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SALES SYSTEM OF THE STEEL INDUSTRY

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I Structures of Production and Demand of the Integrated Steel Manufacturers

The objective of this Chapter is to clarify the sales system of steel, the system that constitutes the main component of the distribution structure in the steel industry of Japan.

A great number of studies and research have been done with regard to the steel industry, but most of them have been centered on the analysis of production structures; very few of them have taken up the distribution structure as the theme of study.[1)]

The 'distribution structures' of the steel industry come in a great variety both in content and in form. They vary according to the types of steel products dealt with and the production structure.

In conducting this analysis, I would like to first present an overview of the characteristics of the production structure and the demand structure, both of which determine the distribution structure. I will then analyze the distribution structure, clarifying its characteristics. For the purposes of this study, I will confine my analysis to the domestic sales process of steel products, leaving out the export-import trade and the purchase processes for the time being.

The direct manufacturing process of steel products can roughly be divided into the following three stages; the production of pig iron, the production of steel and the rolling of steel. The enterprise that vertically coordinates the above-mentioned three stages of steel-manufacturing and is engaged in the entire process of steel production from the raw material to the rolled steel is called the 'integrated iron and steel manufacturers'. On the other hand, 'steel-making and rolling manufactures' produces steel products by coordinating the steel-making and the rolling stages. Besides the above-mentioned two types of manufacturers, there is a type that confines its manufacturing activities to only one of the above-mentioned three stages. This type of enterprise is called either a 'simple steel-making manufacturer' or a 'simple rolling manufacturer' as the case may be.

The statistics showing the production-shares in 1983 of the different types of 'ordinary hot rolled steel' (usually the type meant by 'steel products') are classified by the form of production as follow. High shares are held by the integrated iron and

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1) As representative studies made so far on the distribution structures in steel industry, we have [1], [2] and [3]. The [4] and [5] are also outstanding studies on distribution structures, even though these two books do not focus on distribution structures.

steel manufacturers in sheets, wide hoops, hoops, bars for tubes, and sheet piles, each accounting for 100%, followed by heavy and medium plates and sheets, 96.4%, and wire rods, 91.0%. The shares of the integrated iron and steel manufacturers are, conversely, small in such types of products as medium and small sections, 5.5%, small bars, 8.5%, and large and medium bars, 22.3%. In the case of the steel-making and rolling manufacturers, the shares are high in medium and small sections, 90.9%, and small bars, 99.2%. Here, the share for heavy and medium plates and sheets, in which the integrated iron and steel manufacturers enjoyed a high share, was only 3.6% and when it came to the sheets, wide hoops and hoops, they were producing none at all. In the case of the single steel manufacturers and single rolling firms, the shares were found to be 12.3% for small bars, 6.3% for bars-in-coil, 5.0% for the large and medium sections and 3.6% for the medium and small sections. As for the remaining types of steel products, the shares of the single steel manufacturers or the single rolling firms were less than 10% each. No sheets were produced. (Ref. [6] 1984 edition, pp625–628).

From the production shares of different types of steel products as outlined above, it may be concluded that the shares by type of product are entirely different between the integrated iron and steel manufacturers and the steel making-and-rolling manufacturers; each of the two is taking charge of production in different types of steel products.

Next, let us take a look at the trends and percentages of the amounts produced of different types of products in the entire production of the 'ordinary hot rolled steel products' (Ref. Table 1–1). During the past 10-odd years, the type that has rised remarkably in importance is the wide hoops among the hoops. An increase of 5.9 points was recorded from 41.9% in 1970 to 47.8% in 1983. The percentage occupied by the wide hoops among the entire steel products is also high at 47.8% and accounts for as much as 49.3% among the entire hoops manufacturered in Japan.

Another type of steel product whose rate of increase in the amount of production is high and whose share also is high among the entire steel production is the bar, particularly the small bar. The above-mentioned wide hoops and the small bars alone account for 65.7% of the entire production of steel products in this country. So, these two may be regarded as the two major items among the ordinary hot rolled steel.

From the above, the production structures in the steel industry may be classified into the following two types.

The first type is the integrated iron and steel manufacturers which mainly produce the sheets including the wide hoops and hoops. Rolling firms and the simple steelmaking firms which mainly produce the small bars are classified in the second type.

Based on this classification of manufacturers, I will make some in-depth analyses of the production structure, demand structure and distribution structure of each type. First, in this section, I will summarize the characteristics of the production structure of the integrated iron and steel manufacturers, the characteristics that determine the

Table 1–1 Trends of Production Shares of Hot-rolled Ordinary Steel Products
(Unit: 1,000 M.T., %)

Kinds of Steel Products	Year			
	1970	1975	1980	1983
TOTAL				
Actual quantity	67,282	76,812	87,694	76,590
Percentage share	100.0	100.0	100.0	100.0
RAIL				
Total	0.8	0.7	0.6	0.6
Heavy rail	0.7	0.6	0.5	0.5
Light rail	0.1	0.1	0.1	0.1
SHEET PILE	1.0	1.2	1.4	1.0
SECTION				
Total	10.4	10.2	10.4	11.3
Wide flange steel	—	4.9	4.9	5.7
Large	6.8	1.9	2.0	2.4
Medium	2.6	2.4	2.4	2.2
Small	1.0	0.9	1.1	1.0
STEEL BAR				
Total	11.0	11.6	15.3	16.4
Large	0.4	0.3	0.4	0.5
Medium	0.8	0.6	0.8	0.8
Small—for making reinforcing rod	9.8	9.7	12.5	13.1
—for other uses		1.0	1.6	1.9
BAR FOR TUBES	2.1	1.8	3.0	2.9
WIRE ROD				
Total	7.1	6.8	6.1	5.6
Bar in coil	1.1	0.9	1.3	1.3
Ordinary	3.6	3.4	2.6	2.3
Special steel:				
Low carbon	0.7	0.9	0.5	0.4
High carbon	1.8	1.6	1.7	1.6
PLATE AND SHEET				
Total	22.6	23.5	14.6	12.8
Heavy	18.9	21.1	12.5	10.7
Medium	2.3	1.7	1.3	1.6
Sheet	1.4	0.7	0.8	0.5
HOOP				
Total	44.8	44.0	48.5	49.3
Wide hoop	41.9	42.2	46.5	47.8
Hoop	2.9	1.8	2.0	1.4
TIRE	0.2	0.2	0.1	0.1

(Source) Steel Statistics Committee's "Outline of Steel Statistics", 1980 and 1984 editions.

first type of distribution structure, and then outline the characteristics of its demand structure.

As for the characteristics of the production structure of the integrated iron and steel manufacturers, the large scale of the production facilities and the organizations is evident. One of the typical production facilities is the blast furnace. At the end of 1982, the number of blast furnaces in Japan totalled 66, 15 of which, or one-fifth of the total, were those with an inner volume of 4,000 m^3 or more. The number of blast furnaces with an inner volume of less than 2,000 m^3 was only 27, or less than a half of the total ([6] 1984 edition, p20). The growth in size of the production facilities is also evident in the steelmaking department which is the manufacturing process following the blast furnaces. The pure-oxygen blast converter, which has the advantage of refining the steel in a short time of about 30 minutes and also of saving fuel, has brought about a revolutionary change to the steelmaking method. In fact, all the integrated iron and steel manufacturers in Japan today are producing crude steel with this converter. Even though the crude-steel produced by this converter process accounted for only 11.9% of the national total as of 1960, the percentage had reached 71.5% by 1983 ([7]). It was the continuous-casting equipment that brought about the revolution in the mass-production system of steel by combining the converter which represented the technological innovation with the hot strip mill, the rolling process that follows the converter process. The continuous-casting is the process in which the ingot steel is poured into a cast to be cooled and hardened so that semi-finished products may be produced continuously before they are sent on to the rolling process. Before this equipment was introduced into the manufacturing process, the steel mills first made big steel ingots and then put them on the blooming mill so as to produce semi-finished products of appropriate sizes. The introduction of the continuous-casting equipment into the manufacturing process not only completely eliminated the ingot process but also enabled the saving of energy to heat the steel ingots. It was thereby possible for the steel makers to vastly raise the yield from the process in which the ingot steel was made into semi-finished products. In the steel industry, the 'continuous-casting rate' is often used as an index showing the technical level of each manufacturer. In terms of this continuous-casting rate, Japan is ranked the top in the world, the average rate of the five major Japanese blast-furnace steel makers having already exceeded 90% (1983).[2] An integrated iron & steel manufacturer in Japan today has come to have a full-line system consisting of rolling mills of diverse capacity as a result of the growth in size of the equipment for the rolling process in

2) As of 1983, the continuous-casting rates of leading blast-furnace steelmakers are: Nippon Steel Corp. 93.9%, Nippon Kokan 92.8%, Kawasaki Steel 93.4%, Sumitomo Steel 93.0%. All are quite high. The high continuous-casting rates of Japanese steelmakers can be noted clearly from a comparison with the rates in other countries, such as, West Germany 71.8%, Italy 68.3%, Britain 46.6%, Belgium 37% and U.S.A. 29.0% (though the figure for the U.S. is from the 1982 statistics). ([9] July 20, 1984)

which the steel is processed into products of specific shapes.[3] Those operating under a full-line system are the strip mills which are most widely set up in the plants of integrated iron & steel manufacturers. The strip mills began to spread rapidly after the Second rationalization (1956–1960) and the output of the strip mills, which in 1955 was 1,290,000 tons or one-third of all the products manufactured by the steel rolling mills in the country, had increased remarkably by eight times to 10,180,000 tons by 1963. In ratio, too, this represented some 70% of the entire output of steel from the steel rolling mills in Japan. One of the factors that had brought about this rise of strip-mill products into the major line of steel products was the rapid growth seen after the start of the 1960s in the demand for steel products such as sheets and hoops caused by the rapid increase in the demand for such durables as automobiles and electric appliances.

The second characteristic of the production structure of integrated iron & steel manufacturers is that, as is typified by the strip-mill products, more and more of those manufacturers have come to conduct multi-variety production in addition to mass-production. This trend toward multi-variety production can be seen, for example, in the fact that the total number of product designs contained in the master-file of the Nippon Steel Corporation's Order Entry System as of 1976 is said to be a total of about 70,000, including 8,000 for the heavy plates and sheets, 28,000 for cold-rolled sheets and surface-treatment steel and 4,000 for sections ([8], p4).

The third characteristic of the integrated iron & steel manufacturers is that, in addition to the large scale, is the large quantities produced and the great diversity of products, most of which are under the 'order-production system' based on 'purchase contracts'. Under this system, the purchase contracts are concluded in advance between the steelmaker and a wholesaler with such terms and conditions as the specifications, quantities, prices and the appointed dates of delivery, two months before the time of shipment. This order-sale system precedes the execution of the production plan and is the major condition that enables an integrated iron & steel manufacturers to carry out multi-variety mass production. Though it is called an 'order-production' however, this does not mean that products of endlessly diversified types are being produced. Rather the technical ranges of items and specifications are previously restricted in a "multi-variety" production system. Such 'purchase contracts' were in use as early as 1924; until then, business in steel was done by 'private contracts'. This 'purchase-contract' system was initiated by a government established council in which consultations were to be conducted between the Yawata Steel Company on the one part and the representative steel importers such as Mitsui

3) The production of steel products is of a "breakdown"-type structure, mainly because of the steel's chemical and physical properties and manufacturing techniques. It consists of numerous different processes of manufacture and, moreover, the entire process is branched out into numerous sub-processes. Above all, in the rolling process, full-line products of great variety are made. In contrast, in the case of production of such items as automobiles, ships or home electric appliances, the manufacturing systems are of "break-up" type in which the materials are processed and assembled into finished products.

& Co., Mitsubishi Corporation, Suzuki, Iwai and Ataka, all of which were given the title of 'authorized merchant'. Thus, it was decided that the steel products of Yawata Steel Company should be sold exclusively through the above-mentioned five firms, with the result that, the small and medium-sized wholesalers were excluded from the transactions with this steelmaker. ([2] pp31–45)

It is the 'production-sales management system' that is playing an important role in bringing into reality the 'order production system' which takes the form of a system

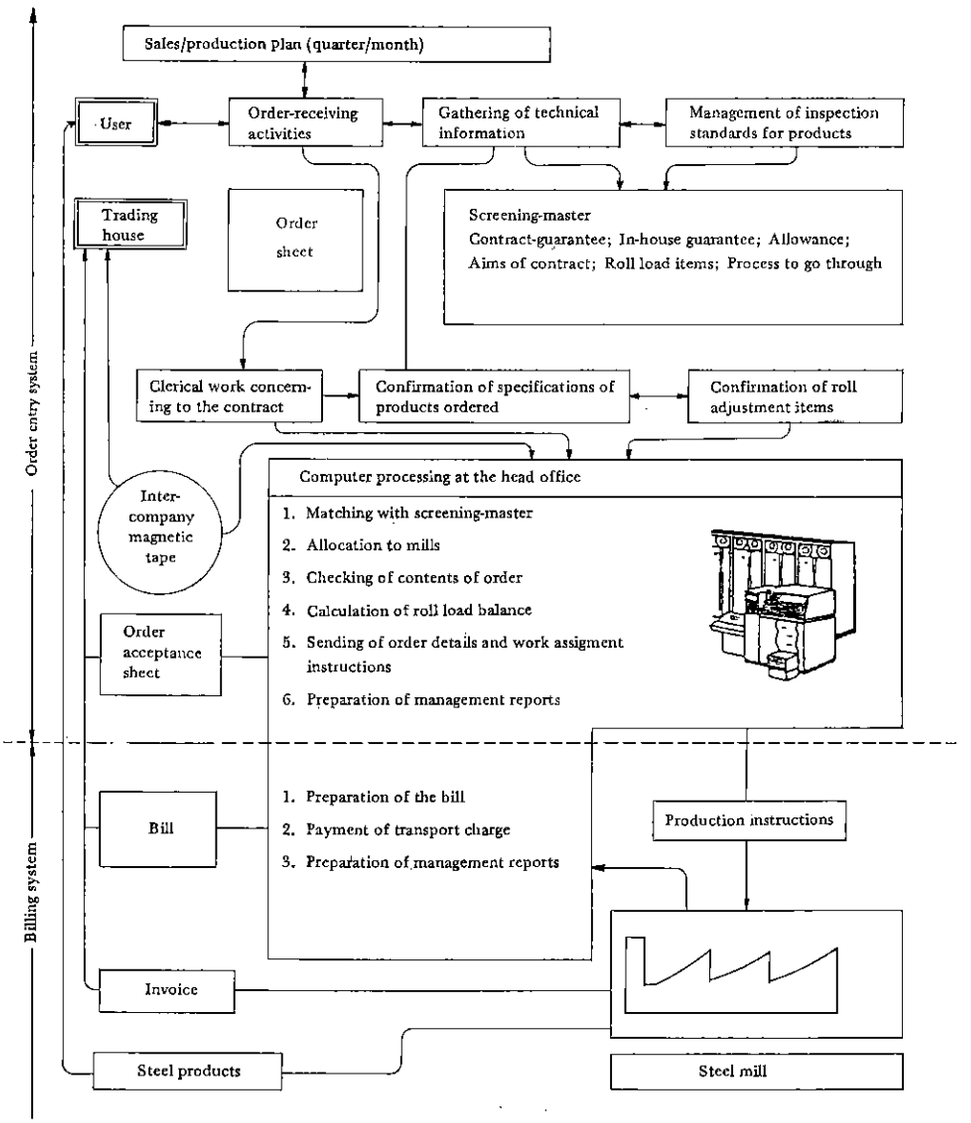

Fig. 1–1 Flow Chart of Sales Management System of the Nippon Steel Corp.
(Source) Nippon Steel Corp. "Topics about steel", 1976, No. 22

based on purchase contracts.

The Fig. 1–1 appearing in the next page shows the flow chart of the 'sales management system' of the Nippon Steel Corporation. This system consists of such subsystems as the 'order entry system' and the 'billing system'. The Order Entry System is a system under which Nippon Steel Corporation controls the large and small orders coming in daily for steel products from different users through the trading houses. It also decides the design and the quality of the product for each order received, which manufacturing method should be adopted, which of the mills should manufacture the products ordered so as to deliver them by the appointed delivery date, and finally conveys these production-order decision to the steel mill concerned.[4] In the case of the Nippon Steel Corporation, the number of orders received annually reaches some 2 million, which would be about 150,000 to 170,000 per each ten-day period or 7,000–8,000 a day. Moreover, each of the products thus ordered is manufactured with respect to approximately 50 or so factors such as the material to be used, size, allowance, shape and surface finish ([8] p4).

In this process, the computers play an important role. The data on each order is input into the computer and is processed the following way. First, the data on the order is strictly checked with regard to its accuracy. Then, by means of the screening process, the design and quality specifications for the steel product ordered are clarified. Finally, the roll load balancing at the different mills will be conducted so that a decision may be made as to when and which of the mills should manufacture what products ordered and in what quantities. The order-data thus processed by a computer is then conveyed to the mill concerned in the form of production instructions. The completed data thus conveyed as an order will be conveyed to the production control system of the mill concerned and, at the same time, are registered into the order master file.

The establishment of this Order Entry System promoted significantly the organic coordination of production and sales. The Nippon Steel Corporation's Order Entry System, which was introduced in 1972 ([10] p476; [11] pp483–482), was developed as early as November 1969 at Fuji Steel Corporation before its merger into the Nippon Steel Corporation, as a system directly linking the order-processing system at the head office with the process systems at the mills ([12] p161). Following the advent this system was the intensification of competition in the sale of steel products and the tightening of demand from the users for high quality and delivery dates. Today, all the major blast-furnace steel-makers have a similar system, though a different name is given to each system. Kawasaki Steel Corporation calls its system the 'Order Cen-

4) Hitherto, between a steelmaker and a Shosha, a system is normally adopted in which the orders, specifying such conditions as the types of commodities, quantities, specifications and the appointed date of delivery, are recorded on a magnetic tape and delivered by Shosha to the steelmaker everyday. But in the case of Kawasaki Steel Corporation, they have set up an on-line ordering network with ten main Shosha as trading partners including C. Itoh & Co. so that exchanging of such papers as order sheets, shipping notices and invoices, which hitherto have been restricted to once a day, may now be done at any time as occasion demands.

ter' ([13] p644), Nippon Kokan Co. uses an 'Overall Sales-Production System' (SPS) ([14] p248) and Sumitomo Metal Industries, Co. has an 'Order Center Division' ([15] p141). Those systems play an important role directly linked with order-production.

Now, let us take a look at the 'production & process management system'. The production & process management system is a system that handles the management of various aspects mill operation including the drawing of production plans, issuing of work instructions and evaluating the outcome of operation. For example, at the management center of a large-scale integrated iron & steel manufacturing mill having an annual capacity of from 1 million tons to over 110 million tons, you will find several sets of huge business computers, one of which is used as an off-line computer. This off-line computer is used in making detailed plans for production activities in accordance with the production instructions given on each order-data transmitted from the Order Entry System at the head office; for example, what kinds of materials should be used and how much, what types of work should be conducted on which process and in what order, and by which date the products should be completed and be ready for delivery. The manufacture specifications thus drawn up for each order are then summarized and compiled into appropriate production lots for each manufacturing process. Thus the daily production plans are made. Then, a one-day portion of this production plan will be fed into the on-line computer which in turn will give concrete work instructions to each of the process-computers at the production departments, putting the production facilities at the worksites in operation. In a case where a need for change arises in mid-course, the on-line computer, checking data about each departments work progress sent to it in real time from the process-computers at the production departments, will send out necessary instructions concerning moving on to the next process or making changes in the process which immediately precedes or follows the present one ([8] pp5–6, [6] 1981 edition, pp575–578).

The above has been an overview of the characteristics of the production structure of an integrated iron & steel manufacturer, the structure that basically determines the sales system. One characteristics we can confirm in this production structure is that it is based not only on the mass production system but also on an order-production system dealing with multi-variety orders although the range in the varieties the system can handle is limited.

Next, let us take a look at the characteristics of the demand structure which is another aspect that determines the sales system.

The Table 1–2 on the next page shows the trends of the quantities of orders received and their percentages with regard to the ordinary steel products classified by use. One will note that overwhelmingly high shares are held by the products for construction use at 24.8%, followed by those for manufacture of automobilies at 18.6%. Those two alone occupy as high a share as 43.4% of all the ordinary steel products manufactured in Japan. As can be seen from this Table, the highest average rate of growth in the quantities of orders received for automobile during the 10-year period from 1973 to 1983 was 3.8%, followed by those for electric machines with 1.6% and

Table 1–2 Trends of Quantity Percentages of Orders Received for Ordinary Steel Products, Classified by Use and Department (Unit: %)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	Average growth rate 1983/1973
FOR CONSTRUCTION												
Total	27.5	24.5	23.5	22.9	26.1	28.7	28.0	26.1	26.1	26.5	24.8	−4.0
For Construction	9.0	8.2	7.7	7.6	8.6	10.0	10.7	9.5	9.2	9.7	10.0	−2.0
For Civil Engineering	12.1	10.9	10.4	9.6	11.7	12.4	11.3	10.8	11.4	10.9	9.5	−5.3
For Others	6.4	5.4	5.4	5.7	5.8	6.3	6.0	5.8	5.5	5.9	5.3	−4.8
For Industrial Machines	4.0	4.3	3.4	3.8	3.6	4.1	4.0	4.5	4.0	3.6	3.2	−5.3
For Electric Equipment	3.2	2.9	3.1	4.1	3.8	4.4	4.6	4.5	4.7	4.6	5.0	1.6
For Home or Business Machines	1.2	1.1	1.3	1.6	1.3	1.3	1.3	1.4	1.4	1.6	1.4	−1.8
For Ships	10.6	14.6	12.3	9.9	7.6	4.6	5.7	7.3	7.8	6.2	6.7	−4.7
For Automobiles	9.4	10.4	12.3	13.9	15.0	15.2	16.0	17.5	17.8	17.5	18.6	3.8
For Rolling Stocks	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	−11.2
For Other Types of Transport Machines	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	−3.1
For Containers	2.8	2.7	3.1	3.6	3.8	3.9	3.7	3.3	3.7	3.8	4.0	0.6
For Other Types of Products	0.4	0.4	0.4	0.2	0.2	0.4	0.4	0.4	0.5	0.4	0.5	−1.0
Total	59.6	61.4	59.8	60.8	62.2	63.0	64.2	65.4	66.4	64.5	64.4	−2.2
For Next Process	7.4	8.4	8.3	8.8	8.0	7.3	6.8	6.9	6.0	6.1	5.9	−5.8
For Reprocessing of Products whose ultimate uses are unknown	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.9
FOR SELLERS												
For Sellers	24.4	21.7	23.3	22.1	22.4	22.7	22.6	21.0	21.0	23.2	23.9	−3.2
For Shear-slit Dealers	8.0	8.4	8.5	8.1	7.2	6.7	6.2	6.4	6.4	6.0	5.6	−6.4
Total for Domestic Use	100.0 (74.6)	100.0 (68.1)	100.0 (65.3)	100.0 (63.9)	100.0 (62.5)	100.0 (66.9)	100.0 (74.4)	100.0 (71.2)	100.0 (69.9)	100.0 (67.4)	100.0 (65.2)	−3.3
Export	(25.4)	(31.9)	(34.7)	(36.1)	(37.5)	(33.1)	(29.6)	(28.8)	(30.1)	(32.6)	(34.8)	1.5
Grand Total	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	−1.7

(Notes) 1. Those for use in manufacturing steel products are excluded.
2. Those for the sellers and shear-slitters correspond to the portions sold on store-front, the other portion being those with string attached.

(Source) Steel Statistics Committee's "Outline of Steel Statistics", 1984 edition.

containers with 0.6%. The steel products for use in making electric machines and containers are those that enjoy a comparatively high percentage of the orders. The automobiles and electric machines are both made basically of steel; 80% of the materials used in making these two items are produced from steel, of which an overwhelmingly large portion consists of sheets and plates. In the case of the ordinary steel products produced for automobiles in 1983, the cold-rolled wide hoops (41.5%) rank first, followed by the hot-rolled wide hoops (32.8%) and the surface-treatment steel plates (16.8%). These three items together account for 91.5% of the total ([7] 1984 edition, pp100–101). Demand for sheets and plates has expanded over the years along with the development of automobile and electric machinery industries. Especially remarkable has been the growth of the automobile industry during the postwar period. The production in Japan of automobiles increased at a quick pace from 1,900,000 units in 1965 to 5,300,000 in 1975 and then to 11,000,000 in 1980, far exceeding the U.S. figure of 8,000,000. Most rotable has been the growth of exports. In the case of passenger cars, the total export in 1980 by Japan was 7,000,000 units, exceeding the 6,400,000 recorded by the United States which until then had been the world's number one producer of cars.

According to the "Summary of Financial Statements", the trends of annual purchases of ordinary steel products by Toyota and Nissan are as follows. 92,957 tons for Toyota and 129,440 tons for Nissan in 1963 increasing to 448, 839 tons and 294,798 tons in 1975, and further to 1,018,984 tons and 780,842 tons in 1983. In other words, during the 20-year period from 1963 to 1983, the annual purchases of ordinary steel products by Toyota rose approximately ten times while Nissan purchased a little more than six times as much ([16]). Not only is the volume of demand from the automakers for steel products surprising but also great diversity of products in demand. For example, cold-rolled sheets are manufactured and supplied for different automakers and for different car-types according to diversified user requirements. For a single car-type, the cold-rolled sheets of various specifications are manufactured and supplied as for the roof, the doors and the hood.

Toyota Motor Company purchases some 80%-plus of the steel products it needs from Nippon Steel Corporation and Nippon Kokan Company, while Nissan Motor Company buys about 80%-plus of the steel products it needs from Kawasaki Steel Corporation, Nippon Kokan and Nippon Steel. Thus, fixed mass transactions are conducted between the individual steel makers and individual users of steel products.[5)]

Moreover, in order to secure continuous flow of orders from the automakers who

5) These figures have been taken from the "Summary of Financial Statements" and represent the amounts the automakers buy directly from the steelmakers. But in the case of auto industry as a whole, the amount of steel products bought directly from steelmakers accounts for only about 30 to 40%, the remaining 60 to 70% being bought from auto-parts suppliers. In any case, the auto industry does consume a huge quantity of steel.

are constantly trying to minimize[6] their stocks of materials by what they call the "just-in-time" method, the steel-makers are strongly requested to strictly observe the appointed date of delivery in addition to their having to meet the equally rigid quality requirements.

From the analyses as outlined above, it has now become clear that the integrated iron and steel manufacturers have a mass-production and order-production system, their representative products are sheets and plates, and the demands they have to cope with are comparatively concentrated, stable and specific large-lot demands. In the following section, I would like to study how the production and demand that have such characteristics as mentioned above determine the sales system which links the two and what kind of character they have given to the trading houses and wholesalers that deal with the steel products.

II Sales System of Integrated Iron & Steel Manufacturers

As can be seen from the Fig. 1–2 in the next page, the steel products shipped out by integrated iron & steel manufacturers may be roughly divided into two groups; those that are sold directly to the users under a contract concluded directly with each of user and those which are sold through the wholesalers.

A direct sale is one in which the products are sold by a maker directly to a user without putting them through the hands of a wholesaler. In the case of ordinary steel products, for example, an overwhelmingly large portion of direct sales is for the next process of manufacture of steel products and this is followed by the direct sales of mainly wire rods for use by the Japanese National Railways as heavy rail and tire and next by sales to agents and finally by sales for consumption at the manufacturers' own factories. As a whole, the steel products put to direct sales account for less than 20% of the total, the remaining 80%-plus being sold through the wholesalers.

The 'wholesalers' are the Sogo Shosha (nine general trading companies) and the trading firms specializing in steel which have direct transactional relations with the steel-making companies. Such wholesalers are said to number about 70–80 today in Japan. Among the steel wholesalers in a wider sense of the word, there also are the traders who are not in transactional relations with any of the steel-makers but who buy the steel products from the wholesalers and sell them to the users. These are generally called 'agents'. In the sense that they buy the products from the wholesalers, the agents are also called 'secondary wholesalers' and such agents numbered some 3,800 as of 1977 ([17] p29). The steel wholesalers are classified into two categories according to the corporate form and the range of products handled; the Sogo

6) The stock-sales ratios $\left(\frac{\text{Volume of year-end stock}}{\text{Volume of materials used}}\right)$ of Toyota and Nissan, as calculated from the "Summary of Financial Statements", are both on the decrease as follows: TOYOTA — 1963... 13.9%, 1975...8.1%, 1980...1.4% and 1983...1.8%. In the case of NISSAN, too, a remarkable decline was seen during the ten years; '63...18.3%, '75...2.2%, '80...0.8% and '83...0.8%.

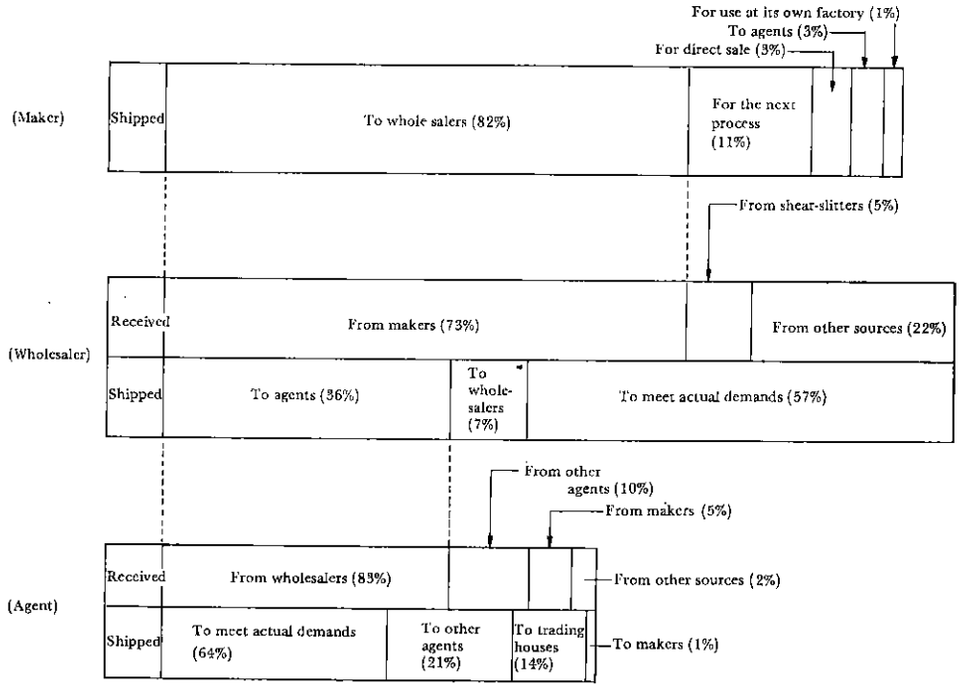

Fig. 1–2 Domestic Distribution of Ordinary Steel Products

(Note) Maker → actual records for 1980. Wholesaler → actual records for 1980. Agents → records of October 1979.

(Source) "Handbook on the Distribution System of Steel", by All-Japan Steel Wholesalers' Association, 1981, p43.

Shosha and the Specialized Wholesalers. The Sogo Shosha handle, in addition to the steel products, a wide range of commodities including textile, machinery, raw materials and foodstuffs. In the case of Sogo Shosha, the steel products account for about 10–20% of all the commodities handled.[7] The Sogo Shosha which are called the 'steel wholesalers' at present in Japan are the following nine; Mitsui & Co., Ltd., Mitsubishi Corporation, Marubeni Corporation, C. Itoh & Co., Ltd., Sumitomo Shoji Kaisha, Ltd., Nissho-Iwai Co., Ltd., Nichimen Co., Ltd., Kanematsu-Gosho Ltd. and Toyo Menka Kaisha, Ltd. The 'specialized wholesalers' are the wholesalers other than the nine Sogo Shosha mentioned above. Among those specialized wholesalers, some of the more powerful ones handle commodities other than steel but still they are called 'specialized' wholesalers because steel accounts for the greater portion of all the commodities they handle.

As to the ratio of quantities of steel products handled by Sogo Shosha and spe-

7) According to the "Summary of Financial Statements" (1984), the handling ratios were: Mitsui & Co. 15.6% (steel), Mitsubishi Corp. 22.2% (metal), Marubeni 19.7% (metal, mining), C. Itoh & Co. 14.5% (metal), Sumitomo Shoji 27.4% (metal), Nisshio-Iwai 30.3% (metal), Nichimen 32.9% (metal, fuel), Kanematsu-Gosho 11.2% (metal), Toyo Menka 17.3% (metal, mining).

cialized wholesalers, it was 29.5:70.5 in 1957, 38.8:61.2 in 1960, 48.4:51.6 in 1965 and 61.5:38.5 in 1970. Thus, during the period of high economic growth, the percentage of the quantities handled by Sogo Shosha kept on increasing until the 'oil crisis' in 1973 showed the nation's economy and the percentage began decreasing. The ratio in 1980 was 56.7:43.3 between Sogo Shosha and the specialized wholesalers ([17] p21). The increase in the share of the specialized wholesalers after the oil crisis may be attributed to the reinforcement of the trading department by the steel-making companies but I will come back to this question later on in this paper. Even though the comparative weight of the specialized wholesalers increased after the oil shock, the Sogo Shosha continue to play a major role in the distribution of steel products in this country. This situation in Japan is remarkably different from that in the United States and other advanced capitalist countries where the steel-making firms are putting 80% of their products to direct sales, selling the remainder in small lots in the form of retail transactions through the wholesalers. This, in fact, is one of the main features of steel distribution in Japan.[8)]

As we have seen in the foregoing paragraph, one of the main features of the steel sales system in postwar Japan is that the percentage of direct sales by the steel-makers themselves is small and by far the largest portion of steel products is sold through the wholesalers. Moreover, of the products sold through the wholesalers, 70% are sold under 'string-attached' contracts (90%, in the case of the hot or cold-rolled wide hoops) and 30% sold through stores. A string-attached sale means a type of transaction in which a steel-making firm concludes a sales contract with a Shosha or a specialized wholesaler, designating the user(s) therein, and the wholesaler receives a certain amount of commission as a remuneration for acting as an intermediary. The amount of commission in this case is usually set at 3% when the products are sent directly to the user(s) and 5% when the products are sent to the warehouse. Since the string-attached contracts are mostly 'purchase contracts', the amount and the price is determined at the time of contract. So, we may say that it is this string-attached contract that enables the integrated iron & steel manufacturers to carry on stable order-production.

It is a well known fact that the purchase contracts and string-attached contracts, which enable the integrated iron & steel manufacturers to carry on the planned production and planned sales to a certain extent, have at their basis the strong link between the integrated iron & steel manufacturers and the wholesalers, especially the Sogo Shosha. The Sogo Shosha, the entities peculiar to Japan, have had close relations with the steel-makers since the prewar years. Mitsubishi Corporation, Suzuki, Iwai and Ataka in particular were engaged in the sale of iron and steel as the importers of iron and steel even before the establishment of the state-run Yawata Iron Works. They were made the authorized merchants at the time the Yawata Works was established and handled almost exclusively the general steel products manufactured by

8) However, in the case of West Germany, the ratio of sales through wholesalers is high (Refer to [18]).

Yawata. In 1937, the Japan Steel Product Federation was established and the production-sales cartel was organized by the steel-making firms. In the case of sales, too, a joint-sales cooperative was organized such firms as Asano Bussan, Nissho, Takashimaya-Iida, Okura Shoji, Nippon Kozai and Nippon Gas Sales Co. were appointed as the authorized sellers in addition to the above-mentioned five firms. During the Second World War, the control over steel was tightened and, in 1943, the wholesaler system was abolished and three sales firms including Nippon Kozai (steel products) Sales Co. were set up as an exclusive purchasing agency in line with national policy.

After the war, the authorized-wholesaler system was revived in 1946. Although at first the wholesalers were authorized by the Japan Steel Council, each of the steel-making firms came to designate the wholesalers individually. As a result, the designated wholesalers increased rapidly in number and by 1951 had reached the peak at 181 firms. After 1951, the Japanese economy and steel-industry firms developed rapidly causing a drastic reorganization of the distribution system. During the course of this reorganization many firms were absorbed into the big two Mitsui & Co. and Mitsubishi Corporation while many other newly formed wholesalers went bankrupt or dissolved one after another in quick succession ([19] pp48–52). This reorganization of distribution had as its objective the construction of a mass-sales system matching the above-mentioned system of mass-production and planned-production and was pushed ahead by the steel-making firms with the major ones taking the lead. In this way, the steel-making firms directed their policies so as to promote and strengthen the wholesalers, mainly those leading wholesalers under their influence. The Table 1–3 on the next page shows the amount of domestic sales and exports by the six major steel-makers classified by Shosha through which the products were sold (1983). The Nippon Steel Corporation, since the days before the merger of Yawata Iron Works and Fuji Iron Works, has been transacting mainly with the members of Toka Kai group consisting of the leading wholesalers —Mitsui & Co., Mitsubishi Corporation, Marubeni Corporation, C. Itoh & Co., Sumitomo Shoji Kaisha Ltd., Nissho-Iwai Co., Ltd., Nichimen Co., Ltd., Kanematsu-Gosho Ltd., Toyo Menka Kaisha Ltd., Nittetsu Shoji Co., Okaya Koki Co., Hanwa Co., Ltd., Tsuda Kozai Co. and Toyoda Tsusho Co.. Among them, Mitsui and Mitsubishi overwhelm the rest by handling about 50% of all steel products. Nippon Kokan Co. has organized a strong network of wholesalers called the Shin Ryoku Kai group including the Shosha Mitsui & Co., Mitsubishi Corporation, Marubeni Corporation, C. Itoh & Co., Nichimen, Toyo Menka, Okaya Koki, Okura & Co., Ltd., Toyoda Tsusho, Kinsho-Mataichi Corporation. Among the members of Shin Ryoku Kai group, Marubeni receives the highest share of products from Nippon Kokan. Nippon Kokan and Marubeni are closely related as both belong to the same Fuyo group. Kawasaki Steel designated as its major wholesalers the Yuraku Kai group consisting of Mitsui, Mitsubishi and Kawasaki Shoji Co. among others. 60% of the transactions conducted by Kawasaki Steel with the members of Yuraku Kai group are with Kawasaki Shoji, the commercial division of Kawasaki Steel. In the case of Sumitomo Steel, the Kosen Kai group

Table 1-3 Amounts Handled by Six Major Steel-makers for Domestic Sales and Export Classified by Sogo Shosha (Unit: 100 mil. yen)

	Mitsui & Co.	Mitsubishi corp.	Sumitomo shoji	Marubeni corp.	Nissho-Iwai	C. Itoh & Co.	Kanematsu-Gosho	Toyo Menka	Nichimen corp.
Nippon Steel									
Domestic	3,065	2,820	305	1,326	1,556	1,730	148	170	108
Export	1,913	975	767	733	953	1,001	252	134	248
Total	4,978	3,795	1,072	2,059	2,509	2,731	400	304	356
Nippon Kokan									
Domestic	390	1,270	—	1,836	1	154	1	789	1
Export	196	880	55	1,896	34	180	5	24	34
Total	586	2,150	55	3,732	35	334	6	813	35
Kawasaki Steel									
Domestic	115	250	49	25	164	563	59	17	164
Export	454	590	185	38	213	420	24	51	213
Total	569	840	234	63	377	983	83	68	377
Sumitomo Steel									
Domestic	146	100	4,375	3	1	75	—	166	1
Export	297	100	2,349	84	48	113	107	90	48
Total	443	200	6,724	87	49	188	107	256	49
Kobe Steel									
Domestic	228	240	10	103	1,619	193	21	12	12
Export	203	90	30	102	387	72	20	51	31
Total	431	330	40	205	2,006	265	41	63	43
Nisshin Steel									
Domestic	109	230	44	107	612	135	43	18	126
Export	46	35	33	166	124	103	12	16	5
Total	155	265	77	273	736	238	55	34	131
Total Domestic									
Domestic	4,053	4,910	4,783	3,400	3,953	2,850	272	1,172	412
Export	3,109	2,670	3,419	3,019	1,759	1,889	420	366	579
Total	7,162	7,580	8,202	6,419	5,712	4,739	692	1,538	991

(Source) Metal Study Group's "Records on Amount of Steel Products Handled by Major Sogo Shosha" 1984 edition

formed with Sumitomo Shoji and Sumikin Bussan, handles nearly 90% of the products of Sumitomo Steel. Kobe Steel organized the Tesshin Kai group in which Nissho-Iwai and Shinsho Corporation are the major wholesalers handling Kobe Steel products. In particular, Nissho-Iwai handles one-third of the products sold by Kobe Steel to the Tesshin Kai group.

From the above, one can see that each of the leading steel-making firms chooses one particular Shosha as its main trading partner, while maintaining business relation-

ships on a smaller scale with a number of other wholesalers. Especially today, as Japan is entering into a slow-growth period with the demand for steel on the decrease, the five major steel-makers, with the exception of Nippon Kokan, have all been putting efforts into the formation of a network of affliated Shosha, aiming at the acquisition of stable market share and continuation of stable transactions. More over the steel-making firms have made steady progress in developing such affiliated Shosha into a virtual commercial division of their own. For example, Nippon Steel, in an effort to reinforce its affiliated Shosha, appointed one of its vice presidents as president of Nittetsu Shoji, one of Nippon Steel's affiliats and its chairman as Nittetsu's Director-Counsellor. Kawasaki Steel has also embarked upon the expansion of its maket share by creating the Kawasaki Shoji Co. through a merger of Kawasho Corporation and Kawatetsu Bussan Co. Likewise, Sumitomo Steel has been reinforcing Sumitomo Bussan while Kobe Steel, concentrates on its affiliate Shosha, Shinko Shoji Co.

On the other hand, there has been an increasing trend on the part of the users to approach the major steel-makers directly. For example, Toyota and Nissan have continuously been asserting the need for the type of direct-sales system adopted in the United States with regard to the steel products for the automobile industry. Thus, the new direct approach of automakers such as Toyota and Nissan coupled with the tendency of the Shosha to become virtual agents of the integrated steel manufacturers, has increasingly restricted the activities of the Shosha as independent commercial firms.

In prewar steel distribution, the so-called 'string-attached' transactions of steel were mostly confined to rail production for the Japanese National Railways. The steel-makers in those days delivered almost all of their products to the designated wholesalers, leaving the sales of the products up to the wholesalers. Consequently the wholesalers were given quite a free hand in their activities including speculations on futures. But the situation changed completely after the war. The giant steel-making firms began expanding their own sales outlets and increasing the percentage of order-production. This inevitably narrowed substantially the room for Shosha to do business on their own, with the result that now the free activities of Shosha are more or less restricted to store-front sales of the steel products. One of the important factors by which we can estimate how much room is left for the Shosha and wholesalers to carry on their activities in steel trade as independent commercial capitals is the right to decide on the prices of the products. So, I will make some concrete studies of this matter.

Generally speaking, the sales price of steel products is classified into two kinds; the string-attached price and the store-front price. The string-attached price is determined by the steel-maker through its direct negotiation with the end-user. The price is fixed by adding an appropriate profit to the cost of production, and the inner commission-system is adopted. The negotiation on the price is conducted between the steel-maker and the string-attached user without the intervention of Shosha. Thus, there is absolutely no room for the Shosha to intervene in the price-fixing process and

the Shosha are then put into the position of a commission merchant working as a sales agent for a steel-making firm. While the amount of commission the Shosha receive as a result of sale of products to string-attached users is fixed at 3%, the percentage of the Shosha's involvement in sales to string-attached users has kept on declining as a result of the increase in the rate of sales by integrated iron & steel manufacturers to the string-attached users. The percentage, which in the past was about 2.2%, has now decreased to only about 1.2% ([20] p102).

Let me now introduce to you some of the concrete facts relating to the right to decide on the prices of steel. In the past, steel price and quantity was decided by steel-makers at the Futures Council upon signing a sales contract. In his "History of Steel Sales in Japan", Mr. Noboru Sato writes as follows about the relative positions of a steel-maker and a wholesaler at the Futures Council, comparing prewar and post-war days. At the Futures Council in the prewar days of free sales, the steel-makers or the designated wholesalers met with the affiliated wholesalers in a conference at which the steel-maker, the seller, announced the quantity and price of the futures to be put on sale and the wholesalers, the buyers, made their decisions on the quantities they would take by estimating the market condition of 2 or 3 months later when they expected delivery. The Futures Council in those days was a forum where the two sides would meet for mutual consultations and discussions about the quantities to be accepted by the buyers if negotiations failed to reach terms and conditions acceptable to both sides. However, after the war, the meeting of Futures Council changed into a kind of briefing given to the wholesalers by the steel-makers who, determined to maintain the seller's market, would propose the prices (quotation) and the quantities of the products to be offered for sale and let the wholesalers decide on the quantities they would take ([2] p227).

After the war, along with the rapid growth of the steel-making firms, the integrated iron & steel manufacturers increased their price-control power. In June 1958, when the Japanese economy was in intense recession, 33 makers of ordinary steel and 191 wholesalers who were in direct transactional relations with those 33 steel-makers got together to set up an open-sales system. This is a special form of sales in which a large number of steel-making firms and wholesalers hold the futures council at the same time and place to apply for the purchase of the steel products offered by the various makers. When this open-sales system was first adopted, the price announced at the meeting of the open-sales council was fixed by the Ministry of International Trade and Industry based on the price proposed by Yawata Iron Works. The wholesalers were not only obliged to accept that price but were forced to adhere to it and were given the Government's administrative guidance accompanied by the imposition of a fine in case of non-observance. Moreover, in accordance with the government's policy to ensure that the unsold products were not sold underpriced, the wholesalers were sometimes forced to buy the products that remained unsold ([2] p350).

The Nippon Steel Corporation, along with its counterpart on the user's side the auto industry, particularly the Toyota Motor Company, had taken the lead in de-

ciding steel prices. As a result, the Shosha and the wholesalers have completely lost decision-making power regarding steel prices.[9] Moreover, in the case of string-attached sales, the users to whom the steel products are to be shipped are designated in advance, so that Shosha or wholesalers are not allowed even to sell the steel products to anyone else at their own discretion. Nevertheless, the Shosha and wholesalers maintain stable transactional relations with the integrated iron & steel manufacturers, even though the former is placed in a position subordinate to the latter. Thus, the scale of sales and the handling rate of the steel products by the Sogo Shosha, as well as by the specialized Shosha, is very high (an average of 20% in the case of Sogo Shosha) and such business conducted with the integrated iron & steel manufacturers constitutes a major portion of the Shosha's sources of income.

The integrated iron & steel manufacturers, giant monopolistic bodies, all invariably try to make positive use of the various functions originally possessed by Shosha, such as purchasing, selling, financing and to storing, because they want to sell their mass-produced products in large volume, systematically and without fail.

First, let us look at the selling and purchasing functions possessed by the Shosha and wholesalers. For the integrated iron & steel manufacturers, the Sogo Shosha, especially the Zaibatsu-affiliated Shosha, are most attractive as partners who can assist them in acquiring and expanding the steel markets, having extensive ties with the user circles in various fields with which those Zaibatsu-affiliated Shosha are closely related. Even though Japan's steel export is not the direct subject of analysis for the present Chapter, I want to point out here that the role played by the Sogo Shosha in the export of steel is quite large. In fact, the steel export of Japan cannot be discussed without reference to the presence and role of the Sogo Shosha. Furthermore, steel-making companies and the Sogo Shosha are connected closely with each other

9) Mr. Tatsuji Ohki, managing director of Japan Iron and Steel Wholesalers' Associations, in view of non-existence of wholesaler's prices for steel in Japan, has asserted on the 'proposal on setting up wholesaler's prices for steel'. Although it is a bit long, I would like to quote his words here, as they are quite interesting. "On second thought, I must say it is rather strange that in Japan we do not have a wholesaler's price for steel products apart from the makers' sales prices.... In the western countries, the 'distriburion cost' is clearly defined and I understand that, based on cost-calculation, a certain wholesaler's price is set. I believe this fact should be considered very seriously.... The fact that, in Japan, we don't have a 'wholesaler's price' for steel may perhaps be attributed to the 'official price' system that had been adopted throughout the prewar and postwar years. The 'official price' system is based on the idea that the steel products should be available by the users at a uniform price wherever they are in Japan. In the case of the 'official price', the transport charges, the operating expenses of wholesalers, etc., are incorporated into the price as 'inner commission' and the price is set only from the point of view of the makers.... Here, we have the basic circumstances in which the wholesalers, who are supposed to be a 'stock-holding merchant', because of their lack of financial strength to hold the stocks for a certain length of time, are not playing the role of an adjuster of supply and demand in the market. Therefore, in order for the wholesalers to be able to play the role as they are expected to, they should first of all develop their strength to hold the stocks. But at the same time, isn't it necessary for us to establish the kind of wholesaler's price like the one seen in western countries, or something that corresponds to the wholesalers' quotations? ([3] pp169–170).

in various ways, not only in the aspect of sales but also in such other aspects as the purchase of raw materials and fuels, machines and facilities. Through such connections, the two mutually benefit.

Secondly, what about the financing functions of Shosha and wholesalers? Before the war, the authorized merchants were obligated to give financial assistance to the integrated iron and steel manufacturers and they gave such assistance in the form of funds and inventory financing. After the war, there have been less and less cases of wholesalers lending funds to integrated iron & steel manufacturers, as the financing has basically come to be done by specialized financial institutions. The funding power of wholesalers, however has weakened compared with the prewar years. Yet, the wholesalers' credit-giving capacity for the integrated iron & steel manufacturers and users is still quite high. If you will look at the burden-bearing capacity of the entire wholesalers' financing through the comparison of the bill-collection rate with the rate of payment to the integrated iron & steel manufacturers, you would note that in 1980 the average bill-collection rate was 40.6% and the payment rate was 68.6%, the latter exceeding the former by 24.6 points ([17] p41; [21] p11). This amounts to an enormous annual sum of 1 trillion 824 billion. From this, we may say that the financing functions of the Shosha and wholesalers are firmly supporting the mass-production system of the integrated iron & steel manufacturers.[10)]

Thirdly, what about the inventory-adjustment function? As I have mentioned repeatedly in this paper, the steel transactions in recent years are overwhelmingly conducted in the form of order-production under string-attached contracts with large users as in the case of transactions with automakers, electric home appliance makers and shipbuilders. Here, however, I must point out again that 'order production' does not mean a kind of production in which endlessly different types of goods are produced according to a plan. Especially in the transaction of such products as small bars which are called market-leading commodities, the inventory-adjustment function possessed by the wholesalers, as will be explained later on, is still retained as one of the wholesalers' most important functions.

The products manufactured by the integrated iron & steel makers who represent the modern steel industry are mostly the products of order-production. As a result, the integrated iron & steel manufacturers, in an effort to ensure that their mass-produced goods are marketed in large quantities and systematically, are already making positive use of the functions possessed by the Shosha and wholesalers. The Shosha and wholesalers on their part are guaranteed stable transactions and margins by their strong ties with the integrated iron & steel manufacturers. Thus Shosha and whole-

10) In [3], stressing the importance of the financial functions performed by wholesalers, Mr. Tatsuji Ohki has said, "In Japan, especially in the case of blast-furnace steelmakers, orders are accepted and sales are made in principle on the futures. Supposing 70% (80%, if restricted to blast-furnace steelmakers) of all the transactions were string-attached transactions, the wholesalers would first of all be the sales agent for the makers and, while there is little room for their doing business at their own discretion, they are spared of transactional risks. So, in this case, the biggest role for wholesalers would be the financial function." ([3] pp286)

salers are doing their utmost to strengthen their position by playing such additional roles as the suppliers of iron ore, coal and other materials and also as the developers of world markets for steel products.

III Production and Demand Structures of Steelmaking and Rolling Firms

A steelmaking & rolling firm is one that integrates the steelmaking and rolling stages in the manufacture of steel products. Almost all of them comprise the processes of electric-furnace steelmaking and rolling of bar-type steel. The majority of the Ordinary-steel making and rolling firms are producing only bar-type steel products (sections and bars). Of the 48 ordinary-steel making and rolling firms, 28 are specializing in the production of small bars. They are single-product makers. The ordinary-steel making & rolling firms do not produce any of the sheets or plates which are the products representing the most stable and mass-production areas in the steel industry. They are markedly different in product variety from the integrated iron & steel manufacturers. At the end of 1980, the total number of firms producing small bars was 223, which is estimated to consist of 8 integrated iron & steel manufacturers, 48 open-hearth furnace steel-makers, 27 single rolling firms and 110 rerolled-steel firms. In number, the single-rolling firms are by far the top but in output the electric furnace firms account for 68.9% of the entire national output of small bars. Thus the electric furnace firms constitute the core in the production of sections and small bars. They are followed in output of small bars by single rolling firms with 13.3%, integrated iron & steel manufacturers with 8.9% and rerolled steel firms with 8.4%. So, in this category of products, the weight of integrated manufacturers is extremely small.

If you will look at the statistics of production, classified by the scale of manufacturers, of the ordinary hot rolled steel products manufactured by electric furnace firms in fiscal 1983, you would note that, apart from Tokyo Seitetsu and Toshin Seiko, over 70% of the manufacturers are small-scale firms producing less than 300,000 tons a year ([6] 1984 edition, p625). One of the characteristics of this particular field is that, in Japan's steel industry which is known as an oligopolistic industry, the competition among makers is extremely fierce and is in a very unstable state.

Next, let us have a look at the demand structure of the integrated steelmaking and rolling firms. As shown in Table 1–2 in the earlier part of this Chapter, the largest demand for ordinary steel products comes from those who use them as construction materials. Among those for construction use, the small bars are in overwhelmingly largest demand. So, here we would like to examine mainly the demand structure of small bars. The demand structure of small bars has the characteristics of its being not only complicated but also extremely changeable. In other words, (1) the demands come in small lots and (2) generally from small construction firm in large but unspecified number. Most of the transactions are spot purchases made in units of

different construction projects, with the result that locations from which the demands come are scattered all over the country and the places where the products are to be used are also unspecified. There are big seasonal variations, depending on such factors as the weather, holidays and the budgets of the government and public agencies. The demands tend to concentrate on a particular time of the year. Some 87 to 90% (1978–83) of the demand for small bars are for the bars for use as reinforcing-rods which, if classified by use, consist of those for construction (70%), for civil-engineering use (23–25%) and those for other construction uses (5–7%). Civil-engineering and construction work are going on all over the country and there are about 200,000 construction firms throughout the country. Of these 200,000 firms, some 20,000 to 30,000 are buying small bars but each purchase is extremely small.

As can be seen from the above, the demand for small bars, in marked contrast to that for the sheets and plates used by automobiles, home electric appliances and other industries, is generally in small lots and diversified and, moreover, scattered throughout the country. As a result, the demand is easily affected by such factors as business trends and seasonal factors. It is on the whole unstable room for speculation, with the result that it represents a field in which the Shosha and the wholesalers find active roles to play.

IV Sales System of Steelmaking & Rolling Firms

Fig. 1–3 which follows, shows a flow chart of distribution of small bars, the core products of steelmaking & rolling firms. Most of the steel products manufactured by the steelmaking firms are sold to the Shosha and the wholesalers. There also are cases where the small bars are sold to wholesalers through the regional bar joint sales companies run by joint investments from electric furnace steelmakers and single rolling firms or the joint sales companies operated by groups affiliated with blast furnace steelmakers, but the quantities are small. Shosha and wholesalers dispose of the steel products they have purchased from the steelmaking firms in two ways: sell them directly to the major users or sell them to agents. Though the accurate ratio is unknown, it is considered to be something like 60 to 40. The agents sell the products purchased from the Shosha and the wholesalers to the leading general contractors or medium-sized or small general contractors. But most are sold to the small and medium-sized general contractors.

The agents are seldom engaged directly in export but concentrate on domestic sales. In particular, they play a major role in the sale of small-bar products. According to a survey made by Japan Iron and Steel Wholesalers' Association as of 1983, the total estimated number of agents is close to 6,000, including the small agents which are known as 'secondary agents'. Many of these agents are affiliated under the wholesalers with the Sogo Shosha playing the leading role. Classified by Sogo Shosha, the numbers of the agents are as follows: Mitsui & Co. 347, Mitsubishi Corporation 268, Marubeni Corporation 239, C. Itoh & Co. 356, Sumitomo Shoji 326, Nissho-

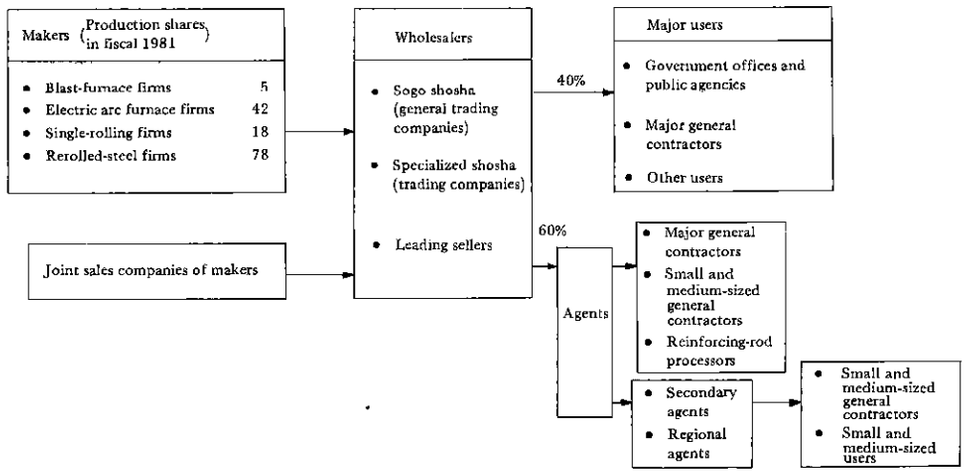

Fig. 1–3 Flow Chart of Domestic Distribution of Small Steel Bars

(Source) Steel-bar building material Division of Mitsui & Co. "Present Conditions and Problems of Sales and Distribution Systems of Small Steel Bars", published in "Tekko Kai" (steel industry), Aug. 1982 issue

Iwai 312, Nichimen 80, Kanematsu-Gosho 174, Toyo Menka 185 and Nittetsu Shoji, 642 ([17] p23).

The small agents that are not allowed to transact directly with the wholesalers are called 'secondary agents': they purchase their goods from the primary agents. Such secondary agents are scattered all over the country in regional cities and towns and play the role of a supplier for the local small-lot users and small and medium-sized general contractors. The largest customers for the agents are the small and medium-sized construction companies which account for the majority of all their customers, at 54.3%, followed by general contractors with 15.7%, reinforcing-rod processors with 14.4% and by others with 14.3%.

As for the areas to which the agents sell the steel products, the 'survey on the distribution structures of different commodities' by the Distribution System Development Center has revealed that an overwhelmingly large percentage of the respondents said that 'they sold the largest quantity to customers in the region in which the agents themselves are located' (9.2%). In fact the narrowness of the sales area was found to be one of the characteristics of the agents' marketing activities; this was evident from the fact that the distances from the locations of the agent's stores to those of the customers were generally short —18.2% of the respondents said that the average distance was less than 10 km and 50.5% said it was less than 50 km. ([22] p191)

The selling and buying of small bars is not confined to that between a Shosha and a wholesaler'. There often is such the case where small bars, after once reaching the hands of an agent, are seen flowing back to the Shosha or the wholesaler to be sold to the users. Moreover, the transactions are quite often done between two agents; the so-called 'fellow-trader transactions'. Thus, one of the characteristics of small-

bar trade is that the ratio of mutual transactions among fellow traders is quite high at the distribution stage. According to the "Report on the Results of a Nationwide Survey Concerning Steel-product Dealers" compiled by the Steel Statistics Committee (1977), of the total amount transacted by the agents, on the basis of sales, 69.5% were sold to the users, 21.2% were transacted between fellow traders and 9.4% were sold to Shosha and wholesalers ([23] p21). On this 'agents' level, there are many phenomena where the small bars transacted are seen flowing back from agents to Shosha or wholesalers. This is the special feature observed only in the sales of small bars on the 'agents' level; such a phenomena concerning the sales of small bars is not seen in the sales of this particular item by integrated iron & steel manufacturers.

There are two different methods for the sales of small bars, the string-attached sales and the store-front sales. The string-attached sales are mainly for government offices, public agencies, power stations, and construction firms engaged in large projects, but the percentage is only 10%. The remainder, the overwhelmingly large portion of 90%, are sales on the store-front. In the case of sales of small bars, there is a contract form called "WAKU KEIYAKU" (lit. 'frame contract') which cannot be called a 'string-attached contract' but still is quite close to it. This is a system of contract in which an integrated iron & steel manufacturer and a construction company decide in advance (through a wholesaler) on the total amount of small bars to be transacted between the two during the particular year and fix the price either each quarter or each month. This WAKU KEIYAKU (frame contract) differs from the string-attached contract in that, at the time of the singing of the contract, the details of the transaction or other terms and conditions such as the place of delivery are not yet fixed. The advantage of this system is that the integrated iron & steel manufactureres can secure in advance a certain amount of sales and the wholesalers can secure stable demands. However, this type of 'frame contract' gradually went out of existence as the small-bar market price levelled off for a long period ([24] p329). According to the "Survey on the Distribution Structures of Different Commodities" by the above-mentioned Distribution System Development Center, those who replied that they were 'still making' "frame-purchases" (as of 1975) accounted for a national average of 14.0%, those who said 'because of the recession, they recently switched from frame-purchase to spot-purchase' accounted for 41.9% and those who said that they were 'partly spot-purchasing and partly frame-purchasing', 27.9%. What was worthy of note was that the number of cases in which the respondents said that 'because of the recession, they switched from frame-purchase to spot-purchase' was the largest, as this meant that the small bar is a kind of commodity that easily brings about a change in commercial customs simply as a result of the conditions prevailing over its market. This trend is most remarkable among the major Shosha where the number of cases of switching to 'spot' purchases was notably high at 64.7% ([22] p126).

In contrast to the integrated iron & steel manufacturers who are adopting the 'string-attached' sales system as their main sales system, most of the open-hearth electric furnace firms, which produce small bars as the main item, are selling their pro-

ducts on the store-front. The store-front sales contract is one in which, when a wholesaler signs a contract with a steelmaking firm before the buyers have been specified. The wholesaler then signs the purchase contract on the basis of his own estimation of the future market. Furthermore, many of the portions that the wholesalers sell directly to the users are sold under 'spot' contracts and these are also regarded as 'store-front sales' in the wider sense of the term. This mean that almost all small bars are sold in the form of 'store-front sales' which leave sufficient room for the wholesalers to act freely in their transactions of small bars. The reasons, as mentioned earlier, are firstly, in addition to the fact that the electric-furnace firms are small in scale and weak in their power to control the price, the price of the scrap iron as the main raw material fluctuates vehemently, making it difficult to fix a price that remains stable over a long period. Secondly, the places that demand the small bars are scattered all over the country, the places of consumption are unspecified and the large number of unspecified construction companies are the ones that mainly make spot-purchases in small lots for use at each construction site.

Among the store-front sales, there is what is known as KARA URI (short sales) which is one type of store-front sales. 'Short sales' is a sales form in which there is no corresponding purchase contract but a sales contract precedes. Whereas the above-mentioned store-front sale is basically a 'long' type, this 'short sale' is an entirely different method. This 'short sale' is a phenomenon unique to transactions of round bars. There are two types of 'short sale': the positive way that anticipates the future price decline and the passive way of concluding the sales contract at a price that is not profitable, simply in the desperate hope of acquiring an order under fierce competition. The effect that the 'short sales' give to the market is the creation of apparent supplying-power, which generates an extensive condition of oversupply in the short term. This, in turn, pushes the prices down unnecessarily, causing violent fluctuation of the market ([25] pp19–20).

Originally, Shosha and wholesalers are good at carrying on their activities in an unstable market and usually have a great influence on the fixing of prices on the market in various ways such as their speculations making use of price-fluctuation differentials. The "Survey on the Distribution Structures of Different Commodities" conducted by the Distribution System Development Center has revealed that the 'influence of the Shosha and the wholesalers on the fixing of sales prices' was as follows on a national average. Those who replied "We have no choice but to accept the prices fixed by the makers" accounted for 11.6%. Others gave such responses as "Though indirectly, the intentions of the wholesalers are reflected in the price-fixing in the form of advice given to the makers in advance" (44.2%). "Because of our (wholesalers') ties with the makers in terms of supplies of raw materials and funds, we can have a considerable part in the fixing of prices and can discuss things on an equal footing at individual negotiations" (18.6%). "The situation differs vastly according to the level of market conditions. When the market is sluggish, the price-fixing is almost completely left to the discretion of wholesalers" (20.9%) and "Other

opinions" (4.7%) ([22] p127). As can be seen from the results of the above-quoted survey, only 11.6% of the respondents said that they 'cannot but accept the prices fixed by the makers' and the remaining overwhelmingly large percentage of the Shosha and wholesalers surveyed admitted that they were given, in some form or other, the price-fixing right. Moreover, the larger the scale of the company, the higher the percentage of their having answered, "Indirectly, we are ensuring that our intentions are reflected in the price-fixing, in the form of our giving them advice in advance".

A summary of the characteristics of the activities of Shosha and wholesalers in the distribution of small bars which are the main product item of steelmaking & rolling firms, is as follows: First, the overwhelmingly large portion of the steel products manufactured by steelmaking & rolling firms is sold at the store-front and is distributed by Shosha and wholesalers as intermediaties. Shosha and wholesalers buy the steel products at their own discretion.[11] The delivery terms and conditions including the price and quantity are fixed at the initiative of the Shosha and wholesalers who sometimes engage actively in speculations making use of price fluctuations.[12] Second, the Shosha and wholesalers maintain an extremely close relationship with open-hearth electric-furnace firms and single-rolling firms and, at the same time, not only provide those steelmaking firms with assistance in funds but also engage in the overall activities of supplying raw materials such as scrap iron and iron ingots as well as selling steel products, thereby putting those steel-making firms in subordinate positions. Furthermore, at times of recession, the Shosha and wholesalers touch upon the management of steelmaking firms. Among the wholesalers, the Sogo Shosha (general trading companies) and certain large-scale specialized Shosha organize a network of affiliated agents with a view to securing stable markets. In this network, the Shosha and wholesalers find a certain level of freedom in their business even though it is confined to a particular market called the 'small-bar market'.

Finally, I will summarize a conclusion for this Chapter as a whole. The steel products manufactured under the integrated iron and steelmaking system are not only mass-produced products but are also mostly order-manufactured products. The steelmaking firms, in order to ensure that their products are sold in accordance with their plans, do their utmost to strengthen their ties with the Shosha and wholesalers and to make maximum use of the functions possessed by the Shosha and wholesalers. On the other hand the Shosha and wholesalers, who appear to be at a disadvantage

11) "Those handling the round bars are the typical Shosha. In other words, they are the real merchants. In the case of other types of products, what normally takes place is that, having been told that 'Hitachi will be delivering their products to you,' one would go up to the maker and just thank them. In the case of round bars, you can stop taking deliveries whenever you want to. But that can't be done with Hitachi or Ishikawajima-Harima. Sasebo Shipbuilding Co. is a good example." ((20) a round-table talk. 1980 vol. 17, No. 2)

12) For example, Mr. Toshiji Ohuchi in his "Introduction to Small Steel Bars", writes about the speculation becoming routine in the distribution stage, as follows: "Competition in the distribution stage is so keen that the profit becomes very small in ordinary transactions. So, they try to supplement profit by speculation." ([25] p376)

of having to operate at a low margin and with almost no room their own for discretion, are in fact guaranteed stable transactions and a certain level of margins. Thus, thanks to their ties with the steelmaking firms, the Shosha and wholesalers are able to secure a stable position through their activities not only in domestic transactions but also in the overseas markets, expanding the sales of the steel products there and promoting imports of iron ore, coal and other raw materials which they supply to the steelmaking firms. The products manufactured by the steelmaking and rolling firms are mostly based on speculative production and are for store-front sales, with the result that they are easily influenced by market conditions and are highly speculative. In speculative production, there is plenty of room for the activities of the Shosha and wholesalers, who are doing business in relative freedom and maintain their independence even though it is confined to a certain range.[13] The sales systems in Japan's steelmaking industry may be categorized into two contrastive types. In the entire process of steel-product sales, the former is taking the lead and the latter is playing a supplementary role.

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