by the reports of consulates what kind of information was provided and how the information was utilized to facilitate exports of Japanese chinaware.

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