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**The Wool Product Industry in Japan: An Overview**

by

Motoshige Itoh  
The University of Tokyo

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## An Overview

Motoshige Itoh

The University of Tokyo

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This overall paper is based on the series of field studies conducted by the study group of four Japanese researchers, professors Asaba, Fujimoto, Miwa and myself. I am indebted to many people in the industry and government related agencies for many valuable informations. Discussion with other three members of the research project was also very helpful. However, only the author is responsible for any errors or problems in this paper. Due to time limitation, the paper is still very preliminary and covers only descriptive overview of the industry. After the conference I plan to add some set of data to support the statement made in this paper. This is a paper prepared for A-JRC conference on wool industry (held on September 12, 1991 at the Australian National University).

# The Wool Project Industry of Japanese:

## An Overview

Motoshige Itoh

The University of Tokyo

### 1. Introduction: An overall picture of the industry

Japan is one of the largest market for wool products, one of the largest producers of wool products, and one of the largest importer of wool material. Wool product industry, in which I include all stages from the upstream level of material to the downstream level of retail sector, is an interesting industry from an economist's view point; it consists of layers of vertically related sectors, where many firms participate in production, transactions, competition and cooperation. Various kinds of interesting inter-firm relations can be observed at every stage of the products, and substantial structural changes are observed in the industry.

Roughly speaking, the industry consists of the following steps: (1) wool material, (2) process of cleaning wool material, (3) spinning, (4) weaving (5) dyeing and other treatments ("seiri" in the Japanese terminology or it may translated finishing process), (6) apparel production (designing, cutting and sewing), (7) wholesale, and (8) retail. This classification is rough and each stage can be classified much finer. Figure 1 is a rough picture of this industry.

There are several important features in this industry, which will be focused in this paper. These features are the following four.

(1) The industry consists of many layers of sectors of various vertical stage of the products. Inter-firm relations at various stage is an important element to understand the industry. This inter-firm relation takes various forms. Particularly interesting are complicated transactional relations such as risk sharing, return of products system (henpin-sei), and subcontracting system. The structure of "sanchi" (production area), where many firms concentrate in one particular area, is also interesting.

(2) Trading houses (sogo shosya) play important roles at various stages of the products as an intermediary of transactions, as a partner of investment project, as a coordinator of production, as a competition, and as a trader.

(3) There are a wide variety of final products ranging from clothes to other goods such as carpets and curtains, from textile product to knitted products, from men's clothes to lady's clothes, and from formal wear to casual wear. The products go through different vertical channels depending on the type of the goods. For example, some products go through a vertically integrated production system and some do not.

(4) One can observe a series of substantial structural changes in the retail sector of the industry and these changes affected the structure of upper stream levels of the industry and transactional relations therein.

The purpose of this paper is to overview the wool product industry of Japan from these view points. I examine the vertical structure of the industry and see what kind of inter-firm relations or intra-firm relations can be observed in the vertical structure of this industry. It is easy to imagine that the transactional relations between suppliers and buyers of middle products or the relation between manufacturers and retailers are not simple buy-and-sell relation. We can observe various types of complicated transactional relations, which have such roles as risk sharing, exchange of

information and enhancing cooperative works. To understand the economic mechanism behind these inter-firm relations is extremely important to have a correct picture of the wool product industry of Japan.

The structure of the rest of the paper is as follows. Section 2 discusses the industrial organization of spinning sector and its vertical structure. Section 3 then deals with structure of "Sanchi" (the local network of fabric making sector) and the position of weaving houses there. Section 4 discusses the role of trading houses, and Section 5 comments on the structural changes in retail sector and their impact on the entire industry. Section 6 makes a few comment on international trade and investment of this industry and Section 7 gives a few concluding remarks.

## 2. The activity of large spinning firms

The spinning sector is dominated by large firms. There are five large dominant firms in this industry, Nikke, Yunichika, Toyobo, Kanebo, and Toabo. These five leading firms are distinguished from other firms in the quality of their products; the products of these five firms are sometimes called "5 mei mono" (the product of five leading names), which is considered to be the best quality in the market.

A person in one of the five leading firms we interviewed commented that they do not produce such a volume product as 48 soshi (yon-hachi soushi); I do not know the English translation of 48 soshi but it is a typical volume zone product. In the interviews we had with spinning firms we often heard the term "teiban" which may be translated as basic products (in the following I use the Japanese terminology "teiban" product). The production

of these "teiban" (basic) products are not important nor profitable for these leading firms.

Product differentiation in the level of yarn production is reflected in the way the market is divided among spinning firms. "Teiban" (basic) products are supplied by other smaller spinning firms or are imported from abroad.

The majority of the spinning firms have their production facilities inside Japan. But, there are some firms initiating foreign production in such countries as Malaysia; the famous case is a joint venture of Nankai-Keori and Kanematu-Kosho, whose products are sold in Japan (by Nankai-Keori) and in Europe (by Kanematu-Kosho). The products produced by this Malaysia joint venture are "teiban" (standard number) products. It does not pay or is simply impossible to produce high quality differentiated yarn in foreign factories.

This division of market (or division of labor ) is also reflected in the fact that the textile divisions of these leading spinning firms purchase "teiban" yarn from outside. According to our interview with one of the five companies, about 10 to 20 % of the yarn the textile division of the company uses is purchased from outside, and most of those are "teiban" (basic) yarn.

The leading five spinning firms have their own textile divisions. This forward vertical integration by spinning firms is interesting, since there is a division of market between these integrated sectors and the independent weaving houses in "sanchi" which will be discussed in the next section.

According to my casual observation based on my quick field study in Italy, I could not find a case of forward vertical integration by spinning firms as the one in Japan, although there is a case like Zegna, where whole

process from spinning to fabric making are integrated in order to produce high-quality product.

Forward vertical integration by spinning firms may be explained by two important characteristics of the market; one is the value added structure of the wool products and the other is the existence of large uniform (or quasi-uniform) markets in Japan.

Figure 2 illustrates the value added structure of this industry. I obtained this figure in our interview, but all the people we interviewed agree that the reality will not be so far away from the numbers given in Figure 2. According to Figure 2, the ratio of value added to the price becomes larger as one goes towards downstream. This suggests two things; one is about the opportunity for profits and the other is about risk.

It is obvious that there are more opportunity for profits if one goes downstream. Note that this phenomena is not unique to wool products. We can observe similar phenomena for many industries such as chemical products, other textile products, steel products and so on. There are similar forward vertical integration in these industries.

The risk is also an important factor explaining vertical integration. Spinning business is quite a risky business, since the firms are facing various price risks such as price risk of wool materials, exchange rate risk, and the price risk of yarn. Integrating toward downstream is an effective way to mitigate these risk, since the spinning firms can obtain more stable source of income and they can obtain more reliable way to sell their products (yarn). According to our interview the spinning firms use about 30 % of their products in their own textile division.

Another important factor explaining the downward vertical integration by spinning firms is the existence of large uniform and quasi-uniform

market in Japan. By uniform markets I mean such markets for school uniforms, JR (Japan Railway Service) uniforms and police uniforms, and by quasi-uniform market I mean such markets for standard business suits with dark blue or dark gray colors. These markets have large volumes of demand, and there is a room for the producers to enjoy economies of scale. The majority of the products produced in the textile division of the spinning firms are these volume products. The weaving houses in "sanchi" which will be discussed in the next section are not in a good position for producing these volume products, since they do not have such a large capacity to produce a large volume of the same products in a short period concentrated in a certain portion of the year. So, weaving houses specialize in differentiated products. The existence of uniform and quasi-uniform market is quite unique to Japan.

To obtain a more concrete idea about the market for quasi-uniform products, let me refer to an information provided by one of the largest apparel producers about the share of their products from spinning firms. In the men's suits division of this apparel firm about 80 % of their products are teiban products (basic products) such as dark blue or dark gray suits, and about 80 % of these teiban products (so about 60 % of the total men's suits they sell) are using the textile from the textile division of the spinning firms. According to the person who provided us with this information, this phenomena is a relatively recent one, but this tendency will be a trend, since the cost are about 20 to 25 % lower in large spinning firms for volume products such as dark blue or dark grey fabrics for men's suits than in independent wearing house.



### 3. Sanchi: the regional network of fabric making

Fabric making sector is concentrated regionally in Ichinomiya, Aichi and in Sensyu, Osaka. Not only independent weaving houses but also the textile division of spinning firms are located in these area. Sensyu are specialized in somou (English term?), so our field study was restricted to Ichinomiya area, where most of the wool fabrics for apparel products are produced . A similar geographical concentration is also observed in Italy; Biella is the place.

Figure 3 illustrates the basic structure of the "sanchi" and the flow of the products therein. In Ichinomiya, there are about 250 main weaving houses (so called "Oyabata") and about 4000 to 5000 small family-business weavers which are dependent on the orders from the main weaving houses (subcontracting relations). Besides the above independent weaving houses, there are textile division of spinning firms. Each firms specializes in some products such as men's fabrics, ladies' fabrics, high speed products (fabric without pattern), and high-quality products.

"Seiri" companies (whose main task are finishing processes such on scouring, yard dyeing, milling, rolling, shearing, blowing and inspection) has an important position in "sanchi". In Ichinomiya, there are three large groups of seiri companies, Tsuyakin, Soto and Mitsubosi, and most fabric making firms use the service of these firms. Although textile divisions of spinning firms have their own "seiri" facilities, they also send a part of their product for "seiri" process to these three independent "seiri" firms. Roughly speaking, these three large "seiri" groups are better in dealing with differentiated products than the "seiri" divisions of the spinning firms. "Seiri" process is crucial for high quality of products. The

growing importance of "seiri" firms reflects the fact that quality element of the products are becoming more important than before. It is interesting to note that orders even come from synthetic fiber textile companies to these "seiri" companies in Ichinomiya for synthetic fiber products to have wool-like texture.

Except for the case of the textile divisions of spinning firms, most of the firms in this area are specialized in some process, such as weaving, piece dyeing, "seiri", and some other minor works such as repair services. Thus, one can observe a variety of transactions conducted among these firms in Ichinomiya; between large weaving houses and subcontracting weavers, between weaving houses and "seiri" companies, between weaving houses and wholesalers and so on.

The weaving houses are the core of the production network in Ichinomiya. They initiated the plan of new products next year and take the most of the risk. Thus, other firms in Ichinomiya such as "seiri" companies and subcontracting firms are in a position to provide services based on the order by weaving houses.

The weaving houses face two side risks; for the side of procurement and for the side of its sales. The price fluctuation of yarn was an important matter for the weaving houses. The number of weaving houses in Ichinomiya shrank from about 600 to about 250 in the last 25 years and most cases of bankruptcy were triggered by the price fluctuation of yarn. There was even an occasion that the price of yarn falls from the level of 2900 yen to the level of 900 yen in a short period. The situation is now much improved, since the spinning firms started a price supporting system. The weaving houses also face the risk in the side of its sales. Although they set the plan of production based on the order by apparel makers, they cannot wait

starting production until all the order come. So, there are a considerable degree of commitment to production before the final demand is known, which often results in a large amount of dead stocks.

There has been a drastic shift in the position of Sanchi in the wool product industry from 1950s and 60s to 1970s and 80s. In the 50s and 60s the tailors occupied a large share of the market for wool apparel products (especially the men's suits market). In these periods the size of weaving houses in Ichinomiya were larger than the size of the buyers of the textiles (tailors and apparel firms). When textiles are sold to the tailors, the textile products were in a sense final products (while when they are sold to apparel firms, they are intermediate products). When the majority of the market were tailors, the flow of the products were from the textile firms to wholesalers and then from wholesalers to tailors. The textile firms can have a strong initiatives in their business.

In the 1970s and 80s the apparel firms which sell ready-made clothes were growing as a dominant player in this industry. The magnitude of this structural change may be easy to recognize if I refer to the following figure; in the 1950s the largest weaving house in Ichinomiya, Chugai, sold about 1.5 billion yen a year, while one of the largest apparel maker Kashiyama's sales were about 0.1 billion yen a year. Now, the sales of Chugai, still the largest weaving house in Ichinomiya, is about 15 billion yen, while the amount of sales of Kashiyama far exceeds 100 billion yen. Behind this change in the relative position of the buyers and the sellers of fabrics were the change in the structure of the retail sector of wool products .

In the process of this change in the market for fabrics, the role of wholesalers has also change. Although wholesalers still play an important

role in the transactions of fabrics for lady's apparel products, wholesalers dealing with the fabrics for men's suits have almost disappeared. Since the major portion of buyers of the fabrics for men's apparel products are large-scale apparel firms, wholesalers are no longer necessary.

This difference in the transaction pattern between the fabrics for men's apparel products and those for lady's apparel products, that is, direct transactions between weaving houses and apparel companies in the former and the presence of the wholesalers in the latter is interesting, since it indicates the difference in the nature of the two types of the products. The markets for the fabrics for lady's apparel products is quite different from those for the men's suits in the following sense; (1) the substitution with other materials such as synthetic fibers is much stronger in the case of lady's apparel than in the case of men's suits, and (2) the cycle of fashion is much more difficult to predict and change frequently in lady's apparel. Under these circumstances the role of wholesalers as information transmitter, risk taker and coordinator between weaving houses and apparel makers are more important.

Note also that there is more room for new small apparel firms to enter the market for lady's apparel products and the existence of these small apparel firms (some of which are often called "mansion apparel firms" ("mansion" in Japanese means condominium, so "mansion apparel firms" are the apparel makers which have their operation in small rooms in cities). On the contrary, in the case of men's suits, the transactional relation between weaving houses and apparel makers is more stable. There is less competition with other materials in men's apparel than in lady's apparel, and the market is dominated by large apparel firms. In fact there is considerable entry barriers to the market of men's suits, as will be explained in Section 5.

Note that trading houses always participate in the transactions between weaving houses and apparel makers. This is true whether the goods go through wholesalers or not. As will be discussed in the next section, the role of trading houses here is a payment risk taker .

#### 4. The Role of Trading Companies

One of the most important characteristics of the Japanese wool product industry is that presence of large trading houses at every vertical steps of the industry. Trading houses play several different roles; the role as (1) an intermediary of transactions, (2) the role as information provider, (3) a competitor, (4) a partner of investment project, (4) coordinator of production (5)wholesalers, and (6) importers.

The organization of trading houses dealing with wool products are divided into such sections as wool material section, yarn section, textile section and apparel section. Although each section has a good cooperative relation with other sections in the same trading house, each section is basically operated independently.

Let us first discuss trading houses' activity in wool material procurement. Large trading houses are heavily involved in the procurement of wool material in Australia. There are several reasons for this heavy participation of the trading houses. Coordination is necessary between procurement of wool material in the market and transportaion to Japan, and the overall service provided by trading houses are necessary for spinning firms. It would cost more if spinning firms do the procurement activity by themselves. The commission fee for the service is very small; it is usually only 1.5 to 3 % of the total amount of procurement.

Wool material is a typical agricultural product. The price of the material fluctuates greatly. The factors causing this fluctuation include such factors as climates, production cycles, the behavior of other buyers such as China and Soviet Union, and the government policy in Australia. Trading houses collect these information and give appropriate advises to spinning houses. It is important to note that a large portion of the Japan's imports of agricultural products are mediated by trading houses. Laurence points out that a similar phenomena is observed in Japan's imports from the United States. Wool material is not an exception.

According to the interviews I made in Milan, Italy, Italian spinning companies (which are often very small) do not use the services of big trading companies. They use specialized importers. Although the sizes of the Japanese trading houses are much larger than these specialized traders, the wool material division of Japanese trading houses can be considered to be equivalent to small specialized traders. The number of people involved in the business of wool materials in the Japanese trading houses are not large, although wool material division is dependent on other parts of trading houses for various services and information and this is an important characteristic of Japanese trading houses.

There are two ways for the trading houses to participate in the wool material procurement; one is just to follow the order by the spinning companies and to receive fees for the services, and the other is to participate in the procurement process with their own risk. The former type seems to be more popular, so the trading houses' position are passive.

Let us next discuss the role of trading houses as an intermediaries of transactions. As I have mentioned before, there are a large variety of transactions in the industry; between spinning firms and weaving houses,

between apparel firms and weaving houses and so on. In many of these transactions trading houses are involved as intermediaries of transactions. For example, when spinning firms sell their products to weaving houses, payments are always made through the accounts of trading houses.

When a weaving house buys a large amount of yarn, the order is usually made directly from the weaving house to spinning firms. But the payment is always made through the account of trading houses. In that sense, trading houses supply both financial services and payment insurance services. The former service, so called trading house finance, was important in the high growth era of 1950s and 1960s when the financial market was tight, but it is no longer true since large weaving houses can easily borrow money from banks and from other financial institutions. So today only the second service, that is, payment insurance service is important. By using the account of trading houses, both sides of transactions, buyers and sellers, can shift the payment risk and the cost for risk sharing to trading houses. This kind of payment risk taking by trading houses become very important when a large number of firms are involved in the industry. The fact that there are a large number of firms involved in various levels of the vertical steps of the goods in the wool product industry can explain the active role played by trading houses for this kind of service.

Trading houses are also heavily involved in many investment projects as an investment partner at various levels in the industry. When spinning firms start foreign production operation, it is usually the case that some trading house becomes an investment partner. This phenomenon is not unique to the wool product industry. A similar phenomena can be observed in a wide range of industries. A case we often heard in our field study is the joint venture between Kanematsyu-Kosho and Nankai Boseki for spinning operation in

Malaysia. The products of this operation was divided between the two firms and the part of Kanematsu is shipped to Kanematsu's warehouse in London to be sold in the European market. In this particular project, the contractual relation between Kanematsu (a trading house) and Nankai Boseki (spinning firm) is a typical trading house financial scheme. Kanematsu bring the wool material to Malaysia and purchases back the product (yarn) from Nankai by the prices originally contracted. Thus, what Nankai receives is the fee for the production. In this sense, Kanematsu takes the most of the market risk.

Trading houses also play a role as production coordinator. The best example of this can be observed in the area of apparel making. Trading houses have close transactional relations with many sewing factories and in some cases they commit financial resources to these firms. Using their financial capacity, trading houses can play a role of production coordination. In general sewing factories are very small; the number of workers are on average 200 to 300 people per one factory and at most 500 people. Thus, they do not have capability to adjust their production cycle to the general trends of the market. Here is the role trading houses can play. Trading houses give the order to sewing factories at the period when the operation of the sewing factories is under full capacity. Since the industry has a seasonal fluctuation in demand, this kind of order in small demand periods is welcomed by sewing factories. The trading houses can coordinate the time gap between the production period and sales period either by using its financial capacity (namely by holding inventories) or by using their information network (to sell the products at appropriate places). Note that rapidly growing new retailers, so called roadside shop,



take a very similar approach to get lower cost of production. See Miwa's paper on this point.

Trading houses is also involved heavily in the import of foreign brands. By spending a large amount of license fee to European and American firms, trading houses obtain licenses to use the European and American brand names in Japan. The right to use these brand names is quite important to market the products. Trading houses are very active in this business.

Finally, it should be pointed out that trading houses' behavior sometimes enhance the competition in the market. This can be explained using the case of the procurement of yarn by weaving houses. From the view point of weaving firms, trading houses are not only the transaction intermediaries between them and domestic spinning firms but also the ones that bring foreign inexpensive yarn. The information network of trading houses are quite useful to bring these Asian products. According to our interview the share of imported yarn which the typical weaving firms use is about 10 to 15 %. Thus, the competition brought into the market by foreign yarn through the hand of trading houses cannot be neglected.

##### 5. The structural change in the retail sector

As I have already mentioned at several places before, the retail sector of wool product industry has undergone a drastic structural change. Since wool products include various types of products and the structure of the market is different depending on the type of goods, I restrict the discussion of this section to men's suits market here. Note that Miwa's

paper cover the distribution side intensively, where attention is also focused on men's suits market.

This market was dominated by tailors in the 1950 and 1960. In this period, the fabrics which weaving houses were producing were essentially the final products. Thus, the weaving houses took a key position in the market. Since most of the tailors were family-business shops, they depended on wholesalers for the procurement of fabrics.

The picture of the market has changed dramatically in the 1970s and 1980s, a big shift from tailors to apparel makers. As I have already mentioned, the size of leading apparel makers such as Onward Kashiya, Darban, and Sanyo have increased rapidly. This reflects the change of the market trend from ordered suits to ready made suits. This shift in the distribution structure has a great effect on upstream sectors. The weaving houses' positions have changed from the channel leader to the producers dependent on apparel makers. It also created a room for spinning firms to enter the market for weaving and apparel making.

The position of apparel makers in the distribution market is interesting; although it is a manufacturer, it plays an active role in retail activities. Main channel for apparel makers to sell their products is department stores. In the case of men's suits, about 70 % of the sales of large apparel makers are through department stores (this figure is based on our interview). The apparel makers participate actively in the sales of their products at the department stores; the apparel makers set the prices, they send their sales people to the stores as shop clerks, and they take all the risk of dead stocks. In a sense department stores are not so much different from real estate companies providing a place for sales, and the apparel makers are heavily involved in the sales activities.

The features I have explained above, that is, the fact that apparel makers dominate weaving houses in their sizes and they participate sales activity in the department stores, makes the apparel makers a dominant channel leader in this industry. It may be possible to understand several features of this industry from this fact.

The dominance of large apparel firms in the distribution of the men's suits nurtured several distinct characteristics of the market. One is difficulty for foreign firms to penetrate into this market. Considering the heavy dependence of department stores on apparel makers for various services it is easy to understand that it is not easy to penetrate into this market. The leading apparel makers committed a large amount of resources to the sales in the department stores in such forms as sending shop clerks, providing financial resources to the department stores for the sales activities in the stores and taking all the risks of dead stocks. Unless the makers can take a long run policy and commit a large amount of resources, it is not easy to get into this market. Although department stores deal with a variety of imported goods, they are either very expensive special products or the products supplied by leading apparel makers under the license they take from foreign firms or from trading houses.

Many people we have interviewed emphasized that Japanese consumers are very sensitive and may be too sensitive to the quality of the products. So, the apparel makers take great care to keep the quality variation as small as possible. This makes it necessary for them to take a conservative view on their procurement policy. As I have mentioned in Section 2, the products of leading five spinning firms are considered different from the products of others. The quality of the intermediate goods and the reputation for it are

important elements in the market. Thus, the leading apparel makers tend to keep established relations with domestic spinning firms and weaving houses.

To understand the importance of quality and its effects on the procurement policy of leading apparel makers, it is useful to remember the vertical value added structure of the industry which I discussed in Section 2 (Figure 2). As I mentioned there, the ratio of the value added to the value of products becomes higher as one goes toward the direction of downstream sectors. Since the share of the material cost (the cost of yarn or the cost of textiles in the value of the final product) is small, a small reduction of the material cost is not very important for the apparel firms, while any damage to the material will be a big loss of the entire value of the final products. This is a reason why dominant apparel firms were very conservative for the change of the route for obtaining intermediate goods.

What I have said about the relation between the department stores and apparel firms can be observed general by in all the products sold in department stores. This traditional Japanese system now faces a challenge of new retail system. The market for men's suits is not an exception. Department stores are no longer dominant retailers. Various factors such as concentration of population in urban areas and motorization triggered the emergence of speciality goods chain stores. In the case of men's suits this take the form of "road side shops"; the name roadside shop come from the fact that these chain stores have their shop outlets along the major road so that consumers have easy access by their cars. The low land price in the suburban area is another reason for them to have shop outlets along the main routes.

These chain stores are very different from department stores in the way they depend on apparel makers since they can enjoy economies of scale.

In the case of department stores, they must rely on the service of wholesalers and makers, because they do not have many shop outlets and because they deal with so many kinds of commodities, not only apparel goods but also many other kinds of goods. On the other hand, since chain stores deal with very small number of items with large volumes, they can take the initiatives in various ways. The chain stores decide the prices by themselves and they take all the risk of dead stocks. Taking own risk allow them to purchase the products at inexpensive prices and set a higher distribution margin. The fact that the price zone of chain stores is lower than those in the department stores also makes it easier for these shops to buy products from the apparel firms which do not supply their products to department stores.

So far these newly emerging chain stores are not so active in importing foreign products, but there are a large room for foreign products to penetrate into this distribution channel.

## 6. International trade and investment

The various aspects of the Japanese wool product industry I have discussed so far suggest several factors affecting the international trade and investment activities of wool product industry.

One of the distinctive characteristics of Japanese wool product industry is its low dependence on international trade and foreign investment. Theoretically, we can think of various patterns of international trade in this industry. Raw material can be imported directly to Japan, or intermediate goods such as yarn or fabrics can be imported from

other Asian countries or European countries. It is even possible for Japan-made fabrics to be shipped to Asian countries for cutting and sewing and reimported to Japan. For other materials such as cotton, this kind of wide variety of international trade pattern can be observed. However, in the case of wool product industry, except for imports of wool material from Australia international trade is quite stagnant.

Table 1 compares the amount of imports, and domestic production of wool yarn and fabrics with those of cotton and wool for knitting. The share of imported wool yarn and wool fabrics used in the domestic production is surprisingly small as compared with other two materials. If the transactions of intermediate goods of wool products are simple one, that is, if quality of products are homogeneous, if complicated coordination between sellers and buyers are not necessary and if transport costs are not large, then simple logic of comparative costs will determine the pattern of trade at each stage. However, there are various factors which make it difficult for this simple trade pattern based on comparative costs to be realized. Among these factors the following three are the most important; the first is the quality element of intermediate goods, the second is delicate coordination between sellers and buyers and the third is transport costs.

As for the importance of quality of the products I have already mentioned in Section 5. Many people we have interviewed emphasized that Japanese consumers are too sensitive to the quality of products. Thus, apparel firms take a conservative attitude to the way they procure intermediate goods. The fact that the cost share of intermediate goods for the apparel makers is quite small also makes it less important to buy less expensive materials. As compared to the case of cotton products where material costs have a larger share in the total value of the final products

and the quality of products are less important for the consumers due to lower prices of the products, it is much more difficult for foreign producers of wool intermediate goods to penetrate into the market.

The fact that the types of fabrics which can be sold by a large amount are produced by textile division of spinning firms may explain why the share of imported fabrics is small. The production of this kind of fabrics is based on high-speed weaving machines, which is not so much dependent on labor intensive production. Although the independent weaving houses in Ichinomiya are still based on labor intensive production method, many of them are specialized in small volume differentiated fabrics. In our interview, we often heard that European fabrics, especially Italian fabrics, are much more threat to them as competitors than Asian fabrics.

The delicate transactional relation is another barrier to foreign products. I have already discussed the complicated relation between department stores and apparel firms. Similar transactional relations can be observed in upstream sectors; between apparel makers and weaving houses, between weaving houses and spinning firms and so on. It is important to realize that this kind of complicated transactional relations in wool product industry is not unique to Japan. As far as I heard in Italy in my quick field study, a similar transactional relations can be observed in Italy. Thus, the trade pattern of wool in Italy is very similar to that in Japan. They import at the stage of wool material, and most of the transactions of intermediate goods are conducted domestically.

Let me write a few words on transport costs. By transport costs I mean not only shipping cost but more importantly the cost of matching demand and supply. The size of imports affect the costs of retailers and apparel firms in various ways such as dead stock risk and inventory costs. So called

just-in-time production system is a method to minimize these costs. For this production method to be effective, distance between the buyers and seller is quite important.

The question then arises as to whether there is any possibility that Japan's import of intermediate goods increase or whether foreign production of the Japanese producers will expand. It is not easy to have a definite answer to these questions. But there are some factors which suggest that imports or foreign production will increase. One of these is the shortage of workers at various levels of production. In our interviews, we often heard that the producers are facing serious problem of labor shortage. This is especially so in weaving sector, dyeing sector, and sewing and cutting sector. This is nothing but the fact that these sectors are losing comparative advantage in Japan.

Another important factor which suggests future increase in imports and foreign production is the structural change in distribution. As I have mentioned in Section 5, traditional distribution structure became barriers to import. But, newly growing roadside shops are in a better position to expand imports from Asian countries. This is because they rely on economies of scale by selling a large volume of similar goods.

## 7. Concluding remarks

In this paper I have overview the basic structure of the Japanese wool product industry. This industry is interesting, since it consists of many layers of vertically related sectors, and inter-firm transactional relations play an important role for such matters as transmission of information, risk



sharing, and production coordination. Trading houses participate at various stage of the industry.

From this overview several important directions of research are suggested, some of which will be dealt with in the Miwa paper and Fujimoto-Asaba paper. These directions include the following:

(1) vertical integration: As I have discussed in Section 2, forward vertical integration by spinning firms can be explained by the vertical value added structure of the industry and the nature of the products they produce, the large scale uniform and quasi-uniform markets. It will be necessary to further investigate the present state of vertical integration and economic mechanism behind it.

(2) The economic function of various transactional relations: in this paper I do not spend much space to discuss various aspects of complicated transactional relations which can be observed at various levels of the industry. These transactional relations include risk sharing scheme, return of the product practice (henpin sei), financial arrangement and coordination of production. It is important to examine more carefully the reality of these practices, their economic functions and the effects of these practices on international trade.

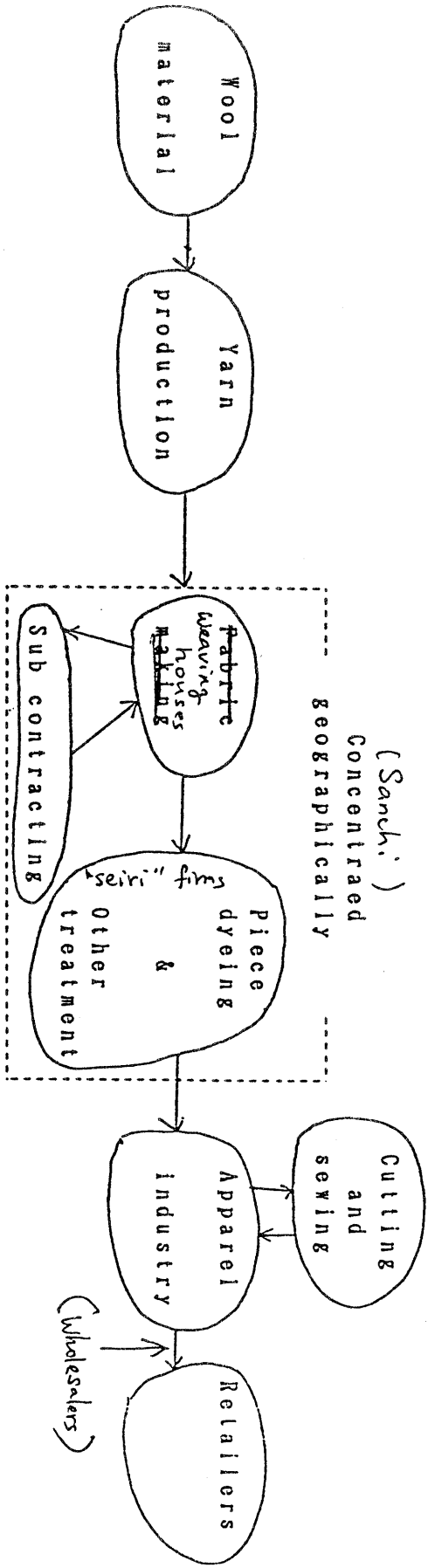
(3) There is some crucial technological progress in production at each stage. This change will actually affect the way goods are produced and the industrial structure, both horizontal and vertical structure. So called quick response production may affect the distribution system. Although I did not touch on this issue in this overview paper, some is mentioned in Fujimoto-Asaba paper.

(4) In Section 5 I discuss only the case of men's suits, but the picture of the market is very different for other types of goods such as lady's apparel

and knitted goods. For example, in these goods competition with other materials is much stronger and the cycle of products are different. It is necessary to do some research on these goods to have a balanced overview of the wool product industry of Japan.

#### References

Itoh, M. and K. Hatanaka, "Access to the Japanese Market by Asian Countries: A Case Study of Wool Textile Industry", A paper presented at NBER Asian Seminar at taipai, 1991.



An Overall Picture of Wool Textile Industry

Figure 1

¥1,000	raw material
↓	
¥2,000	yarn
↓	
¥5,000	fabrics
↓	
¥25,000	wholesale price
	(cf. production (cutting and sewing) cost)
↓	¥10,000
¥75,000	retail price

Figure 2 Value added structure of men's suits

		Domestic production	Import	
			Value(million ¥)	Quantity
Wool for textiles	Yarns(t)	82,048	10,448	4,839
	Fabrics(thousand m <sup>2</sup> )	295,975	46,260	23,590
Cotton	Yarns	459,160	79,848	208,881
	Fabrics	1,914,634	80,716	798,084
Wool for knitting	Yarns	36,066	1,858	1,066
	Fabrics	55,016	19,344	9,340

Table 1