The Subcontracting System during the Japanese Wartime Economy

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There has recently been a growing interest in the relation between the formation of the enterprise system in Japan after World War II and the country’s wartime economy. The interest of researchers extends to the relation between the government and enterprise, the relation between one enterprise and another, and the various systems that were in place within the individual enterprises. In regard to each of these different systems there have been investigations into the systems formed during the wartime period, and much thought and discussion about their differences from and similarities to the systems that preceded them, and their relations to post-war systems.

Nowadays the relation between the subcontracting system, which is recognized as an integral part of the Japanese-style management system, and what was in place during the wartime has also drawn the attention of researchers. The reason for this is that, as we shall see in the present essay, during the war the formation of a subcontracting system was strategically promoted in the machine manufacturing industry, and in actual fact subcontracting relations came into being that involved a wide segment of medium and small-sized businesses.
In this essay I want to look at the following questions in regard to the wartime subcontracting system. First of all, what process did the wartime subcontracting system go through in the course of its formation? Secondly, what were the special features that characterized that system? Thirdly, how did the enterprises that were involved in the subcontracting system handle the situation? Fourthly, what is the relation between the wartime subcontracting system and the postwar one?

The policies of the Ministry of Commerce and Industry (later, the Ministry of Munitions) were aimed at solidifying the regime put in place for expanding wartime production, and these policies had a large impact on the wartime subcontracting system. In this essay, accordingly, one of the key elements is an analysis of those policies. Nevertheless, as I shall take pains to repeat later, a policy is only a plan, and this does not mean that the reality necessarily went according to plan. Furthermore, the plans themselves are often amended in the course of coming up against the problems that are there in reality. In making an analysis of the wartime subcontracting system one has to give weight to the gap between the plan that was strategically produced and the reality. Bearing these considerations in mind, I propose to divide the wartime period into two parts, on the basis of the policies that relate to the subcontracting system.

GUIDELINE FOR THE DEVELOPMENT OF THE MACHINERY AND STEEL INDUSTRIES AND COOPERATIVE SUBCONTRACTING SYSTEM POLICIES

INCREASING WARTIME PRODUCTIVITY AND USE OF THE SUBCONTRACTING SYSTEM

From the start of Japan's involvement in China in 1937 an important task facing Japan was the construction of a production system that would meet the needs of a wartime economy. Once World War II broke out in Europe, and then relations between the United States and Japan deteriorated, self-sufficiency in wartime production became a pressing problem. The Japanese government had from the mid 1930s been pushing forward adjustments in the whole system with a view to expanding wartime production, adjustments such as the expansion in production capacity and the mobilization of materials, funds, and the work force, but when relations with the United States became strained
in 1940 a more powerful system was required.

One of the problems involved in pushing forward with the erection of a wartime production system was how to deal with the medium-sized and small factories that made up the major part of the machine industry sector. In the 1930s a large number of medium and small factories in the machine industry sector were already engaged in parts production and processing work as subcontracting factories. One of the reasons for this was that assembly plants had tried to respond to demand created by the move towards heavy industrialization and the expansion of wartime production after Japan's involvement in China by making more and more use of subcontract factories. As can be seen in Table 1, throughout the 1930s the machinery and appliances industries showed notable growth, and within this category medium and small factories also increased in numbers at a rapid pace. Most of these medium and small factories were engaged in subcontracting work, and the growth in the number of such factories became the condition that made possible the expansion of the subcontracting system.¹

Nevertheless, the use of subcontracting factories by primary enterprises that was seen in the second half of the 1930s was not necessarily based on the clear policies of the primary enterprises. There were two types of subcontracting factories, those with exclusive attachments premised on stable, long-term, strong relations, and floating subcontracting factories that had no such relations.² At this point of time the proportion between these two kinds of subcontracting factories differed, depending on the primary enterprise; also, policies concerning the exclusivity of the attachment of the subcontracting factory also differed.³ Many small factories were engaged in sub-

¹ For more information on the subcontracting system of the 1930s see H. Ueda, "1930-nendai kōhan no shitauke kōgyō seisaku" [Policies on subcontracting industries in the latter half of the 1930s], Kikan keizai kenkyū [Economic studies quarterly], vol. 16 no. 3 (Dec. 1993).

² The terms "exclusive subcontractors" and "floating subcontractors" were current at the time. For an explanation of the concepts, see T. Komiyama, Nihon chū-shō kōgyō kenkyū [A study on medium and small manufacturing enterprises in Japan] (Chūō Kōronsha, 1941).

³ One company that was highly appraised at this time as a good model of a supplier system because of the exclusive relationships with suppliers it was able to maintain from
<table>
<thead>
<tr>
<th>Worker Scale</th>
<th>1930</th>
<th>1935</th>
<th>1940</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factories</td>
<td>Workers</td>
<td>Output</td>
</tr>
<tr>
<td>1–4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–9</td>
<td>3,404</td>
<td>21,605</td>
<td>34,853</td>
</tr>
<tr>
<td>10–29</td>
<td>1,438</td>
<td>26,378</td>
<td>55,064</td>
</tr>
<tr>
<td>30–49</td>
<td>311</td>
<td>13,979</td>
<td>33,775</td>
</tr>
<tr>
<td>50–99</td>
<td>186</td>
<td>16,076</td>
<td>55,971</td>
</tr>
<tr>
<td>100–499</td>
<td>156</td>
<td>38,460</td>
<td>125,597</td>
</tr>
<tr>
<td>500–</td>
<td>45</td>
<td>82,619</td>
<td>323,528</td>
</tr>
<tr>
<td>Totals</td>
<td>5,540</td>
<td>199,117</td>
<td>628,788</td>
</tr>
</tbody>
</table>

Note: Figures for factories employing less than 5 workers were not published until 1939. The totals for 1930 and 1935 only include factories of 5 workers or more.

Source: Figures have been compiled from the Ministry of Commerce and Industry’s Kōgyō tōkei [Industrial statistics].
contracting work as floating subcontracting factories.

The Ministry of Commerce and Industry, whose responsibility it was to create some kind of regime for wartime production, judged that the existence of so many of these floating subcontracting factories complicated the production system too much and created problems with things like efficient distribution of materials, efficiency in production, the raising of technical standards, and reasonable prices. Thus, for example, when the relation between an primary enterprise and a subcontracting factory is floating, there will be no assistance forthcoming from the primary source towards technology or equipment; or when the subcontracting factory diverts materials allotted to it by the primary enterprise to some other, more profitable, job and the original job is then completed by various devious routes, the consequence is higher manufacture costs.

Studies were made within the Ministry of Commerce and Industry as to the most appropriate method for involving large number of medium and small factories into wartime production in the tense wartime situation, at the same time eliminating the problems mentioned above and using the smaller businesses most effectively. The result of these studies was the announcement in December 1940 of the “Guideline for the Development of the Machinery and Steel Industries,” the first measure controlling wartime subcontracting relations. This Outline revealed the fundamental views of the government regarding the form subcontracting relations should take during the war; at the same time it became the foundation for subsequent measures in regard to wartime subcontracting relations.

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4 Both from inside and outside the Ministry of Commerce and Industry the opinion was submitted that it would be better to put the medium and small factories in order and concentrate production in the large factories. For more on the situation around the time the Guideline was formulated, see H. Ueda, “Senji keizai-ka no shitauke—kyōryoku kōgyō seisaku no keisei” [Subcontracting under the wartime economy: The formation of policies on cooperative manufacturing industries], in A. Hara, ed., Nihon no senji keizai [Japan’s wartime economy] (Tokyo University Press, 1995).
GUIDELINE FOR THE DEVELOPMENT OF
THE MACHINERY AND STEEL INDUSTRIES

Here let us look more closely at the content of the Guideline put into place in December 1940. The first thing the Guideline did was make a classification of privately owned factories involved in the machine and metal industries, dividing them into primary factories producing finished products, component specialist factories producing certain specific specialized parts, and subcontracting factories that specialized in doing work on a subcontracted basis. The component specialist factories were, it was prescribed, to supply parts to a multitude of primary factories without being especially attached to any of them, whereas the subcontracting factories had to have fixed, stable, exclusive relations with only specific primary factories. The relations between subcontracting factories and primary factories were subject to designation, on the basis of a designation system. Designation would be carried out in regard to those subcontracting factories that were presently being used.

Next, the Guideline explained that the exclusive relations between primary factories and subcontracting factories would be actualized through the following mutual responsibilities between the primary factories and the subcontracting factories:

- The primary factory would not place orders with any but the designated subcontracting factory, and the designated subcontracting factory would not do work for any other primary factory;

- The primary factory would render assistance to the designated subcontracting factory in management, technology, and financing; at the time of placing an order it would supply the raw materials;

- The subcontracting factory would do nothing but subcontract work; it would not produce any finished products in its own factory;

5 After the Guideline was published, several related documents were put out by the Ministry of Commerce and Industry in the form of notices, in order to make the directives more concrete. Whenever reference is made here to the contents of the Guideline, the contents of these related documents are also included.
— Efforts would be made to advance the exclusivity of the subcontracting factory and the specialization of its products. In the third place, the Guideline voiced the hope that the formation of such exclusive relations between primary factories and subcontracting factories would lead to more stable and efficient production. For the subcontracting factories it meant that being able to secure stable orders from specific primary factories would enable them to narrow production to specific areas and specific parts, thus leading to higher efficiency. And for the primary factories it would mean that a stable supply of parts from the subcontracting factories would lead to better planned production. And giving technical assistance to the subcontracting factories would lead to an improvement in their technical skills, and this would ultimately work to the advantage of the primary factories in that the subcontracting factories would then be able to supply better-quality parts and high-technology products. Here we can see that the aim of the Guideline was to create a subcontracting system that could cope, both quantitatively and qualitatively, with the expansion of wartime production, and it tried to do this through the formation of exclusive relations based on a designation system.

Finally, in order to restructure the subcontracting system into a simple, streamlined relations between primary factories and subcontracting factories, the Guideline forbade the existence of secondary or lower-level subcontracting factories and of the brokers and wholesalers that were mediating deals between primary factories and subcontracting factories. By outlawing such activities the Guideline tried to strengthen direct relations between primary and subcontracting factories and to create a more powerful subcontracting system.

As can be seen from the above summary, in the Guideline the authorities attempted to meet the needs of a quantitative and qualitative expansion of wartime production by a restructuring of the relation between primary factory and subcontracting factory so that it would be a stable, fixed relation. This they tried to do by prescribing a mutual-responsibilities relation between both parties, so that the relation between both parties would not be merely one of simple business deals but one of confidence and trust — in other words, a cooperative relationship. What the authorities attempted to do was to use the designation system to improve the attitudes of both sides: of the primary factories, which under the old system would place orders
elsewhere, or change the amounts ordered, or change what had been ordered, to suit changed circumstances; and of the subcontracting factories, which under the old system often switched to more profitable products or diverted goods to better-paying customers, and to build up new cooperative relationships based on confidence and trust. From November 1941 the authorities started to refer in their policy papers to subcontracting factories that had firmly established cooperative relationships based on confidence and trust as "cooperating factories." In this paper we shall call those policies that restructured the wartime subcontracting relation into a cooperating relationship and contributed to the expansion and greater efficiency of wartime production as "cooperative subcontracting system policies."

PUTTING IN PLACE THE COOPERATIVE SUBCONTRACTING SYSTEM

Publication in December 1940 of the Guideline for the Development of the Machinery and Steel Industries, which determined the direction to be taken by the restructuring of the subcontracting system during the war, was followed in June 1941 by the First Designation and from August to September 1941 by the Second Designation. The result was that 3,480 factories throughout the country received the designation of "cooperating factory." Still, this figure is too low in view of the number of medium and small factories actually engaged in subcontracted work. Most of the subcontracting factories were not, at this stage, designated. Designation was to be continued afterwards as well.

Not only were the number of factories designated insufficient, but the contents of the cooperation sought from those that did receive designation also did not proceed according to the original plan. According to that plan, exclusivity was the desirable goal, but in reality those factories that were designated because they were in an exclusive relationship were in the minority: no more than 34 percent of

6 The term "subcontracting factories" continued to be used after this time, but most of the time it referred to medium and small factories that had a floating relationship with a primary factory, as opposed to that of the cooperating factories.

the whole number. Also, even though in principle other than subcontracted work was forbidden, 22 percent of the designated factories were doing such forbidden work. It is clear from this that restructuring did not proceed according to the original plan.

Why is it that the formation of exclusive relationships and increasing the number of designated factories did not proceed? The first reason was that, as mentioned earlier, in the existing subcontracting relationships exclusive dealings did not form the core of the relationship, and in fact a large number of floating subcontracting factories were part of the picture. To restructure so many floating subcontracting factories into factories with exclusive relationships, and to change them into fixed relationships by means of the designation system was not at all an easy task.

The second reason was that designating a factory and fixing the relationship between a primary firm and an order-receiving factory ended up making it difficult for the two parties to adopt flexible reactions. It was a period in which, because of the expansion of munitions production, demand from the munitions-related sector was expanding, and this was all the more reason why, as far as the subcontracting factory was concerned, it was not desirable to limit taking on orders from any except a designated primary factory. From the standpoint of the primary factory, too, it was not easy to accept having to get a designation and build a fixed relationship, especially in view of the many duties it would have toward the subcontracting factory.8

Immediately after the Guideline came out, at the Shibaura branch (the heavy electric division) of Tokyo Shibaura Electric the officials reacted to the designation system by deciding on a policy of dealing with designation very carefully, since it meant that once a designation was handed out, they would have to give assistance to the subcontracting factory and guarantee it a certain amount of orders. The

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8 This sentiment was shared by officials in regional governments in a position to promote the designation system. Officials in charge of the readjusting of the cooperative subcontracting system in Osaka Prefecture stated that the designation system had a variety of problems inherent in it, and as a result those enterprises who studied the system carefully did not opt for designation, while those that did not do their homework properly had opted for designation. See the Geppo [Monthly report] of the Osaka Chamber of Commerce and Industry for August 1943, p. 58.
concrete measure they took was to adopt a policy of careful selection: they drew up a ranking of the subcontracting factories they were currently using, and decided to start designating from the top of the list.\(^9\)

Fraught with such problems right from the start, the cooperative subcontracting system gradually lost its harshness when it was put into actual operation. In the rules of practice published later the direction taken was one of recognizing realities rather than insisting on in-principle prohibitions, so that primary factories were allowed to place orders with other than their designated cooperating factory/factories, and even cooperating factories with a plurality of primary factories were permitted. As regards cancellation of a designation, too, a more lenient attitude was adopted; whereas at first designation could be cancelled only at the request of a primary factory, later it was permitted at the request of either party. These revisions were part of an attempt to mobilize medium and small factories as cooperating factories in a form that was more consistent with reality. And in fact the number of medium and small factories that joined the ranks of cooperating factories after the new regulations were announced did proceed to increase.

**THE COOPERATIVE SUBCONTRACTING SYSTEM IN PRACTICE**

To see how the cooperative subcontracting system worked, let us look at how it was carried out in Osaka Prefecture.

Osaka Prefecture can boast of one of the foremost industrial areas in all of Japan. In the machinery and tools industry more than 10,000 factories were located within its boundaries at the start of the 1940s. An historical document called *Kyōryoku kōjō meibo* [Register of cooperating factories] has come down to us with a record of how the cooperative subcontracting system was carried out in Osaka Prefecture.\(^10\)

\(^9\) See "Dai-29kai Shibaura shisha go sankai kiroku" [Record of the 29th luncheon of Shibaura branches], in *Tōshiba shashi hensan shiryo* [Historical records for compiling a history of Tokyo Shibaura Electric], under 22 April 1941.

\(^10\) The *Register of Cooperating Factories* was produced by the Cooperative Subcontracting System Conference in charge of readjusting the system in regional centers. As can be seen from Table 2, however, whereas in the 1942 and 1943 editions cooperating factories from regional centers outside Osaka Prefecture were included, in the 1945 edition only cooperating factories from within Osaka Prefecture were listed. For more on the *Register*, see H. Ueda, "Senjiki Osaka ni okeru shitauke-sei no tenkai (1)" [The
Table 2. Numbers of Primary and Cooperating Factories Listed in the *Register of Cooperating Factories*

<table>
<thead>
<tr>
<th>Region</th>
<th>No. Primary Factories¹</th>
<th>No. Cooperating Factories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1942</td>
<td>1943</td>
</tr>
<tr>
<td>Osaka</td>
<td>179</td>
<td>444</td>
</tr>
<tr>
<td>Kyoto/Hyōgo</td>
<td>57</td>
<td>79</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Unknown</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>239</td>
<td>531</td>
</tr>
<tr>
<td>Cooperative relationships²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No. designations</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Designation ratio (%)³</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes:
1. The number of primary factories refers to individual plants; in terms of the number of enterprises involved, the numbers would be 230 for 1942, 519 for 1943, and 689 for 1945.
2. The figure for the number of cooperative relationships is the total of cooperative relationships listed in the *Register of Cooperating Factories*.
3. The ratio of designations is the number of designations divided by the number of cooperative relationships.

Source: Figures have been compiled from the *Register of Cooperating Factories*. 
This register, listing as it does data on the cooperating factories under each of the primary factories and revealing the relationships between cooperating factories and primary factories and the situation that obtained in the former, is a precious source material. Copies of the register for the years 1942, 1942, and 1945 have come down to us. The number of cooperating factories and primary factories given for each of these years is shown in Table 2.

As we can see from the table, the number of cooperating factories listed in the register increased sharply from 1942 to 1943. At the same time, however, the number of primary factories also increased, so that, instead of it being true that cooperative relationships increased sharply, one has to think of the possibility that the number of cases supplemented by Osaka Prefecture increased. Also, even though cooperative relationships are recorded in the Register of Cooperating Factories, the number of factories that had not received designation is extremely large. The number of designations increased from 1942 to 1943, but the designation rate, on the contrary, decreased. The designation system was spreading, all right, but it was not working perfectly.

What are even more interesting are a certain set of figures given in the Register of Cooperating Factories for 1943; these "cooperation ratio" figures, as they are called, indicate how much of the entire production capacity of cooperating factories were devoted to jobs for their primary factories. In many cases these cooperation ratios are completely poles apart from what the actual figures were. In not a few cases a cooperating factory's cooperation ratio is given at 100 percent (that is to say, it was completely exclusive), but the figure is referred to different primary factories. In other words, these figures were con-

development of the subcontracting system in wartime Osaka (1)], *Kikan keizai kenkyū*, vol. 15, no. 1 (June 1992).

11 It is not clear why there were so few supplementary cases in 1942, but one possible reason is that the readjustment of the cooperative subcontracting system was not completely worked out as a system yet.

12 It has been said that Osaka Prefecture made no distinction whatsoever between cooperating factories that received designation and those that did not. See the *Geppo* [Monthly report] of the Ōsaka Shōkō Kaigisho [Osaka Chamber of Commerce and Industry], August 1943, p. 26.
cocted for the reports, so as to make it look as if the relationships between primary factories and cooperating factories were exclusive. What is the reason for this? Well, one of the most serious problems of wartime production was the chronic shortage of materials; in order to receive as many allocations of materials as possible, it was necessary for primary factories to take on as many cooperating factories as they could, so they could show they had a large production capacity. For the cooperating factories, too, it was more advantageous to show a high cooperation ratio if they wanted to obtain allocated materials. Thus it was that for both sides to obtain as many materials as possible during a materials shortage, it was necessary to show a greater number of cooperative relationships than they really had. Needless to say, the formation of cooperative relationships did not proceed smoothly in such an atmosphere of scheming by both primary and cooperating factories.

SUMMATION

In December 1940 the foundation for wartime subcontracting policies, the Guideline for the Development of the Machinery and Steel Industries, was announced. From that time forward the relationship between primary factory and cooperating factory was supposed to be premised on a relationship of exclusive dealings between the primary and the cooperating factories, be restructured into a cooperative relationship based on mutual duties, and in this form of a cooperative relationship receive the seal of designation. In reality, however, both sides of the relationship were hesitant to be bound by the duties entailed by the act of designation, and so at first the number of designations did not increase. Subcontracting relationships went on expanding, but the restructuring of them into the kind of cooperative relationships that had been envisioned was fraught with difficulties.

13 The same sort of problem has been pointed out in regard to the surveys of Tokyo cooperating factories. See Keizai Konwakai, ed., "Kikai kōgyō ni okeru kyōryoku kōjō jittai chōsa dai-ichiji hōkoku" [First report on a survey of cooperating factories in the machinery industry], Kokusaku Kenkyūkai monjo [Documents of the National Policies Research Association] Ac-12-5.
KEIRETSU READJUSTMENT

READJUSTING ENTERPRISE KEIRETSU

The cooperating factories designation system promoted from 1941 increased the number of such designated factories from 1942 onwards, so that in 1943 more than 10,000 cooperating factories throughout the country had been designated. This increase in the number of cooperating factories did not so much signify an increase in the exclusive, fixed cooperative relationships envisioned in the original plan as an increase in the number of cases of primary factories and cooperating factories using designation in order to benefit from the relaxing of regulations and the assurance of materials that went along with designation. Thus, although in outward form the putting into place of a cooperative subcontracting system seemed to be proceeding fine, in reality the arrangement was nowhere near what was aimed at in the original plan.

For a while the war situation went well for Japan after it opened hostilities with the United States in December 1941, but from 1942 it took a turn for the worse. Wartime production also was forced into a mobilization system formulated to cope with the worsening situation. From the summer of 1942 right through autumn, mobilization measures were being studied and discussed. The wartime mobilization system hammered out was one that would strengthen the trend toward concentrating on important areas, with the most important area from 1943 being that of increasing aircraft production.

In June 1943 Cabinet passed a measure that indicated the direction of enterprise readjustment in order to further the efforts of the wartime mobilization system’s move to prioritization. This measure was the Basic Guideline for Enterprise Readjustment to Build Up War Potential. The Guideline stated that there would be “a stronger emphasis on the readjustment of enterprise keiretsu” with a view to expansion of the priority areas (e.g., airplanes, ships, the machine indus-

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14 For more on this topic, see H. Ueda, "Senji keizaika no ‘kigyo keiretsu’ seibi" [Enterprise keiretsu readjustment in the wartime economy], Kikan keizai kenkyū vol. 18, no. 4 (March 1996).

15 Kōgyō Kumiai Chūōkai [Central Organization of Industrial Associations], ed., Kōgyō kumiai nenkan 1943 nenban [Yearbook of industrial associations for 1943], p. 129.
try). The term "keiretsu" that is used even today began to be used officially by government policy makers from that time.\textsuperscript{16} A readjustment of cooperating factories was also planned to be carried out on the basis of the enterprise keiretsu readjustment policy. We should note, however, that at this stage there was no concrete content given as to what that "stronger emphasis on the readjustment of enterprise keiretsu" actually involved. Discussions as to what it meant in concrete were carried out later within the Ministry of Commerce and Industry (later the Ministry of Munitions).

\textit{THE AIMS OF READJUSTING ENTERPRISE KEIRETSU}

The enterprise keiretsu readjustment policies were finally concretized in the beginning of 1944, in the form of the Guideline for Carrying Out Readjustment of Second Sector Enterprises in the Manufacturing Industry and the Outline for Carrying Out Readjustment of the Machine and Other Industries. Readjustments to the cooperating factories were also carried out in line with the framework set down for the enterprise keiretsu. But before we go any further, let us first see what these "enterprise keiretsu" were.

"Enterprise keiretsu" was a technical term. It referred to the flow of production within all the factories that had anything to do with production of an item: the large private-sector factory that acted as the final producer, its cooperating factories, and even the subcontracting factories beneath the cooperating factories, and it also included the relationships among the enterprises involved. Consequently, readjustment of enterprise keiretsu meant first of all clarifying the scope of the production structure, principally in the large private-sector factory that formed the heart of the enterprise keiretsu, right on down to the last subcontracting factory at the outermost tip of the chain, and then clearly delineating the function of each factory that was part of that enterprise keiretsu. Membership in an enterprise keiretsu was not limited only to exclusive primary cooperating factories but extended to include subcontracting factories that had agreements with a plurality of primary factories, and even secondary, tertiary, etc. subcontracting factories. Thus, subcontracting factories that had not been included

\textsuperscript{16} As far as I have been able to find out, the term "keiretsu" started to be used in policy documents from the beginning of 1943.
within the category of cooperating factory now were being called cooperating factories.

In contrast with the readjustment of cooperating factories that was carried out from the end of 1940, whose purpose was the restructuring of existing medium and small factories, this readjustment of enterprise keiretsu was much more realistic. The reasons for this more realistic approach were the difficulty encountered in restructuring cooperative relationships and the worsening of the war situation, which did not allow much time for promoting the restructuring of cooperative relationships.

In addition, "cooperative associations" (kyōryokukai) were created for each primary factory; these were organizations designed to manage such member factories and to handle any problems arising between a primary factory and its cooperating factories. Each "cooperative association" was supposed to strive for mutual understanding between the primary factory and each cooperating factory, and it was supposed to see to the distribution of materials, mutual enlightenment in regard to technology, mutual financing of materials and workers, payment of a reasonable wage, and the like. This readjustment of enterprise keiretsu aimed at putting the responsibility for production upon the shoulders of private-sector primary factories and at controlling every aspect of it in the form of an enterprise keiretsu. By firmly establishing enterprise keiretsu each with a private-sector primary factory at its core, the government figured that it could restrict the direct objects of its control to just these private-sector primary factories, and thus link the scheme with greater efficiency in control.

SOME ACTUAL CASES OF ENTERPRISE KEIRETSU READJUSTMENT

The above scheme for the readjustment of enterprise keiretsu was put into practice from the beginning of 1944. Let us look at some specific

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17 Still, there were instructions in writing that primary factories were to guide cooperating factories on becoming exclusive, or dedicated, and on gradually reducing secondary or more remote cooperating factories.

18 The "cooperative associations" of the wartime period were organizations of primary factories and cooperating factories; in this they differed from the "cooperative associations" seen often today, which are organizations of only cooperating enterprises. Furthermore, while there are some examples of wartime "cooperative associations" that continued as organizations even after the war, most of them vanished from the scene after the war.
cases to see how the scheme actually worked.

**IN THE CASE OF TOKYO SHIBAURA ELECTRIC** \(^{19}\)

Tokyo Shibaura Electric had been the largest manufacturer in the electric appliance sector before the war. Immediately after the policy of enterprise keiretsu readjustment was established in early 1944, the company embarked on a readjustment within its own keiretsu. Specifically, the following steps were taken. First of all, the company drew up a "contract of cooperation" and exchanged this contract with all of its cooperating factories. The terms of the contract stipulated that Tokyo Shibaura Electric would guarantee a certain amount of orders, would guarantee materials, electricity, and labor, and would provide assistance both technological and financial, while the cooperating factories would put out their best efforts in filling Tokyo Shibaura Electric orders. These contracts were exchanged with both its exclusive, or dedicated, cooperating factories and its joint, or common, cooperating factories.

Secondly, a cooperative association was set up in every one of Tokyo Shibaura Electric's plants. The bylaws of these cooperative associations listed among the items that were to be discussed: how to increase production efficiency; the sharing of information on technology; mutual flexibility in regard to materials, equipment, and so on; and any surveys or statistics that Toshiba needed to carry out or collect.\(^{20}\)

**IN OUTLYING AREAS** \(^{21}\)

Basically the readjustment of enterprise keiretsu was carried out on a nationwide level. By the summer of 1944 the various prefectures had drawn up their respective regulations and were ready to embark on readjusting enterprise keiretsu. Still, when it came to actual practice

\(^{19}\) This material on Tokyo Shibaura Electric is based on *Tôshibashi shashi hensan shiryô* [Historical records used in the compilation of the Tokyo Shibaura Electric company history].

\(^{20}\) At the same time a cooperative association was created in the Kameari Plant of Hitachi. See *Hitachi Seisakusho shi* [History of Hitachi], vol. 2 (1960), pp. 34–35.

the various prefectures experienced problems. Administrators in Hiroshima Prefecture pointed out some of the problems in their prefecture: the coolness on the part of primary factories toward the idea that they were to be responsible for guiding subcontracting factories, while subcontracting factories did not want to enter into cooperative relationships because they were used to looking around for places that paid better; the fact that there were a few primary factories located in their prefecture, and often enough their subcontracting factories received orders from the Hanshin and Kyūshū areas. And Nagasaki Prefecture pointed out that enterprise keiretsu were in a confused state, with primary factories stealing one another's subcontracting factories.

In Osaka

Thanks to the Register of Cooperating Factories for 1945 (giving statistics as of January 1945) we can see how things stood after the readjustment of enterprise keiretsu was carried out in Osaka. From Table 2 we see that both the number of cooperating factories in Osaka had increased over the same figure for 1943, and the number of primary factories had also increased. We can see that there were also a large number of distant primary factories, thus indicative of a regional expansion of cooperative relationships that ran counter to the aims of the plan.

Two interesting points brought out by this Register of Cooperating Factories are the fact that the number of primary factories for each cooperating factory was restricted to no more than three, and the fact that the sum of cooperation ratios was not supposed to exceed 100 percent. There is no way of telling the extent to which these points reflect the actual situation, but at least as seen from the Register the readjustment seemed to be working.

When one looks at the changes that took place in cooperating factories from 1943 in the case of primary factories with a large number of cooperating factories, one notices that an extremely large

\[22\] When the readjustment of the enterprise keiretsu was being discussed by the authorities, the problem of the geographical distance between primary factories and cooperating factories was brought up, and it was decided that it was more desirable that they be in close proximity. When the readjustment was being put into force, too, the geographical proximity of both parties was pointed out, but in actual practice, as has been mentioned in this paper, this was something that was not attained.
number of cooperating factories have been supplanted by others. From
the figures shown in Table 3 one can see not only that a large num-
ber of cooperating factories listed in the Register in 1943 had disap-
peared by two years later, but also that a large number of new coop-
erating factories had appeared on the scene. Several reasons can be
thought of to explain the disappearance of those cooperating facto-
ries, one of them being that they had become the cooperating fac-
tories of other primary factories, another possibility being that they
had just gone out of business. Again, among the factories that are list-
ed as new cooperating factories, the majority are listed in the Register
for the first time. Even though there is not a large difference
between the total numbers of cooperating factories listed in the Register, when one looks at individual cooperating factories one sees
that extremely large numbers of them have been replaced by others.
This is a reflection of the fact that, in the closing stages of the wartime
economy a large number of medium and small factories disappeared
as a result of the integration and the purge under the wartime con-
trol economy, and also as a reflection of the fact that primary facto-
ries replaced many of these by mobilizing medium and small facto-
ries that previously were floating subcontracting factories into
cooperating factories.

SUMMATION

Policies on cooperating factories during the war progressed in the
direction of enterprise keiretsu readjustment from the beginning of
1943, and from 1944 were put into practice. The term "keiretsu" that
is frequently used nowadays came into being at this time. An enter-
prise keiretsu refers to a wide-ranging subcontracting production
system, from the primary factory to the least of the medium and small
factories involved in the system. Readjustment of an enterprise
keiretsu meant clearly delineating the extent of an enterprise keiret-
su and bringing into clear focus the responsibilities and duties of each
member of the keiretsu. Enterprise keiretsu readjustment evolved from

23 At Osaka Machinery (listed in Table 3), of the 70 factories that became new coop-
erating factories in 1945, 58 were listed as cooperating factories for the first time. Of
the 95 factories that disappeared from the list of their cooperating factories, 62 disap-
peared from the Register completely, while 32 became the cooperating factories of other
primary factories.
## Table 3. Changes in Cooperating Factory Numbers after Enterprise Keiretsu Readjustment (Osaka Prefecture)

<table>
<thead>
<tr>
<th>Primary Enterprises</th>
<th>No. of Cooperating Factories</th>
<th>Gain</th>
<th>Loss</th>
<th>&quot;New&quot; ratio (%)</th>
<th>&quot;Decrease&quot; ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1945</td>
<td>1943</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kawanishi Airplane</td>
<td>158</td>
<td>63</td>
<td>+136</td>
<td>-41</td>
<td>86.1</td>
</tr>
<tr>
<td>Kubota Works</td>
<td>145</td>
<td>132</td>
<td>+87</td>
<td>-74</td>
<td>60.0</td>
</tr>
<tr>
<td>Matsushita Airplane</td>
<td>118</td>
<td>193</td>
<td>+79</td>
<td>-154</td>
<td>66.9</td>
</tr>
<tr>
<td>Sumitomo Metal Inds.</td>
<td>109</td>
<td>70</td>
<td>+82</td>
<td>-44</td>
<td>75.2</td>
</tr>
<tr>
<td>Osaka Machinery</td>
<td>107</td>
<td>132</td>
<td>+70</td>
<td>-95</td>
<td>65.4</td>
</tr>
<tr>
<td>Osaka Metal Inds.</td>
<td>86</td>
<td>106</td>
<td>+44</td>
<td>-64</td>
<td>51.2</td>
</tr>
</tbody>
</table>

**Explanation:** The primary enterprises selected were those that had many cooperating factories in 1945. The number of cooperating factories refers only to those located within Osaka Prefecture. The "Gain" column shows the number that became new cooperating factories in 1945, while the "Loss" column shows the number that had been cooperating factories in 1943 but were no longer so in 1945. The "New" ratio is the number of new cooperating factories divided by the total number of cooperating factories in 1945; the "Decrease" ratio is the number of cooperating factories "lost" divided by the number of cooperating factories in 1943.

**Source:** Figures have been compiled from the 1943 and 1945 editions of the *Register of Cooperating Factories*.
its experience of the problems faced in readjusting cooperating factories and from the more impending wartime situation to take on a form much more realistic than when attempts were made to readjust cooperating factories.

From 1944 the readjustment of enterprise keiretsu began to be enforced on a nationwide basis. As long as one looks only at the results of this readjustment as it was carried out in Osaka, one can see that the readjustment was carried out with elaborate precision, and that a large number of new factories were added to the category of cooperating factories. What this indicates is that right up until the very end of the wartime period floating factories actually existed in large numbers. Even though the outward forms of enterprise keiretsu were created, the relationships between primary factories and cooperating factories remained far from being the solid "cooperative relationship" that had been envisioned.

CONCLUSION

THE WARTIME SUBCONTRACTING SYSTEM

In Japan's machine manufacturing industries, in the 1930s at the latest, there was an extensive production system in place that make use of large numbers of medium and small factories as subcontractors. Taking part in this prewar-pattern subcontracting system were a small number of factories that had exclusive (dedicated) relationships and a much larger number of floating factories. Neither the primary factories nor the medium and small factories necessarily took long-term dealings or a stable relationship as the premise upon which their mutual business dealings were based, and, when circumstances changed, they often changed the parties with which they did business.

After the opening of hostilities between Japan and China, the Ministry of Commerce and Industry, which had been studying ways to mobilize manufacturing industries so as to expand wartime production, pushed ahead from the end of 1940 with a plan that would restructure the business relationships between primary factories and the medium and small factories into stable, fixed, cooperative relationships, with a view to securing a certain and stable production of necessary goods. The medium and small factories that were brought
into cooperative relationships were called cooperating factories, and it was demanded of them that they have exclusive relationships with a primary factory. Nevertheless, while the number of medium and small factories that became cooperating factories in order to secure materials and work went on increasing, in reality exclusive relationships were not being accomplished. On the part of primary factories, too, there was hesitation about increasing the number of their cooperating factories or entering into exclusive relationships with them, because of the heavy burden of duties they would assume toward such cooperating factories.

In order to cope with these realities and also with the growing importance of wartime production because of the worsening war situation, a fresh readjustment of enterprise keiretsu was put into effect from 1944. This readjustment was an attempt to include within an enterprise keiretsu all the factories actually involved in production and to delineate clearly the extent and responsibilities of that keiretsu. The readjustment was carried out nationwide, and a large number of medium and small factories were mobilized anew as cooperating factories. The results of the readjustment, however, show that the cooperative relationships that were sought after during the war were in reality not being realized, and also reveal the last-stage desperation with which, driven by necessity, attempts were made to make everything in sight into a cooperating factory.

It was thus that during the war the policy-making authorities (at first the Ministry of Commerce and Industry and later the Munitions Ministry) attempted to bring about an efficient production system and to improve technical standards by creating cooperative relationships between primary factories and medium and small factories: with everything premised on exclusive, stable business dealings, primary factories would provide various forms of assistance to their cooperating factories, and the latter would wholeheartedly dedicate themselves to work given them by their primary factories. An effort was being made to restructure the subcontracting system from the pre-war-pattern subcontracting system into something that had this cooperative relationship at its core. The result, however, was, as we saw above, that things did not proceed according to plan, and the original policy also had to undergo revisions. The sort of cooperative relationship that had been envisioned was not favorably received by primary and
subcontracting factories, which desired more flexible relationships. In addition, shortages of raw materials, machine equipment, and labor threatened production at various different factories, so that as a result there was no leeway for even thinking about cooperative relationships, which of their nature had to be based on long-term perspectives.

CONNECTIONS WITH THE POSTWAR PERIOD

In this final section I would like to discuss how the wartime subcontracting system as we have seen it, was related to the postwar subcontracting system.

The first thing to note is that, though the wartime-pattern subcontracting system based on cooperative relationships never was realized as planned, it remains true that a large number of medium and small factories were mobilized as cooperating factories. What happened to these wartime relationships after the war? Well, because of the shrinkage that struck the rapidly expanded wartime production levels once munitions production was halted, and also because not a few of the wartime cooperating factories were in fact in floating relationships and only nominally were cooperating factories, once the war ended a large number of business relationships with cooperating factories were terminated. Of course there were not a few cases of business relationships continuing on from the war into the postwar period, but we must not overrate wartime period relationships.24

Secondly, among the policy measures enacted by the Small and Medium Enterprises Agency after the war was a policy on keiretsu diagnosis. The basic idea behind this keiretsu diagnosis is similar to that of the wartime cooperative relationship. The purpose of the keiretsu diagnosis was to “seek to raise the economic position of the particular keiretsu as a whole, particularly that of the parent factory,”25 by analyzing the

24 Thus, for example, in 1944 Toyota had 149 cooperating factories, but of these only 35 were member enterprises in Toyota's kyōryoku-kai in 1958. See Toyota Jidōsha nijunen-shi [Twenty years of Toyota Motor Co.], 1958.

relationship between the primary factory and its subcontracting factories, bringing out into the open its special features and its defects, rationalizing their business dealings, and making both sides more mutually useful. Still, though the practice of keiretsu diagnosis was started in 1952 and carried out among all the heavy machinery manufacturers, as yet no adequate study has been made of how the findings of such keiretsu diagnoses were received by the enterprises concerned (each of which would have been situated in different circumstances).

Thus I believe that it would be a mistake to make a direct link between the wartime subcontracting system and Japan’s postwar subcontracting system. The latter system is something that was created within the economic conditions that prevailed after the war, when the subcontracting system itself also underwent development. There is no doubt that the cooperative relationships envisioned during the war bore many resemblances to the postwar subcontracting system model we find in Japan, in the importance it attached to close relationships in technology and production, premised on long-term, stable business dealings. As well, terms like “keiretsu,” “cooperating enterprises” (kyōryoku kigyō) and “cooperative associations” (kyōryoku-kai), which are used so commonly in today’s subcontracting system, began to be used for the first time during the war. Despite all these similarities, however, there are serious reasons for being unable to attach much importance to the idea of there being a continuity with the wartime period or to see the wartime period as the prototype of the postwar subcontracting system: the fact that in the beginning there did not exist in the postwar subcontracting system a mechanism premised on long-term, stable business dealings; and the fact that the wartime cooperative associations and the postwar cooperative associations were very different in character, and that in most cases the postwar cooperative associations did not begin to play an important role in the subcontracting system until the period of high growth.