

Introduction: Themes and Approaches

Project Themes

After Japan abandoned its isolationist policy in 1858 and began to actively import Western technology under the new regime established in 1868, the nation started to industrialize on a full scale. One of the themes of this project was clarifying how the imported technology was able to accelerate Japan's industrialization and, further, confirming whether there were linkages and interactions between traditional, domestic technologies and imported, foreign technologies.

A second theme was concerned with finding out how the system of technology developed during the process of industrialization. General interest in the history of Japan's economic growth has become so intense these days that specific case-studies on the question of how the nation, a late starter in industrialization, acquired its own technological potentials constituted a major focus of our project. Whereas it is generally believed that studies in the histories of individual industries are more developed among inquiries into the economic history of Japan, many such studies have been confined to specific sectors of industry attracting particular domestic and international interest or to analyses of some major enterprises. Our case-studies in a wider spectrum of industrial sectors were expected to provide specific clues useful in international comparative work.

The third theme was considering the above-mentioned problems in those sectors of industry where labour-intensive production had persistently remained. In Japanese inquiries into industrialization, there is hardly a unified view on the role of labour-intensive sectors, where smaller enterprises are more or less dominant in proportion to and apart from capital-intensive large industries, which tend to attract greater interest. In Japan, notably, the extensive presence of small-industry sectors, scarcely heard of in the West, represent a characteristic feature of Japan's industrial structure. This sug-

gested that the elements of these sectors might reveal the uniqueness of Japan's industrialization.

A fourth theme consisted of the stipulation that our areas of study not overlap industries such as steel-making, cotton-spinning, and silk-reeling, which have been regarded as the leading industrial sectors and were investigated by other subproject teams. In other words, our research had to focus on the "extras" in the cast.

On these themes, we took note of the following point: in the industrializing of pre-war Japan, production was more capital intensive and on a greater scale in the sectors turning out such basic materials as cotton yarns and steel, and the proportion of small enterprises was greater in labour-intensive sectors supplying final consumer goods and intermediate products (especially small components). What deserves particular mention is that the development of upstream sectors producing basic materials would probably have been difficult without that of downstream industries turning out intermediate goods or final consumer items. Obviously, a large-scale, modernized sector of basic-material production cannot be economically efficient unless its products are eventually offered for direct private consumption or serve as a means for the production of such consumer goods. Even from this conventional point of view, a policy to foster upstream sectors that gave no heed to the growth of downstream areas would be meaningless. In Japan, the two were even more closely connected and inseparable, because Japan, poor in natural resources, had to import all its iron-ore, coking coal, and raw cotton. Its exports consisted primarily of a wide variety of terminal consumer goods and intermediate goods, such as parts used for their production, turned out on a labour-intensive basis.

One of the rare exceptions to the heavy import-dependence of the upstream sectors for raw materials supply was raw silk. While raw silk was bought by major importing countries as material for silk fabrics, it was treated like a final product in Japan and exported as such. It is interesting to note that silk-reeling, reflecting this peculiar circumstance, was behind other sectors in mechanization in spite of its character as a basic-material producing industry and remained significantly labour intensive.

The subproject team conducted field surveys on the eyeglasses, shell-button, watch, clock, and bicycle parts industries. The period the team covered extends from the Meiji period (1868-1912) to the present day. This report takes up the findings on the shell-button and bicycle industries from earlier surveys, to which I have added the results of my own studies on the knit-fabric and brush industries. The period covered here is limited to the decades preceding World War II. There are two reasons for focusing on these industries alone.

First, since the time allowed for the subproject was rather limited, the survey reports by the members of the team were divided into those focusing on the pre-war period and those putting emphasis on the post-war years. Further joint work seemed necessary for the members to arrive at any unified view.

Second, the findings could hardly be presented together meaningfully in the same framework because some of the studies revealed the circumstances of the industries begun in the Meiji period in considerable detail, while other studies need further research: many industries proved extremely difficult to attempt any investigation into. Therefore, I have decided to select only those sectors whose circumstances in the Meiji period could be presented in substantially equal detail. Further, I have limited the period covered for two reasons.

The first reason derives from my own view of Japan's economic growth after World War II. Among the different stages of Japan's economic growth, this phase has attracted world-wide interest and it is popularly known as the "high economic growth phase," which began in the mid-1950s. It is true that in that phase every economic factor – such as accumulation of private capital, introduction and development of large-scale production techniques, constant supply of young labour, a rise of the general educational level, effective, deliberate leadership by the government, expansion of the domestic market, improvement of the balance-of-payments position, and a low unemployment rate – was developing in an ideal way. However, anyone who attempts a serious historical analysis of this phase of economic growth should take note of the historical background that enabled such a phenomenon to occur.

In my opinion, Japan's economic growth from the mid-1950s on was the result of a simultaneous liberation of the internal energies of various elements that were fostered in Japanese society since the eighteenth century or even earlier as they finally found favourable objective conditions, both domestically and internationally, in the post-war years. Because of this point of view, I consider it as important to find out how the conditions of the Japanese economy had been built up during the historical process that had preceded this economic spurt.

Such an investigation is important also because of the significant difference in the role of the small industries between the high economic growth phase and the preceding decades. Though we should not forget that many companies were weeded out in most of the manufacturing sectors during the high economic growth phase, it has to be pointed out that Japanese small industries not only grew in their respective industrial sectors during that phase but also developed in various new areas. Some, starting as small enterprises in the mid-1950s, eventually became large enough to be well known and competitive on an international basis. In contrast, few of those launched after the high economic growth phase, except those established as subsidiaries to giant corporations or those having joined the group of one or another of such giants, achieved so great a leap. In other words, under the economic conditions prevailing before the high economic growth phase, or even before World War II, many enterprises belonging to the category of small industries had had their own historical potentials. Partly because of my own interest in the historical process that enabled them to build up such potentials, I have limited my analysis to the pre-war period.¹

Contrastive Views on Japan's Economic Growth

Many diverse views by Japanese and foreign scholars have been presented as to the success of Japan's late start in catching up to advanced nations. By referring to a few contrastive views, well known internationally, I would like to make clear how I plan to approach the problem. The first view attaches great importance to the role of the state in Japan's economic growth. Not a few scholars have subscribed to this view, and typical among them is Rosovsky.²

Rosovsky seems to have adopted Gerschenkron's model as his theoretical premise in considering the industrialization of late starters. Gerschenkron emphasized the differences of late starters' industrialization from that of early starters both in pace and in organizational structure, and by doing so criticized the views of Rostow and others, who envisaged a standardized process of industrialization.³ Rosovsky made the following points:

1. Industrialization took place generally faster in late starters than in early starters, and often took on an aspect of a "big spurt."
2. The relative proportion of heavy industrial sectors to light industries increased more quickly in late starters than in early starters.
3. Huge enterprises emerged in later industrialized countries at an early phase of the industrialization process and created the relatively early establishment of monopoly.
4. It was less likely for late starters to begin industrialization by their own force, thus specific "institutional instruments," such as banks, the state, and foreign governments, "induced" the process in varying degrees according to the difficulty of autonomous industrialization. Such nations could be set on the right track of industrialization only with the help of these induced instruments.
5. Rationalism or economism was not sufficient by itself to uphold industrialization of late starters; instead, they had to be firmly supported by a specific ideology, such as nationalism or even socialism, in many instances.

Of these main points, I would like first to take up the fourth. In contrast to England's self-driven growth, *Crédit Mobilier* and German banks appeared as the suppliers of long-term funds in France and Germany, respectively, where big spurts of industrialization began in the mid-nineteenth century. In Russia, however, where industrialization started later, even banks were unable to serve as effective instruments of capital concentration. Therefore, the state gathered the money from the populace by manipulating the tax policy and induced foreign investment. These funds were invested in national railroad construction, subsidization of industry, and preferential placement of orders with protected industries whose profits were assured, thereby exerting an effective organizational power for industrialization.

Rosovsky and many Japanese scholars have expressed the view that this observation of industrialization in Russia is likely to directly apply to Japan.

In contrast to their theories, Lockwood's analysis represents a second

standpoint. Though it is extremely difficult to summarize the whole of his analysis, what is indispensable in the present context is a reference to his interpretation of the role of the state, because one of the manifestations of his penetrating insight was his early warning against overestimating the government's role in Japan's industrialization. Lockwood's insight is reinforced by his extensive field of vision and flexibility that prevent him from trying to explain a number of alternative conclusions by any single determinant. The various characteristics of pre-war Japan, he points out, are believed significant by some Japanese researchers. He took note of the coexistence in Japanese society and corporate structures of feudalistic elements; concentration of economic control; tremendous growth and the fragility of democratic traditions; the natural advantage of Japan to be able to pay for its imports of producer goods with the exports of consumer items; the presence of other key factors besides cheap labour and population pressure; ready mobility of labour from rural areas; and the large relative weight of small enterprises. He discussed all these factors admirably, even though many had already been revealed by Japanese Marxist economists, whom he intended to belittle. After an elaborate analysis of all these, he reached the following conclusion:

Even in manufacturing . . . a quarter century of progress had carried Japan little beyond the handicraft stage where Britain and America stood in 1800. Yet this willingness to venture and to learn, if not to pioneer at least to imitate, in a climate of opportunity which makes it pay, is certainly an essential condition of economic development. That it appeared first at the top of Japanese society is not surprising. What impresses one is the degree to which it spread subsequently through a broad stratum of the population.⁴

Furthermore, he concluded:

The outlook, the energies, and the authority of the Meiji leaders were clearly of immense significance, leaving a deep imprint on the subsequent course of economic development.

Yet the picture which emerges does not show the State in the central planning and directing role often ascribed to it, so far as the principal areas of economic growth are concerned. Especially is this true of the period after 1890, when the great expansion took place. Certainly no sufficient explanation of Japan's industrial development can be found merely in the thesis that her political tradition endowed her with an authoritarian military caste which engineered the modernization and industrialization of their country as the means to national power. The existence of a strong central government infused with imperial ambitions served in some respects to stimulate and facilitate the process; in other respects it operated as a decided drag; in still other respects it had little direct influence on what took place.⁵

Few if any Japanese scholars have so penetratingly analysed Japan's economic development. The starting point of this report, however, lies indeed in the conclusive part of Lockwood's insightful statement. His analysis seems to

enable us readily to understand that a key factor in Japan's economic development consisted of the extensive spread of "the willingness to venture and to learn" and "the ambition to advance" among the general masses. Certainly there are too many historical facts that cannot be properly accounted for without taking note of this factor. However, he has scarcely touched on why and how that process was possible. Nor has he shown interest in the question of whether the ways in which the masses were organized and technological innovation was achieved for industrialization were similar in nature to their respective counterparts in the West. Japanese researchers have focused mainly on these points. Before the 1960s, virtually none of the studies on Japanese small enterprises paid attention to the process in which the stratum of small businessmen and self-employed people, constituting the vast span of the bottom layer of the Japanese economy, had come into being.⁶ Even fewer in number were analyses taking into account the presence of a number of different patterns of technology transfer or the fact that vertical social mobility was not to be ignored in considering the mobility of labour in Japan.

We might perhaps be asking too much if we had expected Lockwood to go into this area in his attempt to draw an overall picture of Japan's economic growth. However, his reference to the orientation of "spirit" as the ultimate explanatory variable does seem inconsistent with his coherent rearrangement of data fitting his macro-economic thesis. I intend in this report not to focus on the presentation of data relevant to macro-economic or micro-economic concepts but to try to grasp in a composite way the personal histories of entrepreneurs and the mode of social mobility of specific social strata on the one hand and the industrial and technological developments of specific manufacturing sectors on the other. The Japanese term denoting this kind of approach could be literally translated into English as "empirical socio-economic history." This approach does not deserve much recommendation where the economy is steadily expanding, and there is little need to take into consideration the cultural and social conflicts and confusions that economic expansion may entail as it comes into contact with the traditional social structure. In comparison with the study of developing countries, where economic development is pursued at the initiative of the state and the effectiveness of the initiative is often questionable, it seems necessary with the experience of Japan to undertake investigations and analyses going into empirical and peripheral regions and to promote academic exchange on that basis.

Key Words and Preliminary Considerations

Even though there are so many problems in empirical studies, research on Japanese small and medium-scale industries (SMIs) has a long tradition involving many controversies. We had much to learn especially from considerations of social relationships between merchants and small producers. Japanese studies on SMIs taught us not to be preoccupied with the develop-

ment of the means of production alone but to take a renewed look at it in the light of various social relationships that underwent transformation. I would like to return to this point in Supplementary Comment 1.

In view of my own experience as well as what I have found from the achievements of my predecessors, I have decided to consider the problem of technology transfer not from the purely technological aspect of the transplantation of machinery and technology and operational efficiency but from such varied aspects as

1. The unrest of producers the new technologies induced
2. Relationships between the new and traditional technologies
3. Realignment of small producers
4. Difference between the imported and established indigenous technologies
5. Response of traditional craftsmen and skilled workers in adopting and using new technologies
6. Their personal histories
7. Their relationships with managers, changes in those relationships, and relationships between producers and wholesale merchants, who were responsible for the distribution of products and often in conflict with the demands of the producers
8. Changes in social relationships among different strata along with the development of production
9. The specific mechanism of productivity rise and its promoters.

In this connection, I will refer to the "mode of production" as an integrated concept covering not only purely technological aspects but also sociological relationships and economic elements.

We also took note of managers, who were directly responsible for the introduction of new techniques into the operations of their respective enterprises, because in SMIs, managers often exerted their leadership as skilled workers and in many cases were irreplaceable promoters of technological renovation. I found it necessary to quantitatively grasp to some extent the presence of these men, who were at the same time proprietors, managers, and skilled workers. Incidentally, managers of small enterprises fall under an intermediate stratum in statistical classification. If we classify professional or technical employees as constituting a new middle class, these managers belong to the old middle class. With a view to briefly looking at the situation of the old middle class, which accounted for a very great proportion in the class structure of Japan before World War II, I discuss their role in Supplementary Comment 2.

There were several types falling into the middle class. Among them, there were the titular owners who were the sole workers in their own workshops. Some of them often needed the help of their family members. Firms with five or fewer employees needed the labour of family members most indispensably, and in this class the ratio of family members to the total work-force was the highest. Even in firms with more than five employees, the labour of family members usually was essential. So, in examining the Japanese middle class, it is important to note their historical characteristics.⁷

Most of the Japanese middle class's social existence might be more properly understood as a "middling class"; this group saw itself as a middle class, but, strictly speaking, it was not precisely comparable to the European middle class of the eighteenth century. Its historical characteristics even survived World War II. In much research on and statistical analyses of the Japanese social structure, the middling class has been studied and regarded as the middle class.

In their self-image, members of the middling class were genuinely middle class. But history shows that, compared with their counterparts in Western Europe and North America before and during the nineteenth century, the Japanese middle class was never affluent. I want to stress this point, because I have noticed that in many reports about developing countries, most of the self-employed are classified as lower class for the simple reason that they are poor. But so far as the poverty of their life-styles is concerned, the self-employed in pre-war Japan were as poor as those of the developing countries are today.

I offer some examples from Japanese labour-intensive industrial sectors before World War II, when even the wives of factory owners were employed – mostly without pay – as an indispensable labour force for bookkeeping and serving meals to the employees. Surely they were extremely busy. Yet somehow they managed to do their own household work without domestic servants.

Actually, apprentices and young workers were often asked to help in household work; the range of duties they were expected to perform was vaguely defined. In those days, factory owners led a rather simple life and their wives did not have so much to do at home, so they felt no particular need for domestic servants.

This tendency was not unusual in small and medium-scale firms with fewer than 30 employees. In workshops with five or fewer employees, housewives and other family members were indispensable workers. Usually, the factory owners were the most skilful workers in their mills. Thus the middling class were, in a sense, poor; but most of them worked hard to become truly rich men. So, when referring to the Japanese middle class, I mean the middling class in the sense as explained here.

Needless to say, some factory owners were ruined by their lack of proper abilities, by fraud, or by business recession. In response to major declines, there were massive uprisings within the middle class and also the working classes. The size of the middle class, however, increased during and even after the period of the Japanese industrial revolution.

It is very difficult to distinguish between the middle class and the working class in Japan, especially in the pre-war days. Members of these two groups co-existed in competition and interdependence with one another. Other aggregative concepts are needed to clarify their social behaviour and historical functions. I would like to propose two concepts: "immediate producers" and "small producers." Immediate producers, especially when referring to the sectors of endogenous industries and labour-intensive industries, covers

apprentices, craftsmen, skilled and unskilled workers, small manufacturers (family operations with no apprentices), and also factory owners who directly participate in the production processes. Small producers refers to the small manufacturers and factory owners.

In using the concepts of immediate producers and small producers, it is important to pay attention to the existence of high degrees of social mobility among them. Not a few of present-day Japanese owners and executives worked their way up from workers, craftsmen, or even apprentices.

Of course, the concept of social mobility can be broken down into two types of mobility: horizontal and vertical. I suspect one of the most prominent characteristics of Japanese SMIs, especially those in the metallurgical and mechanical sectors in pre-war days, was that workers could easily shift from one job to another. For example, one Matsuda Jujiro changed his place of employment nearly 20 times, starting as a mere apprentice and soon becoming a skilled metal-forging worker, and later becoming the owner of a small workshop that, after World War II, became the third largest automobile manufacturer in Japan. One of the most important aspects of this analysis is to clarify the situation of social mobility among immediate producers. Generally speaking, immediate producers were poor, and most of them were employed or self-employed. But their desire for independence was extremely keen.

I concur with the view that widespread use of cheap labour working long workdays was one of the main factors contributing to the rapid economic development of Japan. But I would like to stress that cheap labour alone could not achieve economic efficiency in the world market without being equipped with an adequate means of production. Concerning the technological changes of Japanese SMIs, I would like to distinguish two dimensions of technological changes: "innovation" and "adaptation."

Innovation means the introduction of capital-intensive technological inventions to increase productivity. By adaptation, I mean the simplification of existing or newly introduced production systems to reduce the cost of fixed capital at the risk of a possible decrease in productivity per average workday.

A brief synopsis of the development of the Japanese silk-reeling industry before World War I, making clear the historical cases of adaptation and putting more stress on social relations among immediate producers, may serve to illustrate.

In the latter half of the nineteenth century, the French silk industry was highly advanced. The Meiji government imported equipment for modern silk-reeling from France and employed French engineers and skilled workers to teach the Japanese how to use the equipment.⁸

A national pilot plant was established in 1872 at Tomioka in the northern part of the Kanto district. Immediate producers of the Tomioka pilot plant were recruited from various districts of Japan. Most were sons and daughters of ex-samurai families. Some traditional artisans were also recruited. It is interesting to note that they did not regard their work as wage labour but as a service to the nation. What is more interesting about these immediate pro-

ducers was the ways in which they transferred the techniques they were taught and trained in at Tomioka.

It is said that the fixed capital per worker was about ¥250. But in the case of another silk mill established in 1874 at Matsushiro, the fixed capital was only ¥57, corresponding to 22 per cent of that of the Tomioka plant. Equipment at the latter was handmade by traditional artisans such as blacksmiths, casters, and carpenters, who referred to sketches and explanations by three young men who had worked and observed operations at the Tomioka pilot plant. They substituted water mills for steam engines, wooden machine frames for iron ones, wires for glass, and dirt for brick floors. They tried to simplify the equipment, and those who had been taught in Tomioka trained the daughters of small peasants in Matsushiro.

These adaptations were more remarkable in the Suwa district. It is said that the fixed capital per worker in Suwa was only ¥5 to ¥15, or 2 to 6 per cent of that of the Tomioka plant. The cases of Matsushiro and Suwa present typical cases of what I call adaptation, yet the simplification of machines and tools was only one aspect of the adaptation. The combination of simplified machines and tools with cheap, inexhaustible labour, the traditional skills of craftsmen, and many secondary workers comprised adaptation, a concept that collectively refers to all these historical elements.

Along with the progress of adaptation, productivity per set of machines and tools might decrease. But, as for productivity per worker, small manufacturers at the adapted mills proved more efficient than their counterparts at the Tomioka pilot plant. Consequently, the latter ran into problems, while Suwa developed into the biggest silk-reeling district in Japan.

Young women from the rural areas were the main force to meet the demand for cheap and inexhaustible labour. A fair proportion of these women were retained as subcontractors after they retired from the workshops and went back to their native towns and villages to marry, mostly with small-scale, poor peasants, whose farm work was the most labour-intensive in Japan at that time.

The wives of these peasants were accustomed to taking part-time jobs whenever they could find time to spare. Thus silk-reeling became one of the most important cottage industries in central Japan.

These women used old machines and tools and had marginal employment security. Trade cycles sometimes compelled them to work extremely hard, and in recessions they lost their jobs easily. Even so, they rejuvenated and used old machines and tools that had depreciated beyond normal limits. The machines and tools, together with raw materials, were supplied by small producers, mostly by the ex-employers of the part-time workers as part of their advance payments.

Adaptation consisted of a combination of various conditions, and as it developed in small and medium-scale firms, modern factory systems were defeated here and there in spite of having the latest technologies introduced from Europe and the United States. Later, the modern system developed

from among such small and medium-scale firms. Instances of such development will be explained in the following chapters.

Supplementary Comment 1: Trends of Japanese Studies on SMIs

1. Formation of Small-scale Industries

There is historical background that can explain why the problems of small enterprises are treated as those of small and medium-scale industries. Since Japan was a late starter in industrialization, huge enterprises immediately pursuing large-scale production had already established themselves by the mid-Meiji years in a limited number of industrial sectors. In cotton-spinning, for example, mills with 3,000 spindles had become unable to survive, while those with more than 10,000 were able to compete successfully. The latter did not merely survive but rapidly expanded to constitute one of Japan's typical industries.

In most other sectors of industry, in contrast, the mode of production did not change, and stagnant situations continued. In these sectors, the form of business management could be termed petty business or cottage industry. One could judge what industrial sector a given business belonged to simply by knowing whether it was likely to be a big corporation or a small firm. Maeda Masana, a bureaucrat and a man of foresight, accordingly referred to industrial sectors relying on the traditional mode of production as "conventional industries" and warned that long-term development of the national economy would be impossible without promoting them.⁹ This view is highly appraised even today as representing the beginning of due recognition of small-scale industries in Japan.

His view also had its problems, however. Several of the industries transplanted to Japan in the Meiji period had already been incorporated into the traditional mode of production, apart from those characterized by modern and large facilities, such as cotton-spinning and steel-making. Furthermore, even conventional industries were beginning to undergo transformation. His prediction that, overlooking these aspects, modern linkage would be formed only if conventional industries shifted to large-scale production using power-driven machines was not persuasive in realistic terms and, partly because of a lack of concern on the part of the general public, Maeda had to spend the last years of his life in proud isolation.

2. Pioneering Studies on Japanese SMIs

The problems of conventional industries came to be treated as those of small industries in the Taisho period (1912–1926) and, later, highlighted as those of SMIs. In the discussion of these problems, many arguments were made, some

quoting the views of German scholars of social policy and others resorting to the methodology of classical economists. However, there is little for us to learn from them, with the only exception of Ueda Teijiro, who touched on the traditional relationships among small industries and their customs and, notably, bitterly criticized the rigid academic approach of those trying to directly apply learning imported from Europe to the interpretation of social phenomena in Japan.¹⁰

Later discussions of Japanese SMIs tended to focus on their domination by and subordination to huge monopolies. This tendency, to a great extent, stemmed from Marxist economics, typically advocated by Noro Eitaro.¹¹ Japanese economists of the Marxist school deserve appreciation for their contributions to grasping the various relationships of economic entities in the overall framework of the domestic economy and further in the context of world history. However, it has to be admitted that, heavily affected by intensified political oppression, they gradually lost much of the development potential their theories had held.

One of the peaks in pre-war studies on the problems of Japanese small industries was marked by a controversy between Fujita Keizo and Komiyama Takuji. Their views, while both were influenced more or less by Marxist economics, presented an impressive contrast regarding the question of understanding various relations among enterprises. Fujita's theoretical framework was based on two premises. First, small producers in Japan were organized and dominated mostly by wholesale merchants, and second, Japanese monopoly-capitalists had basically retained the traditional behavioural pattern of wholesale merchants since the feudal age and showed no signs or intention of doing away with their traditionalism and authoritarianism. Based on these premises, Fujita classified the production system into three types: (1) the "old putting-out system" of a cottage industry pattern, under which small producers, organized by wholesale merchants, relied mainly on manual work with simple tools; (2) the "new putting-out system" under which small producers had already proceeded to factory production arrangements using power-driven machines but continued to be organized and dominated by wholesale merchants; and (3) the "subcontract system" under which smaller mechanized factories were organized under the wings of and dominated by larger mechanized industrial enterprises. Small entrepreneurs, though not uniform in the way they were dominated, were oppressed and unable to escape the "domination by commercial capitalists," whether the capitalists were wholesale merchants or monopolistic enterprises, and they should be regarded as *de facto* wage workers, according to Fujita. His observation had the merit of clarifying contradictions inherent in social relationships and, as such, carrying on one of the traditions of Marxist economics. Yet his view also manifested a typical shortcoming of Japanese Marxist economics. He was too preoccupied with social contradictions to make any meaningful mention of where the driving force for the actual rise of productivity came from and, accordingly, failed to perceive the entire situation.

In contrast, Komiyama Takuji intended to demonstrate that the output of small enterprises, despite their abnormally greater number in Japan than in any advanced country, was increasing, and that social relationships by which SMIs were bound were changing along with that increase. Considering that the “old putting-out system” would develop into the “new putting-out system” and eventually evolve into the “subcontract system,” he emphasized that this classification also indicated the direction of historical development. Komiyama thought that, while wholesale merchants who were the organizers of the putting-out system preserved and used old social relationships – carried over from even before the feudal age – in controlling producers and thereby obstructed their endogenous development, the subcontract system, which was a form of organization of small factories by modern industrial enterprises, was based on scientific and rational principles of social division of labour and was free from both established conventions and the suppression of small enterprises by big ones. His view was based on two important premises, one of which was that any industrial enterprise will, it can be assumed, evolve over the long term into a large enterprise. Another was that scientific administration and a rational social division of labour were supposed to prevail in any large industrial enterprise. Although Komiyama’s theoretical framework was questionable in these respects, his elucidation of the fact that social relations involving SMIs were also changing along with the industrialization of society does deserve appreciation. Above all, his analysis of the match-manufacturing industry in Kobe City is still highly valued today.

The controversy between the two scholars, whose positions were so contrastive to each other, went on from the mid-1930s into the years of World War II, but they actually had one thing in common. Though they classified SMIs and indicated the direction in which each class of industries would develop, they merely pointed out typical sectors of each class but failed to pick out any specific industry and trace its transformation. Neither seems to have suspected the presence of any particularly important problem in the transformation process of the production system. Yet, if they found a problem in the survival of the obsolete mode of production despite the progress of industrialization, did they not have to pay attention to the transformation process as well? This is one of the questions I hope will be answered in the course of this discussion.

3. Introduction of Macro-economic Analyses

Mention has to be made of significant achievements of other studies, carried out in completely different styles from either Fujita’s or Komiyama’s studies during the second half of the 1930s when their controversy was still going on. They include a series of works by Takahashi Kamekichi and by Dr. Arisawa Hiromi.¹²

Takahashi was a unique economist. At first apprenticed to a small merchant, he worked his way through Waseda University and distinguished himself as an economic journalist. Perhaps because of his background, Taka-

hashi was not accustomed to the manipulation of concepts fashionable among economic theorists, but he was unparalleled by "academic" economists in instinctively sensing contradictions in real society or conflicts of economic interests or in meeting the requirements of the business world for short-term economic forecasts. As a practical economist, he left many writings, which are still valuable today, on the situations of individual sectors of industry during the period between the two world wars and the policies of economic decision makers in the government.

Among his many works on SMIs, his interest was focused above all on two points. One was the consistently great proportion of the products of SMIs to Japan's total exports in those days; so great was their proportion that it was almost meaningless to discuss the nation's international balance of payments without taking them into account. His studies on this point, which now constitute a highly appreciated legacy, even included the preparation and analysis of long-term foreign trade statistics for individual sectors of industry. The second point, which he was keenly aware of through his own experience, was that the export competitiveness of the products of SMIs consisted in the low cost of Japanese labour – above all in the ill-paid, long work hours of the employees of SMIs. Often vividly describing their working conditions, Takahashi emphasized again and again that the Japanese economy was barely able to avoid the collapse of its balance-of-payments position at the sacrifice of the small producers, their families, and employees, whose severe physical exhaustion was indispensable for earning the foreign exchange it needed.

Many have criticized Takahashi's analysis for what they thought was his minimizing of the inherent contradictions of SMIs and easy acceptance of their presence. Such views were expressed in many post-World War II works, but I do not necessarily agree with them; objective observation of reality will either support or contradict them.¹³ It depends on the observer's sense of values, and Takahashi's attitude toward this kind of problem was not so clear-cut. I find it questionable that he attributed the export competitiveness of the products of SMIs, whose realities he described so accurately, simply to the low wages of their work-force. It is true that both labour and capital costs were very low, but the social conditions that made them possible were by no means simple. It is an easy argument to regard cheap labour as the only necessary condition for turning out competitive products. In this respect, his view was open to criticism. Yet, many of the works that have been critical of his view scarcely analyse this point, a point I hope to address in this report.

Dr. Arisawa's studies, presenting a sharp contrast to Takahashi's, pointed out structural features of the Japanese economy in very modest and academic expressions, the like of which are often found in writings by the professors of prestigious universities. He began by throwing light on a fact that had been pointed out by many but not sufficiently elucidated in an objective way; he statistically demonstrated the overwhelming proportion of SMIs to the total industrial population, quantitatively indicating the heavy relative weight of domestic industries above all. One of his major contributions was that he

revealed the applicability of statistical techniques to studies in economic history. Although the official statistics of the government he used had their own limitations, his approach was adopted by his post-war successors. Another contribution by Arisawa was that, in searching for the direct basis of the extensive presence of domestic industries and SMIs, he pointed out the need to identify separately the basis for the “amply available cheap labour.” Though he did not further elaborate on this aspect, many other studies and controversies remind us of the relevance of his proposition.

4. New Tendencies after World War II

Studies after World War II focused less on SMIs than on small enterprises, partly because these enterprises came to be more often discussed in comparison with huge monopolies and partly because big businesses came into being even in those sectors where only small enterprises had existed previously.

Research on SMIs or small enterprises, as in the pre-war period, frequently took the form of an analysis of the current situation in the period of time when the research was being carried out.¹⁴ My study of SMIs in pre-war years therefore makes little reference to them except in specific areas to be mentioned later. For this reason, I would like to outline here only analyses that are pertinent to my theme of post-war studies on small enterprises.

As research on huge monopolies made progress, some scholars (including Professor Ushio Shinzo) began to maintain that all other enterprises should be regarded as small enterprises. After Japan entered its phase of rapid economic growth in 1955, more research was done on the ways in which big businesses organized small enterprises under their wings. When in 1958 *Keiei Seminar* (Management Seminar), number 16, featured “lines of corporate affiliation in Japanese industry,” this subject became a favourite topic of the mass media as well. It was disclosed in that period that big corporations entrusted the production of parts and the accomplishment of some processes to smaller companies; in doing so, they unilaterally reduced the prices of the latter’s services, made the payment terms more favourable to the former in return for supplying the materials, equipment, and funds the latter needed, and thereby used them as safety valves against market fluctuations. It was also revealed that the small companies had inferior working conditions for their employees and that their social conditions prevented their workers from organizing unions.

As these findings accumulated, Dr. Arisawa pointed out the “dual structure” of the Japanese economy, and this expression was widely accepted as vividly representing a significant characteristic of Japan’s economic structure. As statistical surveys were successively carried out from the second half of the 1950s through the 1960s, the existence of a definite difference in the scale of business was unveiled in every aspect, such as productivity, capital equipment ratio, profit ratio, capital turnover rate, working hours, wages, labour intensity, and company-provided welfare facilities for workers. Thus

it came to be generally recognized by the first half of the 1960s that small enterprises, which constituted an overwhelming majority of Japanese industry, were indeed unstable and oppressed.

With the further growth of the economy, however, some small enterprises grew rapidly and became comparable even to the huge monopolies in financial and working conditions. Referring to these high-growth achievers, professors Nakamura Hideichiro and Kiyonari Tadao proposed the concept of "middle-class enterprises." In the 1970s, views attributing Japan's economic vitality to the extensive presence of small enterprises gained strength, partly because the nation's economic growth attracted world-wide interest. Many of the enterprises referred to had successful and impressive legacies suggesting tremendous vitality. Some people even began to blindly admire Japan for its economic success.

However, I am rather sceptical about these views. Certainly a fairly large number of enterprises may have achieved smooth growth as an enterprising spirit and labour-management co-operation, which had been cultivated in pre-war years, bore fruit in the 1960s. Yet it seems to me that, in the business environment of those years, the conditions that could reproduce similar entrepreneurs and labour-management relations were rapidly disintegrating. This period is not the subject of my research, but I will take a brief look at how businessmen and workers who became the main force in Japan's economic growth after World War II had been fostered in pre-war years.

Supplementary Comment 2: Classification of SMIs and Their Relevance to the Middling Class

1. Pioneering Quantitative Analyses

One of the pioneering works in quantitative analysis of pre-war small industries was done by Dr. Arisawa Hiromi. His study used the *Kōjō tōkei hyō* (Statistical tables of factories) compiled by the Ministry of Agriculture and Commerce, which covered only factories having at least five employees.¹⁵ Although his analysis, despite the limitation of available data, revealed the great proportion of SMIs to the nation's industrial whole, it was also generally recognized that the largest segment of industry in that period consisted of factories having less than five employees. It has been frequently pointed out, too, that family members played vital roles in tiny enterprises employing less than five workers.

A clue to estimating the population engaged in industry, including the "less-than-five" bracket, was given by Professor Umemura Mataji. He and his colleagues at Hitotsubashi University are known for their thorough organization in the 1960s of Japan's economic statistics since the Meiji period. Umemura, in particular, provided long-term statistics on the employed population and estimated the share therein of those engaged in agriculture and forestry.

Following up on Umemura's achievement, Professor Nakamura Takafusa's analysis of the estimated population engaged elsewhere than in agriculture and forestry classified employees into the "modern sector" or the "conventional sector."¹⁶ Out of the population employed by the secondary and tertiary industries, employees of factories having five or more employees, people engaged in mining, school teachers, civil servants, the employees of private railways and electric power companies, seafarers, and employees of municipalities are counted by Professor Nakamura as employees of the modern sector. It is an oversimplification, as Nakamura himself admits, to include factories with five or more employees and all mines in the modern sector. Yet, even by this estimation, Japan's modern sector in the 1930s accounted for only 12 per cent of the nation's total employed population.

Using figures from the national census of 1920, Nakamura classified employees of the manufacturing industries.¹⁷ In this study, he confirmed the relative weight of the work-force of factories with five or more employees in each manufacturing industry and took into account the level of production technology therein, and on that basis classified industry into the "modern sector," "old conventional sector," and "new conventional sector." Table 1 reveals how heavily the structure of Japanese industry, which is supposed to have enjoyed the boom brought about by World War I and attained significant growth, still depended on the "conventional sectors."

2. Estimation by the Ohashi-Goto Formula

Besides the works by Umemura and Nakamura, there was another study in Japan by a different approach, using data from other sources. This study was by two social statisticians, Professor Ohashi Takanori of Kyoto University and Professor Goto Yasushi of Ritsumeikan University.¹⁸

Characteristically, their study indirectly followed the traditions of Marxist economists at Kyoto University and was intended to elucidate the class composition of Japanese society. In trying to do so, they not only divided the national population into the ruling and ruled classes but also introduced a formula of classification into the economically higher, middle, and lower classes and integrated the two scales of classification. Considering that the prevailing state of Japanese society in which the higher echelon of the bureaucracy – at the top of which was the emperor – was socially more valued than the economically privileged, that the middling class was slow to break apart, and that trade union movements, in the European sense of the term, were slower to progress than industrialization itself, their attempt was notable. I shall refer to their system of estimation as the Ohashi-Goto formula.

According to this formula, the ruling class is divided into political rulers and economic rulers, the former consisting of military officers, officials of the central government, and police officers, and the latter comprising parasitic landowners and corporate managers. Farmers, foresters, and fishermen among whom landed farmers account for a dominant proportion, self-employed businessmen, independent skilled workers, and pensioners consti-

Table 1. Composition of the employed population in national census returns of 1920

	Modern sector			Old conventional sector			New conventional sector			Grand total		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Agriculture, forestry & fishery	424,464	327,918	96,546	14,686,674	8,267,053	6,419,621	—	—	—	14,686,674	8,267,053	6,419,621
Mining	—	—	—	—	—	—	—	—	—	424,464	327,918	96,546
Total of primary sector	424,464	327,918	96,546	14,686,674	8,267,053	6,419,621	0	0	0	15,111,138	8,594,971	6,516,167
Manufacturing	1,722,878	1,012,453	710,425	1,790,834	1,334,889	455,945	949,179	542,995	406,184	4,462,891	2,890,337	1,572,554
Ceramic	43,226	37,803	5,423	77,656	61,572	16,084	55,412	47,311	8,101	176,294	146,686	29,608
Metallurgical	165,471	156,943	8,528	218,392	212,077	6,315	68,223	65,649	2,574	452,086	434,669	17,417
Mechanical	315,719	297,947	17,772	19,546	17,897	1,649	28,137	25,994	2,143	363,402	341,838	21,564
Chemical	100,663	80,342	20,321	3,956	3,090	866	29,288	20,137	9,151	133,907	103,569	30,338
Textile	800,874	218,129	582,745	143,581	86,115	57,466	426,524	116,505	310,019	1,370,979	420,749	950,230
Papermaking & papercraft	27,661	16,710	10,951	56,062	41,812	14,250	38,256	24,837	13,419	121,979	83,359	38,620
Leather	5,360	4,935	425	32,354	26,132	6,222	5,359	4,934	425	43,073	36,001	7,072
Wood, bamboo & grass	19,897	18,844	1,053	607,515	484,024	123,491	19,897	18,843	1,054	647,309	521,711	125,598
Food	151,047	118,040	33,007	295,668	210,673	84,995	54,833	41,269	13,564	501,548	369,982	131,566
Tobacco	34,041	13,042	20,999	—	—	—	—	—	—	31,041	13,042	25,999
Apparel	9,136	4,721	4,415	289,898	154,299	135,599	147,498	112,257	35,241	446,532	277,277	175,255
Printing & bookbinding	37,115	34,157	2,958	6,122	5,295	827	43,234	39,450	3,784	86,471	78,902	7,569
Miscellaneous	12,668	10,840	1,828	40,084	31,903	8,181	32,518	25,809	6,709	85,270	68,552	16,718
Construction	7,910	7,799	111	665,019	658,932	6,087	62,089	60,852	1,237	735,018	721,583	7,435
Utilities	92,313	89,538	2,775	—	—	—	—	—	—	92,313	89,538	2,775
Total of secondary sector	1,823,101	1,109,790	713,311	2,455,853	1,993,821	462,032	1,011,268	603,847	407,421	5,290,222	3,707,458	1,582,764
Commerce	40,444	38,767	1,677	1,935,478	1,406,961	528,517	139,556	120,079	19,477	2,115,478	1,566,807	549,671
Finance	94,311	89,216	5,095	36,223	28,631	7,592	—	—	—	130,534	117,847	12,687
Transport & communication	482,817	444,665	38,152	298,709	287,393	11,316	255,712	243,163	12,549	1,037,238	975,221	62,017
Service	460,627	323,723	136,904	1,161,155	658,741	502,414	203,177	81,710	121,467	1,824,959	1,064,174	760,785
Domestic servants	—	—	—	655,197	70,849	584,348	—	—	—	655,197	277,120	164,328
Day labourers	—	—	—	441,448	277,120	164,328	—	—	—	441,448	70,849	584,348
Civil servants	568,875	553,494	15,381	—	—	—	—	—	—	568,875	553,494	15,381

Total of tertiary sector	1,647,074	1,449,865	197,209	4,528,210	2,729,695	1,798,515	598,445	444,952	153,493	6,773,729	4,624,512	2,149,217
Unknown									86,003		59,968	26,035
Grand total	3,894,639	2,887,573	1,007,066	21,670,737	12,990,569	8,680,168	1,609,713	1,048,799	560,914	27,261,092	16,986,909	10,274,183
Grand total minus unknown & primary sector	3,470,175	2,559,655	910,520	6,984,063	4,723,516	2,260,547	1,609,713	1,048,799	560,914	12,063,951	8,331,970	3,731,981

Source: Nakamura Takafusa, "Zairai sangyō no kibo to kōsei" (Scale and composition of conventional industries), in Umemura Mataji et al., eds., *Nihon keizai no hatten* (Development of the Japanese economy) (Tokyo, Nihon Keizai Shimbun Sha, 1976), pp. 218-219.

Note: In the national census of 1920, "persons without occupation" (including people living on farm rent, real estate income, income from securities or pensions, students, and those in psychiatric hospitals, juvenile reformatories, and prisons) are counted among the "full-time employed" but live-in servants are not. In calculating the employed population, the above-mentioned "persons without occupation" were not counted, but live-in "domestic servants" were. There is a sampling error of 14 persons in the grand total.

Table 2. Class composition of Japanese society (in thousands)

	1888	1899	1909	1914	1920	1925	1930	1935	Remarks
1. Ruling class								(799)	
Political beings	(85) 26	(135) 30	(422) 34	(427) 38	(553) 40	(558) 44	(650) 46	49	Emperor, imperial family, nobles, officials appointed by emperor or with his approval
Parasitic landowners	45	50	169	167	173	166	163	160	Owners of estates of 5 <i>chobu</i> or larger
Capitalists	13	49	198	196	306	307	384	525	Capitalists with ¥100,000 or greater capital, or 5 or more employees
Pensioners	1	6	20	26	34	41	57	65	Ex-officials appointed with imperial approval or above
2. Intermediate class								(4,371)	
Political beings	(2,328) 61	(3,142) 72	(3,291) 94	(3,313) 110	(3,451) 141	(4,116) 186	(3,989) 169	209	Junior officials
Farming households	1,439	1,882	1,660	1,562	1,509	1,567	1,630	1,699	Owners of estates of less than 5 <i>chobu</i> and landed farmers
Fishing households	179	190	230	252	266	290	310	236	Payers of business tax
Self-employed (male households)	233	436	618	639	643	1,118	853	1,122	Same as above
Professional men	414	550	631	671	797	847	889	972	Physicians, teachers, en- gineers, priests and other professional men
3. Ruled class								(14,298)	
Peasant (households)	(3,878) 2,955	(5,665) 3,524	(6,518) 3,068	(7,820) 3,725	(9,899) 3,802	(12,139) 3,826	(13,650) 3,857	3,879	Tenants and owner-tenants

Self-employed (male)	721	612	701	631	911	461	442	398	Non-payers of business tax
(households)	136	1,426	2,440	3,079	4,666	7,271	8,575	9,175	
Labourers	65	103	152	385	520	581	776	846	Junior clerks or below
Lower public servants	6,291	8,942	10,231	11,560	13,903	16,813	19,289	19,468	
Total (1 + 2 + 3)									

Source: Goto Yasushi, "Kindai Nihon no kaikyū kōsei" (Class composition of modern Japan), in Ohashi Takamori, ed., *Nihon no kaikyū kōsei* (Class composition of Japan) (Tokyo, Iwanami Shoten, 1971), pp. 26, 27.

Note: 1 *chōbu* equals roughly 9,918 square metres.

tute the intermediate class. Farmers, foresters, and fishermen among whom tenants and owner-tenants are predominant in number, self-employed businessmen who do not pay taxes, various labourers, and lower public servants make up the ruled class in the Ohashi-Goto formula.

In this formula, while landowners, those in agriculture, forestry, and fishery, and self-employed businessmen are counted as so many households, people belonging to all other strata are counted as individuals.¹⁹ Partly because of this differentiated way of counting, the formula succeeded in reflecting well the significant changes Japan's class composition began to undergo in and after the 1920s. Their findings served to give a keen warning to some economists who, strongly influenced by Marxist economics, took emphatic and often dogmatic note of the stagnant character of Japanese society. The main purpose of the series of studies by Ohashi and Goto seems to have been to serve as a warning.

3. New Estimations on Japan's Social Structure

Ohashi and Goto's unique study, whose influence on academic circles in Japan deserve acclaim, in counting people within some strata as individuals and others as households distorted their results considerably. For this reason, a further study was done, taking into account the findings of various post-war estimates in analysing the data of pre-war censuses, to count the total employed population as individuals in a unified manner. This study, published in 1978, was the work of Professor Hara Akira.²⁰ He handled the data in so sophisticated a manner that, though directly using the Ohashi-Goto framework, he was able to draw a different conclusion from what Ohashi and Goto had drawn.

Hara's estimates were characterized, first of all, by the strictness of the estimating procedure. Though I will not delve into the details here, its relevance to this section demands that I touch on two aspects. First, he made a distinction between "self-employed businessmen" and "nominally self-employed businessmen." Notably, the latter consisted of those businessmen who had to depend either solely on their own labour or at most their labour plus that of their family members; their number was nearly double that of the former, and increased throughout the 1930s. Second, Hara divided workers into "productive workers" and "non-productive workers." He further classified productive workers into (1) the modern productive sector, (2) the domestic industry sector, and (3) simple workers; non-productive workers were classified into (1) the commercial sector, (2) domestic workers, and (3) other services. As a result, he succeeded in revealing some structural features of the strata upholding the pre-war industrialization process of Japan: wage workers in the "modern productive sector" accounted for only 5 per cent in 1920, and 7 per cent in 1930, of the total employed population, and the proportion of self-employed businessmen was higher than earlier estimated. What social relationship existed among self-employed businessmen, nominally self-

employed businessmen, and workers in each individual industry? This important problem will be discussed later.

Professor Hara's estimates made direct use of the framework of the Ohashi-Goto formula. For the sake of subsequent reasoning, however, part of the ruled class will be differentiated herein as the "lower middle class." My own view of Japan's middling class underlies this differentiation, but this point will be elaborated upon in the next section. Hara seems to have underestimated the numbers of family-member workers (his figures are replaced with my own estimates), and independent farmers with farms no larger than one hectare are identified as "peasants" and counted into the "lower middle class." The military is divided into officers, non-commissioned officers, and common soldiers, respectively counted in the "political ruling class," "lower middle class," and "others." My resultant estimates can be seen in table 4. It must be evident from this table that the middle and lower middle classes were unignorable in any study of the social structure of pre-war Japan or in analysing the social conditions that provided the basis for the nation's economic growth after World War II.

4. Classification of SMIs

Considering the problems of Japan's SMIs in the period between the two world wars, their vastly diverse subsectors have to be classified by some criterion.

The SMIs in those years were generally classified in one way by Dr. Yamanaoka Tokutaro and in another by Komiyama Takuji.²¹ However, both simply added the geographical classification into "urban" and "rural" industries to broad breakdowns by product category. Komiyama's estimates are cited in table 5.

There are a number of conceivable criteria for comparison and classification. We can divide industries into urban and rural. In this case, one of the criteria would be, for example, whether the industry providing the raw materials is urban-based or if by-products of agriculture or forestry such as straw, bamboo, or wood are used as raw materials. Another criterion may focus on male or female workers on whose labour the industry mainly depends. Sewing and embroidery are likely to involve female labour, while machinery and instrument manufacturing and metal processing tended to rely mainly on male labour. We may also distinguish between industries concentrated in specific localities and those spread nation-wide. The production of umbrellas, Japanese-style lanterns, and abacuses was localized, while such common items of processed food as soy sauce and vinegar were produced nation-wide.

For our immediate purposes, however, the following criteria will be used. First, industries will be divided into either "traditional" or "technologically improved," according to the character of the production technology. Next, according to the essential characteristics of the product, differentiation will be made between those that are domestic-market dependent and those that

Table 3. Class composition of Japanese society (in thousands)

	1920	1930	1940
Political ruling mechanism			
High-ranking officials	371.1	413.9	1,829.1
Army and navy officers	120.6	171.1	134.7
	250.5	242.8	1,694.4
	(1.36)	(1.40)	(5.39)
	(0.44)	(0.58)	(0.40)
	(0.92)	(0.82)	(5.00)
Economic ruling class			
Landowners	183.9	198.1	239.0
Corporate managers	133.7	138.3	104.1
	50.2	59.8	134.9
	(0.67)	(0.67)	(0.70)
	(0.47)	(0.47)	(0.31)
	(0.18)	(0.20)	(0.40)
Intermediate strata	5,656.4	5,928.9	6,147.2
Farmers, foresters, & fishermen	3,921.6	4,257.1	4,775.6
Self-employed men	1,450.5	1,431.7	1,082.6
	(20.74)	(20.02)	(18.13)
	(14.38)	(14.37)	(14.08)
	(5.32)	(4.83)	(3.19)
In mining, manufacturing, transportation, & communication sectors			
In construction sector	599.9	433.9	147.8
In commercial sector	159.1	42.0	42.1
In service sector	510.5	702.2	620.6
Professional men	181.0	253.6	272.1
	284.3	240.0	289.0
	(1.04)	(0.81)	(0.85)
Ruled class	21,055.3	23,078.7	25,699.8
Craftsmen	1,029.3	1,906.9	1,658.0
In manufacturing sector	613.6	1,136.8	748.0
In construction sector	415.7	770.1	910.0
Farm, forestry, & fishery workers	10,631.4	10,291.2	9,486.0
Workers	1,467.2	1,590.2	875.9
Family member workers	9,164.2	8,701.0	8,610.1
Nominally self-employed men	2,139.6	2,410.9	2,506.9
	(7.85)	(8.14)	(7.39)
In mining, manufacturing, transportation, & communication sectors			
In mining, manufacturing, transportation, & communication sectors	755.9	504.5	524.8
	(2.77)	(1.70)	(1.55)

In commercial sector	810.9	(2.97)	1,115.5	(3.77)	985.8	(2.91)
Family member workers in above	459.6	(1.69)	632.2	(2.13)	832.1	(2.45)
In service sector	113.2	(0.42)	158.7	(0.54)	164.2	(0.48)
Salaried men	1,309.8	(4.83)	1,591.4	(5.37)	3,291.0	(9.70)
Low-ranking officials	197.8	(0.73)	251.6	(0.85)	413.2	(1.22)
Clerical and technical employees	523.2	(1.94)	640.5	(2.16)	1,773.7	(5.23)
Professional employees	588.8	(2.16)	699.3	(2.36)	1,104.1	(3.26)
Productive workers	4,231.7	(15.52)	4,513.8	(15.24)	6,961.6	(20.53)
In modern productive sector	1,438.1	(5.27)	2,098.2	(7.08)	4,206.0	(12.40)
In domestic industry sector	1,878.9	(6.89)	1,280.6	(4.32)	1,396.3	(4.12)
Simple workers	914.7	(3.35)	1,135.0	(3.83)	1,359.3	(4.01)
Non-productive workers	1,713.5	(6.28)	2,364.3	(7.93)	1,796.3	(5.30)
In commercial sector	607.7	(2.23)	835.9	(2.82)	512.9	(1.51)
Domestic workers	655.2	(2.40)	781.3	(2.64)	705.2	(2.08)
In other services	450.6	(1.65)	747.1	(2.52)	578.2	(1.70)
Total	27,266.7	(100.00)	29,619.6	(100.00)	33,915.1	(100.00)

Source: Hara Akira, "Kaikyū kōsei no shin suikei" (New estimate of class composition), in Ando Yoshio, ed., *Ryō taisei kan no Nihon shihon shugi* (Japanese capitalism in the interwar period) (Tokyo, University of Tokyo Press, 1978), p. 354.

Note: Figures for 1940 do not cover Okinawa Prefecture.

Table 4. Changes in class composition, 1930-1940

	Absolute number (in thousands)		Percentage		Percentage in each class	
	1930	1940	1930	1940	1930	1940
Political or economical ruling class						
High-ranking officials	391.9	408.1	1.32	1.19	100.00	100.00
Army and navy officers	171.1	134.7	0.58	0.40	43.66	33.42
Landowners	22.7	29.4	0.08	0.09	5.79	7.29
Corporate managers	138.3	104.1	0.47	0.31	35.29	25.82
	59.8	134.9	0.20	0.40	15.26	33.47
Middle class	3,920.9	3,955.1	13.24	11.66	100.00	100.00
Farmers, foresters, & fishermen	2,249.2	2,583.5	7.59	7.62	57.36	65.82
Self-employed men	1,431.7	1,082.6	4.83	3.19	36.51	27.37
Professional men	240.0	289.0	0.81	0.85	6.12	7.31
Lower middle class	17,343.1	19,284.6	58.57	56.86	100.00	100.00
Craftsmen	1,907.9	1,658.0	6.44	4.89	11.00	8.60
Nominally self-employed men	1,778.7	1,674.8	6.01	4.94	10.26	8.68
Salaried men	1,591.4	3,291.0	5.37	9.70	9.18	17.07
Peasants	2,007.9	2,192.1	6.78	6.46	11.58	11.37
Family member workers in agriculture, forestry, & fishery	8,701.0	8,610.1	29.38	25.39	50.17	44.65
Family member workers in other sectors	1,326.9	1,658.1	4.48	4.89	7.65	8.60
Non-commissioned officers	29.3	200.5	0.09	0.59	0.17	1.04
Workers	7,773.6	8,807.8	26.24	25.97	100.00	100.00
In modern productive sector	1,959.9	4,093.0	6.62	12.07	25.21	46.47
In domestic industry sector	941.2	951.5	3.18	2.81	12.11	10.80
In commercial sector	835.9	512.9	2.82	1.51	10.75	5.82
In other service sector	595.1	349.5	2.01	1.03	7.66	3.97

In agriculture, forestry, & fishery	1,590.2	875.9	5.37	2.58	20.46	9.94
Simple workers	1,070.0	1,319.8	3.61	3.89	13.76	14.98
Domestic workers	781.3	705.2	2.64	2.08	10.05	8.01
Others						
Common soldiers	190.8	1,464.5	0.64	4.32	—	—
Total	29,619.6	33,915.1	100.00	100.00	100.00	—

Source: Takeuchi Johzen, "Sho kaisō to sono dōkō" (Various social strata and their trends), in *The Society of Socio-economic History*, ed., *Sen kyūhaku sanjū nendai no Nihon keizai* (The Japanese economy in the 1930s) (Tokyo, University of Tokyo Press, 1982), p. 207.

Note: Figures for army and navy officers are taken from census returns. The number of the navy's petty officers and common sailors are calculated by multiplying their combined total in 1940 by their respective ratios in 1930 according to *Teikoku tōkei nenkan* (Statistical yearbook of the empire), based on the assumption that their relative proportions remained unchanged. Those of the army's are estimated on the basis that a company comprised four squads in 1930 and three platoons in 1940 and that in every technical arm a division consisted of four corps.

Table 5. Classification of small industries

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1. Textile industry
Woven silk, rayon, cotton, and wool fabrics
 2. Miscellaneous industries
Ceramic ware, lacquer ware, hardware, and *tabi* (digitated socks)
 3. Industries mainly based in big cities
Rubber products, enamelled ironware, celluloid products, bicycles, etc.
Knit fabrics, brushes, light bulbs, glass products, toys, etc.
 4. Industries mainly relying on sideline work and domestic labour (“sweat system”)
Needlework, toys, bookbinding, sandal thongs, embroidery, knitting, paper products, etc.
Jute, straw, wood, bamboo, grass and bine products
 5. Localized industries
Umbrellas, lanterns, wicker suitcases, etc.
 6. Metallurgical, mechanical, and appliance industries
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Source: Komiyama Takuji, *Nihon chūshō kōgyō kenkyū* (Study of Japan's SMIs) (Tokyo, Chuo Koron Sha, 1941), pp. 253–255.

are export dependent. The criteria of distinction can be only relative. For instance, straw products may be either intended mainly for the domestic market or primarily for export. However, if we plot two-dimensional co-ordinates against these two axes of criteria, we will find the concentration of miscellaneous industries, which are the most labour-intensive and involve the greatest number of tiny enterprises, in the area of products that are manufactured by traditional techniques and are more suitable for export.

Next, let us distribute in the space co-ordinated by these criteria the following categories: (1) the sector of consumer goods production for the domestic market, (2) SMIs heavily dependent on export, and (3) machinery manufacturing and metal processing. Category 2 will be simply referred to as export-oriented small and medium-scale industries (ESMIs). In category 1, technological improvements and an expanding trend were observed in part for sawmills and pharmaceutical industries. Whereas antique modes of production survived in the sectors producing items of traditional craftwork and luxury consumer goods, some of the producers were socially privileged. On the other hand, though there were some export opportunities for products made from straw and bamboo, these products were mostly produced by farmers as a sideline; technological improvements were few and wages were low. In category 2, the weaving of silken fabrics for export and the knitting as such of knit fabrics underwent technological improvements, but most of the labour-intensive subsectors in this category constituted an area overlapping a part of category 1. Enterprises in category 3 were generally better off than those in the other categories. Metal-processing industries or industries producing machine parts for other subsectors of the mechanical industry and requiring unique technological standards and substantial investment in equipment were relatively large-scale businesses that developed rapidly in

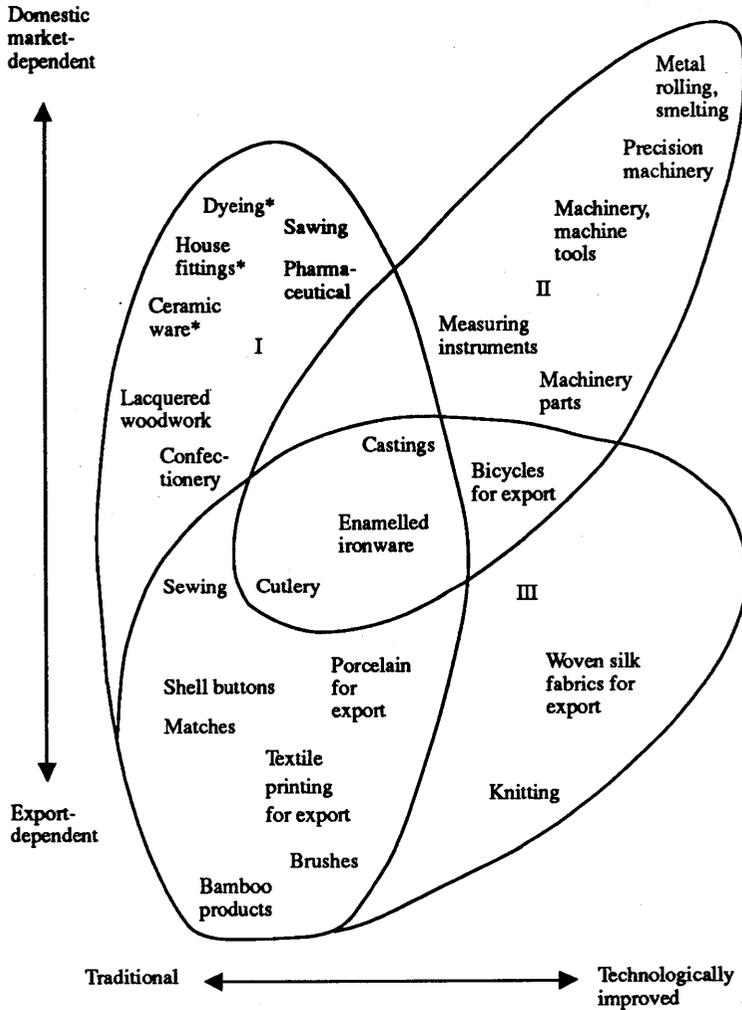


Fig. 1. Distribution and classification of SMIs in Japan between the two world wars

Source: Takeuchi Johzen, "Sho kaisō to sono dōkō" (Various social strata and their trends), in The Socio-economic History Society, ed., *Sen kyūhyaku sanjū nendai no Nihon keizai* (The Japanese economy in the 1930s) (Tokyo, University of Tokyo Press, 1982), p. 239.

Notes:

I: consumer goods production for domestic market

II: small industries producing export items

III: machinery manufacturing and metal processing

* only high-quality goods

the 1930s. However, the manufacturers of enamelled ironware and cutlery grew slowly, and many of them were operating on a tiny scale, relying on family labour. In the bicycle industry, where a single finished product consisted of a large number of components, there was a polarizing tendency between the producers of some parts and those of others, and the manufacturers of bicycles for export were generally smaller in scale of operation than bicycle manufacturers for the domestic market.

Figure 1 includes all these considerations. Though it by no means gives a precise picture, the figure does reveal an interesting fact: if we suppose the lower left corner to be the zero point, the average financial standing or the wage level of skilled workers in each sector will be found proportional to the distance from that point.

This book examines four minor industries primarily belonging to the area of ESMIS. The most important reason for the choice of ESMIS is that it is where market conditions are the most unstable and accordingly where the conflict of interests and unrest within the prevailing mode of production are most evident. On that basis, we can look at the bicycle industry in the light of its relationships with other sectors, such as machinery manufacturing and metal processing, or at the knit-fabric industry by following all the processes from knitting to sewing. By considering the downstream areas of the mechanical and metallurgical industries and textile manufacturing through these two sectors and by observing the smallness of scale of business, stagnation, and instability in the shell-button and brush industries, we may conceivably find some clues for objective judgment.