Special Feature

Changes in the Manufacturing Industry of Korea (1940-1949)*

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Introduction

The period of 1940-1945 constitutes an important timeframe for Korea, for it is during this era that colonial society came to an end and post-war Korean society came into being. This period is also one which has very important implications in terms of the understanding of the process through which the Korean economy developed in the 20th century.[1] Furthermore, as the main focus of imperial Japan during this period was that of waging war, industrialization for the most part revolved around the munitions industry.

Although the development of Joseon's factory industry during the period spanning from 1940 to 1945 had especially important implications as far as the modern history of Korea is concerned, it is only recently that this particular period has begun to come under increased scrutiny. This situation has in large part been the result of the shortage and inaccuracy of materials available, a denouement which in turn can be attributed to the thorough controls established over the economy during wartime.

Viewed from the standpoint of the 20th century as a whole, the 1940s can be regarded as a kind of black hole. As a result of this reality, the study of Korean modern history has in many ways been segmented or marred by discontinuity. While this discontinuity has been characterized by the separate conduct of the study of the colonial and post-liberation periods without any attempt to analyze them together, the segmentation has taken the form, despite the conduct of studies at the microscopic level such as case studies of specific enterprises or industries, of the absence of macroscopic and comprehensive studies.

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1. The term 'Joseon' was used up until the establishment of the Republic of Korea in 1948. As this study focuses on the period that ended in the late 1940s, the term 'Joseon' will be employed even after 1945. In the case of the period following the division into South and North Korea, the two states will be referred to as South Joseon and North Joseon. Although the distinction between North and South is based on the 38th parallel, Hwanghaedo will be regarded as being part of North Joseon, Gyeonggido South Joseon, and half of Gangwondo as being in the North and the other half in South Joseon in cases where only provincial documents are available. In the case of military unit materials, the counties located in the 38th parallel north will be separated based on the location of the relevant county office. Materials that are already based on the division into north and south across the 38th parallel will be used as is.

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The presence of such a vacuum in terms of research history is evidenced by studies on macroscopic indicators of industrial change such as the number of factories and laborers or changes in capital. The basic statistics related to the numbers of factories and laborers up until 1940 were mainly based on the *Annual Statistics of the Government-General of Joseon* (朝鮮總督府 統計年報), or those prepared by the Government-General of Joseon (Chosēn)'s Bureau of Productive Industries (朝鮮總督府 殖産局). However, for the period spanning from 1941 to 1943, the main statistical materials employed have been taken from the *Report on the Investigation of Joseon Labor Skills Statistics* (朝鮮労働技術統計調査結果報告). However, problems may emerge when linking and using statistical sources prepared by different agencies using different collection methods. Some of the studies that have used these two different sources of materials have in effect failed to take this fact into consideration.

This study attempts to address these matters by focusing on two sets of materials for the year 1941, which can be regarded as the point in time in which the change was made from one statistical method to the other. The two sets of materials consist of the 1941 version of the *Joseon Factory Register* (朝鮮工場名簿) and the *Summary of the Investigation of the Number of Factories and Workers in Joseon at the End of 1941* (昭和十六年末現在朝鮮ニ於ケル工場数及職工数調概要). These two sets of materials are regarded as not only sharing similar characteristics, but can also be seen as falling under the same category of statistics as those found in the *Annual Statistics* published by the Government-General of Joseon (Chosēn). As such, by comparing the above-mentioned two sets of statistical materials with the *Report on the Investigation of Joseon Labor Skills Statistics* for the year 1941, one can analyze the problems which may emerge when these two different statistical methods are combined.

Meanwhile, while the general expectation as the end of the war drew closer was that Joseon's industries would also collapse, a look at statistics up until 1943 reveals that the number of factories and workers in fact continuously increased; as such, there had been a failure to explain the changes that took place at the end of the war. In the present study, certain parts of the *Report on the Investigation of Joseon Labor Skills Statistics* for the year 1944 were supplemented by data from reports published by the United States Army Military Government in Korea (USAMGIK). Such an approach makes it possible to explain the nature of the changes in Joseon's factory industry at the

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end of the war in a more detailed manner.

Furthermore, as far as the materials related to the numbers of factories and workers in Joseon after liberation are concerned, the main sources employed have been the *Investigation of the Industrial Labor Force and Wages in South Joseon* (南朝鮮産業労務力及賃金調査) conducted in 1946, and the *Report on the Investigation of Labor Statistics in South Joseon* (南朝鮮労動統計調査結果報告) published in 1947 and 1948. This study was able to develop a better understanding of the statistics pertaining to factories in South Joseon during 1946-1949 by also including in the analysis a document called the *Joseon Factory Register* that was published in 1949. Furthermore, in order to authenticate the factory statistics of South Joseon, the present study separates the factory statistics prior to the war into those pertaining to North and South Joseon. By linking this with factory statistics in South Joseon after 1946, the present study attempts to reveal how South Joseon's factory industry changed as a result of the1940s.

Another important aspect of the study of Joseon industry during the 1940s is the changes that took place in terms of industrial capital. In this regard, the present study focuses on the materials pertaining to the investigations of the assets of the coal mining industry carried out in Japan at the behest of the General Headquarters of the Supreme Commander for Allied Powers (hereinafter referred to as SCAP). Two types of such investigative materials are known to exist. One was prepared based on the instructions submitted by SCAP in September 1945 that mining and manufacturing companies whose annual business sales exceeded one million yen submit a business report within a month. This investigation was based on Ministry of Agriculture and Industry Order No. 1, the results of which were recently summarized by Professor Takeda Haruhito and manufactured into microfilms (Takeda 2003). The other was the investigation of overseas property owned by the Japanese as of August 1945 undertaken in accordance with the Ministry of Finance Order Regarding the Report of Overseas Properties, etc. (在外財産等ノ報告ニ關スル大藏省令) (Ministry of Finance Order No. 95) announced on November 8, 1945. *The List of Enterprises' Overseas Properties Based on the Ministry of Finance Order No. 95 Prepared by the Report of Overseas Properties Investigation Committee* (在外財産調査會に於ける調査 九十五號省令に基く在外企業財産明細表) that is currently housed in the National Archive of Japan is one of the results of this investigation. In addition, after the publication of numerous progress reports,

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the comprehensive results of this investigation were published as a three-volume set entitled *Japanese External Assets as of August 1945* on September 30, 1948.[2]

Unlike data regarding capital (stated capital and paid-in capital) materials pertaining to assets make it possible to estimate the scale of investment in individual regions. A total of 5,300 Japanese companies were investigated as part of the above-mentioned investigation. To this end, the assets of 1,500 companies (separated into large, medium and small companies, with 500 of each included) at the North and South Joseon, provincial and industry levels were recorded. Based on the examination of such companies for which the scale of assets can be ascertained, the present study analyzes the state of the distribution of Japanese-owned mining and manufacturing industries at both the North and South Joseon and provincial levels at the end of the war, as well as the size of assets of capital groups and the relationship of the latter with the munitions industry. Such an exercise is intended to facilitate the explanation of the characteristics of the Joseon mining and manufacturing industries at the end of the war from the standpoint of assets.

Thus, by newly developing and supplementing various materials and assuring the presence of in-depth statistics related to the main indicators of industries, such as the number of factories and workers, industrial capital and assets, this study not only interprets existing materials regarding Joseon's factory industry during wartime, but also provides the basic statistics needed for the future study of the factory industry during this period. In addition, based on these statistics, an analysis of the various characteristics of the links between Joseon industry during the Japanese colonial period and Joseon industry after liberation is also undertaken. The analysis of the changes in Joseon's factory industry during wartime also requires an examination of factory production costs. However, materials which cover all the industries, such as industrial

2. The Japanese overseas properties were referred to as vested or enemy property in Joseon. The fact that USAMGIK investigated such vested properties in a thorough manner is evidenced by the various kinds of reports that were published in conjunction with such properties. The Table of Vested Companies included in the *Economic Yearbook* (經濟年鑑) (1949) published by the Investigation Division of the Bank of Joseon is regarded as the most organized summary of such matters. As Japanese overseas properties and vested properties are essentially two sides of the same coin, a thorough investigation of the two should yield identical results.

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production and factory production statistics compiled by the Government-General of Joseon, have yet to be discovered. Although the *Annual Statistics of the Government-General of Joseon* were published up until 1943, industrial sector statistics were no longer included after 1941.[3] To this end, the collection of data pertaining to industrial production costs at the individual industry level is required in order to in the future reorganize overall production costs. However, this aspect will not be dealt with in this study.

Changes in the Numbers of Factories and Workers

The materials which can be used to analyze the number of factories in Joseon during the 1940s are found in Table 1. Of these, the *Joseon Factory Register* (B) was published annually from 1930 onwards. Based on the year being investigated, it can be construed that this document was published until 1941. The number of factories listed in the *Joseon Factory Register* are consistent with the number of factories (A) found in the *Annual Statistics*. All that remains of the *Summary of the Investigation of the Number of Factories and Workers in Joseon* published by the Commerce and Industry Department of the Bureau of Productive Industries of the Government-General of Joseon, a document which investigated the state of affairs at the end of 1941, is a transcribed copy. The *Investigation on Joseon Labor Skills Statistics* was implemented on four occasions during the period spanning from 1941 to 1944, three of which were published in book format.[4] Although the results of the fourth investigation

3. The *Annual Statistics* was published until 1942 by the Government-General of Joseon. The 1943 version was published under the name of *Joseon Statistics Yearbook* (朝鮮統計年鑑) by the transitional government of South Joseon in March 1948. The latter publication was based on materials which the Government-General of Joseon had prepared for inclusion in its *1943 Annual Statistics*.

4. Explanation of the *Investigation of Joseon Labor Skills Statistics* (朝鮮労働技術統計調査解説) described, "*Investigation of Joseon Labor Skills Statistics* was an annual survey conducted according to Government General of Korea Order No.147, Regarding Implementation of Statistical Surveys of Joseon's Labor Skills. The survey was carried out according to the laws and rules established in Japan, such as Law No. 52 of Taisei 11th year, Regarding Implementation of Statistical Surveys in the Field, Imperial Command No. 378 of Showa 16th year, Regarding Implementation of Statistical Surveys in Joseon, Taiwan and Sakhalin as Specified in Law No. 52 of Taisei 11th year, and Imperial Command No.380 of Showa 16th year, Regarding

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were never officially announced, some of this data can be found in the *Handbook on the Investigation of Statistics Related to the Joseon Economy* (朝鮮經濟統計要覽) and SCAP materials.[5] The materials produced after 1945 include the documents pertaining to the investigation conducted in November

Table 1. Main documents pertaining to investigations of factories in the 1940s [6]

Section	Titles of materials	Year of investigation	Month / date of investigation	Agency in charge of investigation
A	*Annual Statistics of the Government-General of Joseon* (朝鮮總督府 統計年報)	1910-40	End of the year, annual	The Govt. Gen. of Joseon
B	*Joseon Factory Register* (朝鮮工場名簿)	1930-41	End of the year, annual	Bu. of Productive Industry of the Govt. Gen. of Joseon
C	*Summary of the Investigation of the Numbers of Factories and Workers in Joseon* (朝鮮ニ於ケル工場数及職工数調概要)	1941	End of the year	Bu. of Productive Industry of the Govt. Gen. of Joseon
D	*Report of the Investigation on Joseon Labor Skills Statistics* (朝鮮労働技術統計調査結果報告)	1941-44	June 10	General Affairs Bu. of the Govt. Gen. of Joseon
E	*Investigation of the Industrial Labor Force and Wages in South Joseon* (南朝鮮産業勞務力及賃金調査)	1946	November	Transitional Govt. of South Joseon
F	*1st Report on the Investigation of Labor Statistics in South Joseon* (南朝鮮労動統計調査結果報告)	1947	August	Transitional Govt. of South Joseon
G	*2nd Report on the Investigation of Labor Statistics in South Joseon* (南朝鮮労動統計調査結果報告)	1948	January	Transitional Govt. of South Joseon
H	*Factories and Mining Register* (工場鑛山名簿)	1949	End of December	Ministry of Commerce and Industry

Note: The investigation carried out in 1941 found in section D refers to the investigation conducted on August 10, 1941.

Implementation of Statistical Surveys of Labor Skills " While the Government-General of Joseon's Annual Statistics was prepared by the Bureau of Productive Industries, *Investigation of Joseon Labor Skills Statistics* (労働技術統計調査) was put together by the Labor Section of the Census Division of the General Affairs Bureau.

5. The results of the investigation conducted in 1944 are included in the *Handbook of the Investigation of Statistics Related to the Joseon Economy* (朝鮮經濟統計要覽) (Joseon Economic News Agency 1949:152-155) and the *Economic Potential of an Independent Korea* (The Korea Economic Mission Department of State 1947:69-75).
6. For more details of these materials, please see the list of references.

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1946 by the transitional government of South Joseon. Another source is the *Report on the Investigation of Labor Statistics in South Joseon* compiled in August 1947 and January 1948 using similar methods as those employed in conjunction with the *Investigation of Joseon Labor Skills Statistics*. More to the point, although different in that the target of the latter was the parts of Joseon that lay south of the 38th parallel, similar names and methods were employed in both cases. Lastly, there is the *Factories and Mining Register* compiled by the Ministry of Commerce and Industry of the Republic of Korea, the first material of its kind to be published after liberation. Although published in 1950, the investigation was in fact carried out at the end of December 1949. As such, statistics related to the number of factories can be obtained for all the years in the 1940s, except 1945.

The materials listed in sections D to G for the most part consisted

Figure 1. Number of factories in Joseon and South Joseon during the period spanning from 1930-1949

Source: Prepared using the materials in Table 1.

Note: Cases in which the letter 'A' has been added are based on materials taken from *Annual Statistics* and those in which the letter 'I' has been added to materials from the *Investigation of Joseon Labor Skills Statistics*. In the case of materials dealing with the period from 1930 to 1941, the separation of North and South Joseon was based on the county in which the addresses of the factories listed in the *Joseon Factory Register* were registered. As far as the period spanning from 1941 to 1944 is concerned, the division of North and South Joseon was based on the province to which the relevant companies were attached in the *Investigation of Joseon Labor Skills Statistics*. Gyeonggi Province was classified as part of South Joseon while Hwanghae Province was regarded as part of North Joseon. Meanwhile, half of Gangwon Province was placed in North Joseon and the other in South Joseon.

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of investigation of the laborers and technicians who were employed in the factories rather than the factories themselves. However, the investigation of factories was also carried out during the process. All the materials from sections A to G share the common point of defining a factory as a 'place that employs 5 or more laborers on a full-time basis or that has the facilities needed to employ 5 or more laborers.' Thus, we can surmise that the scope of these various investigations of factories was essentially the same.

A summary of these materials and graph in terms of the changes in the number of factories in Joseon from 1930 to the end of the 1940s can be seen in Figure 1. Thus, we can see that while the number of factories gradually increased during the 1930s, serious fluctuations began to emerge after 1941. Here, special attention should be paid to the rapid increase that took place in 1941 and the decrease that occurred in 1944. The division of Joseon into North and South Joseon in order to unify the comparative standards used to measure the number of factories in South Joseon results in making it clear that the number of factories rapidly decreased in South Joseon from 1944 to 1946. Given the change in the number of factories in South Joseon, the conclusion can be reached that the number of factories in Joseon rapidly decreased as a whole.

A closer look at Figure 1 makes it clear that 1941 was quite different from previous years in terms of the number of factories. The increase in the number of factories that particular year was significantly higher than that which occurred in the years that preceded and followed it. If we accept the statistics regarding the number of factories found in the *Annual Statistics* (until 1940) and those found in the *Investigation of Joseon Labor Skills Statistics* from 1941 onwards as is and calculate the increase in the number of factories over the previous year based on this assumption, then we are left with data that looks like Figure 2. While the rate of increase for the period of 1930-1940 ranged from 0~10%, the average increase rate for that timeframe was 5.4%. However, the increase rate suddenly rose by 54.1% in 1941. This high increase rate was a unique change that was not replicated at any time before and after that particular year.[7]

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7. The increase rate in 1941 changes depending on which of the three statistical sources pertaining to the number of factories in 1941 is employed as a comparative subject. Thus, the increase rate is estimated at 54.1% when the *Report of the Investigation on the Joseon Labor Skills Statistics* published in 1941 is employed as a comparative. (That being said, the number of factories in

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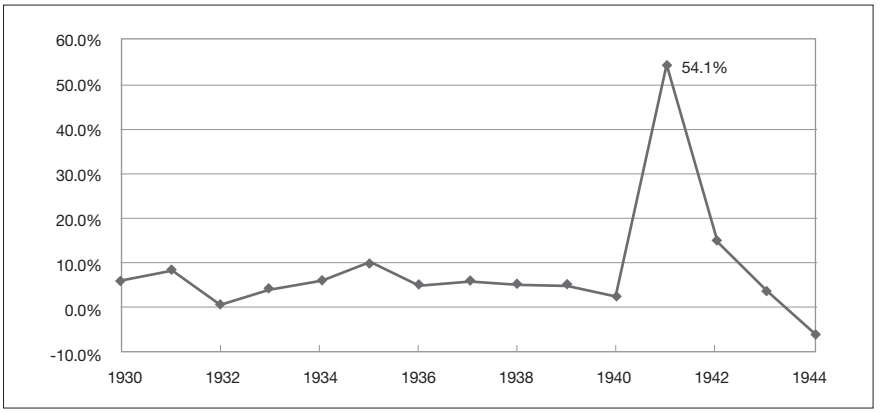
Figure 2. Increase in the number of factories over the previous year



Source: Estimated using the materials in Table 1.

Fortunately, there are three kinds of materials related to the number of factories in 1941. This allows us to analyze the increase in the number of factories in a more detailed manner. In Table 2, the number of factories (A) in 1940 is taken from the *Annual Statistics* compiled by the Government-General of Joseon. 1941b (B) is a summary of the *Joseon Factory Register* for 1941. Meanwhile, 1941c (C) is based on the *Summary of the Investigation of the Numbers of Factories and Workers in Joseon at the end of 1941,* and 1941d (D) on the *Report on the Investigation of Joseon Labor Skills Statistics in 1941* (as of August 10, 1941).

Although B and C exhibit great differences with regards to the 'weaving' and 'other' industries, the difference between the other industry groups is quite limited. However, a look at the classification of industries in the *Joseon Factory Register* and the *Investigation of Joseon Labor Skills Statistics* reveals that while sewing and headwear is classified as belonging to the 'other' category in the *Joseon Factory Register*, they are both encompassed within the 'weaving industry' in the *Investigation of Joseon Labor Skills Statistics*. There were 737 sewing factories listed in the *Joseon Factory Register* in 1941. In this regard, when we subtract these 737 factories from the 'other' category found in B and put them into the 'weaving industry,' B and C are almost consistent in terms of the number of factories at the industry group level. In other words, B and

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1940 should be based on the number of factories found in *Annual Statistics*.)

C can be regarded as in fact constituting identical statistics.[8] In addition, as the *Annual Statistics* and *Joseon Factory Register* listed an identical number of factories until 1940, the conclusion can be reached that materials B and C are in fact based on a similar statistical structure as that found in the *Annual Statistics*. The number of factories in 1941 should be regarded as having actually increased if the statistics in A, B, and C are assumed to be congruent. This is because, based on identical investigation standards, C showed a rapid rate of increase rate (33.9%) over the totals listed in A.

Table 2. Number of factories by industry group (1940 and 1941)

	1940	1941b	1941c	1941d	Magnification of A		
	A	B	C	D	B	C	D
Weaving	667	**876**	1,680	1,999	1.30	2.52	3.00
Metal	286	362	364	651	1.27	1.27	2.28
Machinery	693	**910**	940	888	1.30	1.36	1.28
Ceramics	385	766	780	1,168	1.99	2.03	3.03
Chemical	1,594	**1,428**	1,523	940	0.89	0.96	0.59
Sawmill	472	1,169	1,163	1,551	2.48	2.46	3.29
Printing	324	455	455	532	1.40	1.40	1.64
Food and beverage	2,075	2,196	2,201	2,472	1.06	1.06	1.19
Electricity	30	17	17	168	0.57	0.57	5.60
Other	642	1,271	443	666	1.98	0.69	1.04
Total	7,168	**9,457**	9,566	11,035	1.32	1.33	1.54

Source: Prepared based on B, C, and D in Table 1.

Note: The boldface numbers (weaving, machinery and chemical industry) found in Column B were calculated by adding nine factories, which was the average number of factories found on each page. Such a calculation was necessitated by the fact that the last page of the original copy was missing. The margin of error in terms of the sum of the number of factories in each of these three industries is ± 9. The overall margin of error is ± 27.

Let us now compare C and D. While C was investigated at the end of

8. *The Summary of the Investigation of the Number of Factories and Workers in Joseon at the End of 1941* includes a cumulative comparison table of the number of factories from 1932 to 1941. Given the inclusion of the term 'cumulative,' the conclusion can be reached that the Bureau of Productive Industries of the Government-General of Joseon perceived the statistics concerning the number of factories in 1941 as having been investigated in a manner that was comparable to previous years.

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1941, D was investigated on August 10, 1941. Thus, D was investigated about four months before C. If the number of factories did in fact continuously increase in 1941, then the number of factories found in C should be higher than in D. However, the number of factories in D, which was investigated four months earlier, was 13.3% greater than that found in C. In this regard, while the statistics in C were compiled by an administrative organization based on the reporting practices of the Government-General of Joseon, the statistics in D were amassed by the Census Division of the Government-General of Joseon based on the Instructions Regarding the Investigation of Labor Skills Statistics (勞動技術統計調査令). The relationship between these two shares many similarities with the relationship between the *Annual Statistics* and the Census Division's work as pertains to population.[9] Viewed from the standpoint of the thoroughness of the investigation, D must have been carried out in a more thorough fashion than C, thus explaining why the number of factories in D was higher than in C, and this despite the fact that D was investigated at an earlier date.

Let us go back to Table 2 and compare the changes in the number of factories at the industry group level. As previously mentioned, A and B, and C and D, used the same standards in terms of industrial classification.[10] B and C were in fact identical statistics. Nevertheless, a comparison of C and D with regards to industry group classification reveals great differences in the metal, ceramics and chemical industries. Although only four months elapsed between these two investigations, the change in the number of factories that can be gleaned from these two sources is beyond the logical level.[11] In short, as the

9. The population numbers found in the *Annual Statistics* tended to rapidly increase in years in which the census was compiled. This phenomenon might reflect the inclusion in some manner of the results of the census in this particular administrative investigation.

10. In terms of classification by industry group, factories that were classified as 'ceramics' in A and B were identified as falling under 'ceramics and quarrying' in C and D. In other words, while the quarrying industry was classified as 'other' in the *Joseon Factory Register*, it was included as part of 'ceramics' in the *Investigation of Joseon Labor Skills Statistics* and referred to as the 'ceramics and quarrying industry.' According to the *Investigation on the Joseon Labor Skills Statistics* in 1941, the 'masonry manufacturing industry' and 'other quarrying industry' had a combined number of 58 factories.

11. In the case of the electricity industry, while water supply companies were regarded as falling under the sphere of 'gas, electricity and water supply companies' in D, they were not included in the factory category in the *Joseon Factory Register*.

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statistical series employed in conjunction with the *Annual Statistics* compiled by the Government-General of Joseon prior to 1940 exhibits clear points of departure from that used in the *Investigation of Joseon Labor Skills Statistics* amassed from 1941 onwards in terms of investigation methods and standards, it is difficult to compare the numbers of factories found in these two statistical sources without taking these differences into consideration. If we conclude that the *Investigation of Joseon Labor Skills Statistics* was more precise because it involved on-the-spot surveys, then the number of factories found in the *Annual Statistics* and *Joseon Factory Register* up until 1940 should be seen as having been somewhat exaggerated.

Using the same materials related to the number of factories, one can also analyze the changes in number of factory workers in Joseon during the 1940s. Figure 3 summarizes the statistics regarding the number of factory workers during the period from 1930 to 1949 based on these same materials.[12]

A comparison of Figure 3, which is concerned with the number of factory workers, and Figure 1 focused on the number of factories yields an important difference. The number of factories reached its peak in 1943 and started to decrease from 1944 onwards. However, the number of factory workers continued to increase even in 1944. A higher rate of increase in terms of the number of factory workers was recorded in 1944 than in 1942 and 1943. Thus, production was carried out based on labor-intensive methods that involved the expansion of labor inputs amidst circumstances in which increasing capital inputs had become more difficult. It is unclear whether the number of factory workers continuously increased up until August 1945. However, what is clear is that it rapidly decreased after the colonial system collapsed. In the case of South Joseon, an investigation of the number of factory workers was conducted at the end of November 1946. A comparison of this with the investigation conducted in June 1944 reveals that the number of factory workers decreased by 59.4%, or from 300,520 to 122,159 (The Bank of Joseon 1949:152).

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12. *The Summary of the Investigation of the Numbers of Factories and Workers in Joseon at the End of 1941* included only factory workmen in its calculation of factory workers, thus meaning that staff members and other employees were excluded from the statistics compiled during the period spanning from 1930-1940. Had these employees been included, the number of factory workers would be misinterpreted to be smaller in 1941than in 1940.

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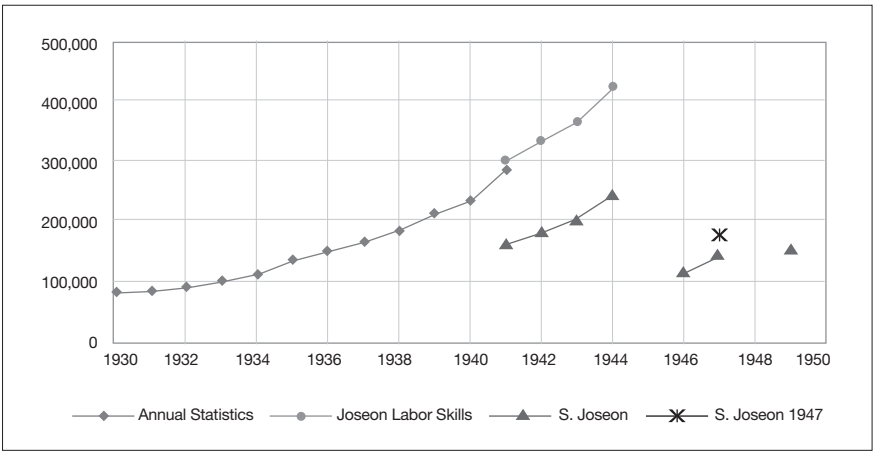
Figure 3. The number of factory workers in Joseon during the 1940s



Source: Prepared based on the materials in Table 1.

The increase in the number of factory workers over the previous year from 1939 onwards can be found in Figure 4. The number of factory workers used for this calculation was based on the *Annual Statistics* up until 1940 and the *Investigation of the Joseon Labor Skills Statistics* for the period spanning from 1941 to 1944. In addition, although the *Investigation of Joseon Labor Skills Statistics* included workers from the field of civil engineering and construction in the industrial sector, they were excluded from this particular calculation.

Although less extreme than in the case of the number of factories, the increase in the number of factory workers in 1941 was higher than in other years. The increase in the number of factory workers ranged between 3.0 to 19.9% for the period 1931-1940, with the average being 10.8%. Meanwhile, it ranged between 9.6 to 11.9% for 1942-1944, with the average being 11.9%. However, the number of factory workers increased by 30.4% in 1941, a result which was much higher than the other years. This means that a great gap also exists with regard to the number of factory workers as compiled based on administrative statistics in the *Annual Statistics* and the on-the-spot survey method used in conjunction with the *Investigation of Joseon Labor Skills Statistics*. This fact should be kept in mind when trying to connect these two different statistical series.

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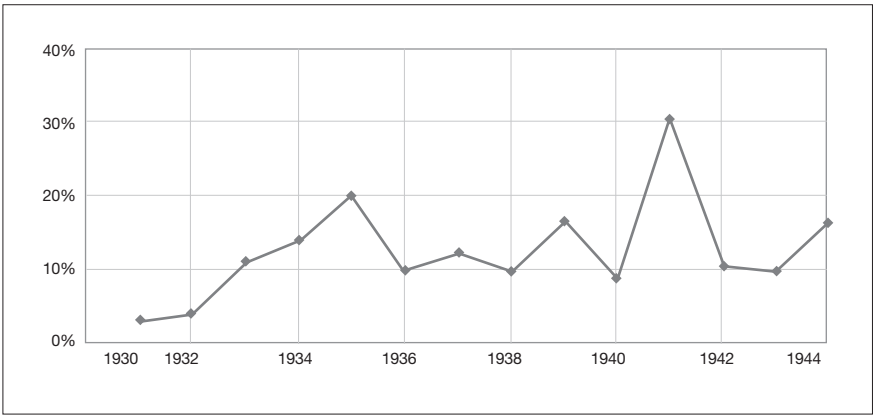
Figure 4. Increase in the number of factory workers over the previous year



Source: Prepared based on the materials in Table 1.

Table 3. Index of the numbers of factories and factory workers during 1941-1944 (1941=100)

Industry	Index of the number of factories			Index of the number of factory workers		
	1942	1943	1944	1942	1943	1944
Metal	106	99	95	111	126	187
Machinery and equipment	116	152	138	106	187	250
Chemical	113	99	108	105	110	121
Gas and electricity	90	73	83	110	122	136
Ceramics	129	156	167	117	138	166
Weaving	123	130	104	113	119	122
Sawmill and wood products	124	129	116	113	111	120
Food and beverage	101	89	81	110	81	92
Printing and bookbinding	110	114	110	100	104	104
Other	115	131	133	112	149	150
Total	115	119	111	110	121	140

Source: The Government-General of Joseon's *Report on the Investigation of Joseon Labor Skills Statistics* (1941-1943), and The Korea Economic Mission Department of State report, *The Economic Potential of an Independent Korea.* (June 1947:70-75).

Note: The gray columns indicate cases that are higher than the index of the total sum.

As such, while questions can be raised about the sudden rapid increase in the number of factories and factory workers in 1941, the year in which these two heterogeneous statistical series overlapped, no such doubts exist

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about the fact that the number of factories in fact increased in 1941. As the statistics regarding the numbers of factories and factory workers from 1941 to 1944 were all based on the *Investigation on the Joseon Labor Skills Statistics*, no problems arise when a yearly comparison is attempted. Based on the industry group, the changes are summarized in Table 3.

The industries which experienced the biggest increase in the number of factory workers over the period spanning from 1941 to 1944 were the 'machinery and equipment,' 'metal,' and 'ceramics' industries. Meanwhile, the largest increase in the number of factories took place in the 'ceramics' and 'machinery and equipment' industries. All of these belonged to the heavy and chemical industry fields. Meanwhile, the numbers of factories and factory workers in the weaving industry, sawmill and wooden products industry, food and beverage industry, and the printing and bookbinding industry, all of which belonged to light industry, were lower than in 1941 or lower than the average growth rate. Thus, we can see that the resources available to Joseon industry

Table 4. Changes in the numbers of factories and factory workers within the top 10 industries in 1941

Industry	Number of factories				Number of factory workers (people)			
	1941	1942	1943	1944	1941	1942	1943	1944
Wooden products manufacturing	988	1,245	1,342	1,098	11,184	13,814	13,708	11,240
Brewing	957	961	887	809	9,882	9,781	8,360	8,293
Grain milling	720	730	623	529	12,896	16,482	10,077	12,237
Sawmill and plywood	563	671	663	701	14,338	15,000	14,709	19,442
Printing	510	556	577	553	9,391	9,324	9,722	9,719
Textile	344	521	534	364	19,107	22,857	25,782	22,734
Confectionary	331	308	230	151	3,744	3,089	2,156	1,779
Knitting and braiding	213	192	194	178	4,833	4,805	4,726	5,655
Animal oils and fats manufacturing	189	111	56	17	2,989	1,288	757	194
Fertilizer manufacturing	186	145	45	23	12,150	9,162	7,231	6,393

Source: Same as Table 3, The Government-General of Joseon's *Report on the Investigation of Joseon Labor Skills Statistics* (1941-1943), and The Korea Economic Mission Department of State report, *The Economic Potential of an Independent Korea* (June 1947:70-75).

Note: This table was drawn up based on the number of factories within each industry as of 1941. Only the top 10 industries are listed, and 'other' industries such as the 'other weaving industry,' 'other ceramics industry,' 'other metal industry,' and 'other food and beverage manufacturing industry' are excluded herein.

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during the early 1940s were focused on the heavy and chemical industry. As such, we can surmise that Joseon industry was possibly reorganized around the munitions industry during this period.

Let us focus on the top ten industries that were listed on the 1941 version of the *Report on the Investigation of Joseon Labor Skills Statistics* in terms of the number of factories and take a look at how the numbers of factories and factory workers changed up until 1944. This can be summarized in Table 4.

Of special interest here is the fact that a reorganization of sub-industries was undertaken in February and June 1944. With the exception of the 'sawmill and plywood industry,' all of the other top 10 industries listed in Table 4 were subjected to this industrial reorganization.[13] The majority of these sub-industries consisted of factories owned by Joseon nationals. In addition, the manufacturing of fish oil and the manufacturing of animal fertilizer made up the majority of the businesses that respectively fell under the animal oils and fats manufacturing industry and the fertilizer manufacturing industry. This was closely related to the manufacturing of sardine oil. The rapid decrease in sardine fisheries in the 1940s resulted in a contraction of the number of sardine factories and factory workers. All sub-industries other than those related to sardine oil fell under the category of light industry, whose relationship with the munitions industry was limited. This table also clearly shows that the numbers of factories and factory workers in industries other than the 'sawmill and plywood industry' experienced an absolute drop, or that these were lower than the average rate of increase.

Change in Industrial Assets

Let us now analyze the changes that took place in the mining and manufacturing industry during the early 1940s from the standpoint of assets.

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13. The sub-industries that were involved in the industrial reorganization process included the manufacturing of articles and furniture in the case of the wooden products manufacturing industry, the manufacturing of distilled spirits with regards to the brewing industry, and the manufacturing of silk and artificial silk fabrics as far as the textile industry was concerned. Sub-industries that were designated for industrial reorganization but which were not included in Table 4 include: sericulture, pharmaceuticals, noodles, glass and glass products, and headwear.

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Based on SCAP estimations, Japanese investment in Joseon from 1900 to 1945 has been summarized on a periodic basis in Table 5. 47.6% of all the funds invested over the 45-year period spanning from 1900 to 1945 were invested over the last five years (1940-1945). This estimation is not very different from those made by the Bank of Joseon, Joseon Industrial Bank, and the Gyeongseong Chamber of Commerce and Industry. Investment during the period spanning from 1930 to 1939 accounted for 31.9% of the overall total, the majority of which should be regarded as having been made after the outbreak of the Sino-Japanese War in 1937. In short, the great majority of Japanese investment in Joseon occurred after 1930, and in particular after the outbreak of the Sino-Japanese War in 1937.

Table 5. Estimation of Japanese investment in Joseon by period

(unit: 1,000 yen)

	1900-1916	1917-1929	1930-1939	1940-1945	Total
Financial institutions	19,361	496,839	978,378	1,589,683	3,084,261
Enterprises	15,093	387,316	762,703	1,239,252	2,404,364
Government	181,155	524,133	788,476	951,586	2,445,350
Total	215,609	1,408,288	2,529,557	3,780,521	7,933,975
(ratio)	2.7%	17.8%	31.9%	47.6%	100.0%

Source: *Japanese Investment in Korea*, October 3, 1947.

Note: Investment was rendered in U.S. dollars in the original document. However, these were converted into yen based on the prevailing currency conversion rate at the time.

The Japanese assets that remained in Joseon at the end of the war in August 1945 were the result of such investment. SCAP conducted an investigation called the *Japanese External Assets as of August 1945* (hereinafter referred to as the *External Assets*). As these materials list the assets of enterprises based on their location, a method which differs from that used in the materials related to enterprises' capital (stated capital or paid-in capital), they can be used to analyze the regional scale of investment.

Table 6 summarizes these 'external assets.' The Japanese assets in Joseon at the time of the end of war totaled 78.7 billion yen, 43.3% of which were located in South Joseon while the other 56.6% were located in North Joseon. In terms of the type of ownership, enterprise-owned assets totaled 53.2 billion yen, or 67.6% of the overall total. While the assets owned by the government totaled 15.0 billion yen, or 19.0% of the overall total, privately-

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held assets totaled 10.6 billion yen, or 13.4% of the total. As such, enterprise assets made up two-thirds of all assets. The SCAP materials included data on 5,300 enterprises, with the detailed assets of 1,500 enterprises spelled out. However, no information on the individual assets of the remnant 3,800 enterprises is provided; rather, the scale of their assets is summed up based on whether they were located in North or South Joseon. The above-mentioned 1,500 enterprises accounted for 94.3% of all assets owned by enterprises. Furthermore, among these 1,500 enterprises, the enterprises classified as belonging to the mining and manufacturing industry accounted for 79.6% of all assets owned by Japanese enterprises. Therefore, the enterprises from the mining and manufacturing industry found amongst these 1,500 enterprises can be construed as having accounted for 75.1% of the assets owned by the 5,300 enterprises surveyed.

Table 6. Japanese assets in Joseon as of August 1945

(unit: million yen)

		South Joseon	North Joseon	Total	Ratio made up by South Joseon	Component ratio
Enterprise-owned	1,500 companies	18,445	31,675	50,121	36.8%	63.69%
	Mining and manufacturing companies	13,325	28,995	42,321	31.5%	84.4%
	Other companies	5,120	2,680	7,800	65.6%	15.6%
	3,800 small companies and others	1,556	1,485	3,040	51.2%	3.86%
	Assets owned by all 5,300 companies	20,001	33,160	53,161	37.6%	67.55%
Government-owned assets		6,738	8,235	14,973	45.0%	19.03%
Privately owned assets		7,394	3,169	10,563	70.0%	13.42%
Japanese-owned assets (Total)		34,133	44,564	78,697	43.4%	100.00%

Source: SCAP, *Japanese External Assets as of August 1945* (1948).

Note: It is unclear how SCAP classified the companies that fell under the category of the heavy metal industry. However, individual enterprises classified as belonging to the heavy metal industry emanated from metal mining sectors such as gold and tungsten mining.

Although in-depth investigations of Japanese assets in the mining and manufacturing industry were carried out at the end of the war, no investigation of the industrial assets owned by Joseon nationals was conducted. However, by combining materials compiled by the Gyeongseong Chamber of Commerce

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and Industry, the East Asian Economic News Agency (東洋經濟新報社) and SCAP, and introducing several assumptions, industrial assets can be estimated on an ethnic basis. Of course, as this estimation was based on assumptions, its precision cannot be confirmed with any certainty. Nevertheless, it is clear that the scale of the mining and manufacturing sector assets owned by Joseon nationals was no higher than 10% at the end of the war. While the ratio of Joseon nationals would be much higher with regards to production and the number of workers engaged in the mining and manufacturing sector, when viewed from the standpoint of mining and manufacturing industry assets, the conclusion can be reached that the industries in Joseon as of August 1945 equals Japanese-owned industries.

Summarizing the discussion to date, while there were only a small number of Japanese-owned companies engaged in the mining and manufacturing amongst the 1,500 core enterprises in Joseon at the end of the war, these Japanese enterprises accounted for a high ratio of overall assets. Thus, the analysis of these companies can provide a salient outline of the characteristics of Joseon industry at the time. In this regard, the following characteristics can be identified as a result of the analysis of the assets of the Japanese-owned companies found amongst these 1,500 enterprises.

Table 7. The distribution of the assets of Japanese-owned enterprises in August 1945

(unit: yen)

South of the 38th parallel			North of the 38th parallel		
Gyeonggi	9,666,496,245	19.3%	Hwanghae	2,944,746,345	5.9%
Chungbuk	133,706,625	0.3%	Pyeongnam	5,373,743,640	10.7%
Chungnam	961,455,195	1.9%	Pyeongbuk	4,863,734,415	9.7%
Jeonbuk	680,484,855	1.4%	Hamnam	11,180,823,330	22.3%
Jeonnam	1,016,271,960	2.0%	Hambuk	7,312,242,870	14.6%
Gyeongbuk	844,488,510	1.7%			
Gyeongnam	1,838,270,460	3.7%			
Gangwon	2,490,477,390	5.0%	Gangwon	813,583,500	1.6%
Sub-total	17,631,651,240	35.2%	Sub-total	32,488,874,100	64.8%
Total		50,120,525,340		100.0%	

Source: SCAP, *Japanese External Assets as of August 1945* (1948).
Note: Based on the analysis of 1,500 enterprises in Table 6.

First, as can be seen in Table 7, the calculation of the ratio of the total

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assets of the 1,500 major Japanese enterprises at the individual province level reveals that 22.3% of such assets could be found in Hamnam, 19.3% in Gyeonggi, 14.6% in Hambuk, 10.7% in Pyeongnam, and 9.7% in Pyeongbuk. Thus, while 76.6% of all assets were located in these five provinces, Chungnam, Chungbuk, Jeonnam, Jeonbuk, and Gyeongbuk accounted for only 7.3%. The assets of Japanese-owned enterprises were heavily concentrated in certain provinces. Viewed from the standpoint of North and South Joseon, we find that 64.8% of the assets owned by Japanese enterprises were located in North Joseon, which was two-fold higher than the 35.2% located in South Joseon. The assets of the Japanese-owned enterprises found amongst the 1,500 core enterprises were mainly located in Gyeonggi Province and North Joseon, with practically no assets located in areas of South Joseon such as Gyeongsang, Jeolla, and Chungcheong Provinces.

The above distribution of assets included not only those pertaining to the mining and manufacturing industry, but also those associated with the agricultural, forest and fishery, as well as commerce industries. Let us now limit the scope of analysis to the mining and manufacturing industry as part of efforts to effectuate a more precise assessment of the nature of the assets of the Japanese-owned enterprises found amongst the core 1,500 enterprises. Such a summary can be found in Table 8. As a result of this limiting of the scope of

Table 8. The distribution of the assets of Japanese-owned mining and manufacturing companies by region

(unit: million yen)

	Assets			Ratio by row		Ratio by column	
	North Joseon	South Joseon	Total	North Joseon	South Joseon	North Joseon	South Joseon
Manufacturing industry	24,200	9,192	33,392	81.5%	72.8%	72.5%	27.5%
Heavy & chemical	22,480	4,753	27,233	75.7%	37.7%	82.5%	17.5%
Light	1,720	4,439	6,159	5.8%	35.2%	27.9%	72.1%
Mining industry	5,502	3,427	8,929	18.5%	27.2%	61.6%	38.4%
Sum of mining and manufacturing industries	29,702	12,619	42,321	100.0%	100.0%	70.2%	29.8%

Source: SCAP, *Japanese External Assets as of August 1945*.

Note: While 'light metal industry' was classified as falling under the heavy & chemical industry, the 'heavy metal industry' was classified as falling under the mining industry.

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analysis, the ratio of assets found in North Joseon becomes even higher (72.8%) than before (64.8%). In other words, over 70% of overall mining and manufacturing industry assets were concentrated in North Joseon. Separating industry into the heavy and chemical and light industries, we find that while 82.5% of the heavy and chemical industry was located in North Joseon, 72.1% of the light industry was located in South Joseon. As such, the assets of the mining and manufacturing industry were concentrated in North Joseon, thus clearly exposing the following relationships: North Joseon = heavy and chemical industry, South Joseon = light industry.

Industries usually take root in specific areas where a high degree of connectivity exists, like an industrial park. As a result, it is very common for an industry to be concentrated in a specific area. However, the division of Korea into North and South after liberation inevitably resulted in the fact that industrial development during the colonial period had for the most part been carried out north of the 38th parallel having great implications as far as the industrial development of South Joseon after liberation is concerned.

As Joseon's modern large industry groups were only in very rare cases connected with other industries, there emerged a duplicated structure. In this regard, this study focused on this aspect from the standpoint of industrial production statistics for 1939. However, industry in South Joseon was heavily backwards after liberation, a denouement that was occasioned by the serious damage to the division of labor caused by the rupturing of the nation into North and South Joseon. By means of example, let us take a look at the field that was most rapidly developed during the colonial era: power plants. The majority of power plants in Joseon were constructed in North Joseon. After liberation, South Joseon boasted hydroelectric power plants in Cheongpyeong, Chilbo, Unam, and Boseong, and thermal power plants in Yeongwol, Dangin-ri, and Busan. While the maximum power generation capacity of these seven power plants was 199,000 KW, the average power generation only reached 32,000 KW for the year 1945. The supply of electric power in South Joseon was thus heavily dependent on the transmission of electric power from North Joseon. When the transmission of such power from North Korea ceased in 1948, South Joseon literally found itself returning to the pre-electricity era. In order to supplement these electricity shortages, USAMGIK installed power-generating ships called Jacona and Electra. In this regard, the power generation capacity of these two ships accounted for 9.9 % of overall electricity in South

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Joseon. As such, the state of electric power in South Joseon was very poor (Investigation Department of the Korea Development Bank 1949:1002).[14] The production of artificial fertilizer, which had constituted the symbol of Joseon industrialization during the 1930s, was also concentrated in North Joseon. The suspension of the supply of fertilizers from North Joseon as a result of the division led to a significant contraction of agricultural production in South Joseon in 1946 (USAMGIK April 1947:10).[15] The emergence of separate Koreas seriously damaged the division of labor not only in the case of this particular industry, but also of other industrial fields such as agriculture.

The second notable asset-related characteristic of the Japanese enterprises found amongst the 1,500 enterprises is that industrialization was focused on munitions. The concept of the munitions industry is not one that is easy to define. However, in order to simplify things, let us define the munitions industry as consisting of the 100 companies which, in accordance with the Munitions Companies Law (軍需會社法) implemented in Joseon, were designated as munitions companies in 1944 and 1945. Information about these 100 companies, such as their names, year of establishment, capital stock, and the name of the person in charge of production, has been made public. As such, the ratio of the munitions industry can be examined by comparing these companies with the 1,500 enterprises found on the above-mentioned list.[16]

First, a look at the top 50 companies found in the *External Assets* in

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14. An additional power-generating ship called Saranac was installed at the height of the Korean War in 1951; all three of these ships accounted for 53.9% of power generation in South Joseon.
15. "Grain production in 1946 was only 82.0% of what it had been from 1940-1944. The scale of the area used as farmland that year was on average 6.9% larger than the totals for 1940-1944. With the exception of some lands that were lost as a result of early summer flooding, the weather conditions in 1946 were also favorable to grain production. Here, the shortage of chemical fertilizers and the decrease in agricultural estates that occurred during 1945-1946 can be identified as the main causes of this inability to reach production targets in 1946." (USAMGIK Seoul Capitol, April 1947:10)
16. No reference to 6 of the 100 companies designated as munitions companies – Toyo Unmo Mining Co. (東洋雲母鑛業), Chosen Aviation Industrial Co. (朝鮮航空工業), Japan Anthracite and Iron Co. (日本無煙炭製鐵), Chosen Heavy Equipment Industrial Co. (朝鮮重機工業), Meiji Mining Co. (明治鑛業), Hoko Mining Co. (寶光鑛業) – can be found in the SCAP documents. The Chosen Tokyo Shibaura Electric Co. (朝鮮東京芝浦電氣) and Tokyo Shibaura Electric Co. (東京芝浦電氣), as well as the Chosen Onoda Cement Manufacturing Co. (朝鮮小野田セメント製造) and the Onoda Cement Manufacturing Co. (小野田セメント製造) were respectively combined. Only 94 of the 100 munitions companies were referred to in the SCAP documents.

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terms of the size of assets reveals that 41 of these companies were munitions companies. Thus, we can conclude that practically all of the Japanese companies that had large-scale capital reserves were designated as munitions companies.

Next, these 94 munitions companies' assets accounted for 63.9% of the overall assets owned by the Japanese-owned companies found amongst the core 1,500 enterprises (32.1 billion yen/ 50.1 billion yen). These 1,500 enterprises have been classified into three categories (manufacturing industry, mining industry, and other) and summarized in Table 9. An examination of the ratio of the assets of the munitions companies to overall assets in each industrial category reveals that they accounted for 75.9% of overall assets in the manufacturing industry and 74.7% of those of the mining industry. As such, these munitions companies controlled three-fourths of the assets of the manufacturing and mining industries. Meanwhile, munitions companies accounted for only 0.2% of the assets in the 'other' category. Thus, we can rightfully conclude that these munitions companies were concentrated in the mining and manufacturing industries.

Viewed on a regional basis, we find that the ratio of munitions companies engaged in the mining and manufacturing industries in North Joseon is much higher than the ratio for all of Joseon. While munitions companies accounted for 90.1% of the manufacturing industry in North Joseon, they also accounted for 86.9% of the mining industry in North Joseon. This clearly proves that the mining and manufacturing industries of North Joseon were overwhelmed by munitions industrialization. A debate has emerged over whether the industrialization of Joseon was rooted in munitions industrialization. In this regard, a look at this matter from the standpoint of the assets of Japanese-owned companies at the end of the war makes it amply evident that the industrialization of Joseon = munitions industrialization.[17]

However, in the case of South Joseon, the ratio of munitions companies' assets to overall assets in the manufacturing industry amounted to 38.7%, or much less than the 61.3% accounted for by non-munitions companies. While

17. However, as Joseon was much less industrially developed than Japan, there were only a few munitions industries that produced weaponry in the narrow sense of the word. Therefore, munitions industrialization in Joseon should be regarded as munitions industrialization in the wider sense of the word.

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the munitions companies accounted for 55.2% of the mining industry, this total is much lower than in North Joseon. As such, we can see that munitions industrialization in South Joseon was well behind that of North Joseon.

Table 9. The ratio of munitions industries in Joseon at the end of the war

(unit: million yen)

		Munitions companies	Non-munitions companies	Total	Ratio 1	Ratio 2
Manufacturing	N. Joseon	21,805	2,395	24,200	65.3%	90.1%
	S. Joseon	3,556	5,636	9,192	10.6%	38.7%
	Sub-total	25,361	8,031	33,392	75.9%	75.9%
Mining	N. Joseon	4,780	722	5,502	53.5%	86.9%
	S. Joseon	1,893	1,534	3,427	21.2%	55.2%
	Sub-total	6,673	2,256	8,929	74.7%	74.7%
Other	N. Joseon	16	2,771	2,787	0.2%	0.6%
	S. Joseon	-	5,013	5,013	0.0%	0.0%
	Sub-total	16	7,784	7,800	0.2%	0.2%
Total		32,050	18,071	50,121	63.9%	63.9%

Source: SCAP, *Japanese External Assets as of August 1945*; *Tairiku Tōyō Keizai,* February 1, 1945:68-69 and May 1, 1945:230-231.

Note: Ratio 1 indicates the ratio of total assets accounted for by munitions companies in the case of each industry. Ratio 2 indicates the ratio of regional assets accounted for by munitions companies in the case of each industry.

Third, industrial development in Joseon during the early 1940s was rooted in investment emanating from large-scale Japanese capital groups. The East Asian Economic News Agency estimated facility investment in the mining and manufacturing industry in 1942 by capital group. The East Asian Economic News separated these capital groups into four sectors - existing conglomerates (Mitsubishi, Sumitomo, and Mitsui); emerging conglomerates (Nichitsu and Nissan) and the Oriental Development Company; three cotton-spinning companies (Kanebo, Dainippon Spinning, and Toyobo); and Nippon Steel – and also included the capital tied up in other industries. A summary of the relevant data found in the *External Assets* compiled by SCAP based on the method employed by the East Asian Economic News can be found in Table 10.

In terms of capital groups, Nichitsu, Nippon Steel, Sumitomo, and Mitsubishi all exhibited higher ratios in 1945 than in 1942. Nichitsu experienced the greatest increase, going from 28.1% in 1942 to 35.3%. Meanwhile, the ratios of emerging conglomerate groups other than Nichitsu,

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the three cotton-spinning companies, and the Oriental Development Company decreased by a significant margin. As the Kanebo Spinning Company promptly moved towards munitions production, the decrease in its ratio was relatively smaller than that of the other cotton-spinning companies. The Dainippon Spinning Company was one of thee spinning industry companies that were designated as a munitions company. However, this company nevertheless experienced a decrease in terms of its ratio. The drop experienced by Nissan was the result of the fact that while its main business in Joseon up until 1942 was the development of gold mines, the importance of the gold mining industry greatly dwindled during this period.

Table 10. Mining and manufacturing companies' assets in Joseon by capital group and the ratio of overall assets

(unit: 1,000 yen)

Capital group	Munitions companies	Non-munitions companies	Total	1945	1942
Mitsubishi	1,069,730	579,762	1,649,492	3.9%	3.1%
Sumitomo	2,762,060	204,699	2,966,759	7.0%	4.7%
Mitsui	492,572	182,532	675,104	1.6%	1.6%
Sub-total	4,324,362	966,993	5,291,355	12.5%	9.4%
Nichitsu	14,678,952	280,126	14,959,078	35.3%	28.1%
Oriental Development Co.	1,013,755	706,151	1,719,905	4.1%	8.6%
Nissan	1,544,283	32,870	1,577,153	3.7%	9.4%
Sub-total	17,236,990	1,019,146	18,256,136	43.1%	46.0%
Kanebo	1,293,884	150,844	1,444,728	3.4%	4.7%
Dainippon Spinning	366,854	9,868	376,722	0.9%	1.6%
Toyobo	-	325,878	325,878	0.8%	1.6%
Sub-total	1,660,738	486,590	2,147,327	5.1%	7.8%
Nippon Steel	1,977,088	-	1,977,088	4.7%	3.1%
Other main industrial capital	2,839,855	1,317,121	4,156,976	9.8%	11.7%
Major industrial capital in Joseon	1,621,521	252,400	1,873,921	4.4%	17.8%
Other Japanese-owned companies	2,373,451	6,244,305	8,617,756	20.4%	4.2%
Total of Japanese-owned companies	32,034,004	10,286,556	42,320,560	100.0%	100.00

Source: SCAP, *Japanese External Assets as of August 1945*; *Tairiku Tōyō Keizai* 大陸東洋經濟 [Continental East Economy], February 1, 1945:68-69; May 1, 1945:230-231.

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In addition, these large-scale Japanese capital groups boasted a very close relationship with the munitions industry. Based on the above table, the ratio of munitions company assets to overall assets owned by capital groups were calculated as follows: 100% in the case of the Nippon Steel company, 98.1% for Nichitsu Company, 97.9% for the Nissan Company, 97.4% for the Dainippon Spinning Company, 93.1% for the Sumitomo Company, 89.6% for the Kanebo Company, 73.0% for the Mitsui Company, 64.9% for the Mitsubishi Company, and 58.9% for the Oriental Development Company. However, viewed from the standpoint of capital groups as a whole, the present study found that 91.1% of their assets were related to munitions companies.

Conclusion

Joseon industry started from the late 1920s onwards to develop characteristics that set it apart from the previous period. Of course, industrial development during this period was not related to the war factor. However, the relationship between industry and war became clearer after the emergence of the Sino-Japanese war in 1937. The Outline for the National Mobilization Plan (國家總動員計劃要綱) was established in September 1937. Moreover, in accordance with the Temporary Fund Control Law (臨時資金調整法) and Temporary Export and Import Commodities Regulation (輸出入品等臨時措置法) controls were established over the distribution, transfer, use, and consumption of materials. The National Mobilization Act (國家總動員法) enacted in April 1938 was also employed in Joseon from September 1939 onwards. The Materials Mobilization Plan (物資動員計劃) and Production Expansion Plan (生産力擴充計劃) (a four-year plan from 1938 to 1941) were also launched. The strengthening of economic controls resulted in many medium- and small-sized companies engaged in peacetime industries greatly contracting amidst the suspension or discontinuance of business and the reduction of working hours. The Government-General of Joseon responded to this situation by implementing measures to nurture and develop medium- and small-sized companies. However, the Business License Act (企業許可令) was implemented on December 10, 1941, or immediately after Japan's attack on Pearl Harbor of December 7, 1941 that touched off the Pacific War. Furthermore, the Business Reorganization Act (企業整備令) was announced on

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May 12, 1942, or shortly after Japan's defeat in the Battle of the Coral Sea. The United States grasped air and naval supremacy following the losses it inflicted on Japan at the Battle of Midway and the Battle of Guadalcanal respectively waged in the summer and autumn of 1942. American attacks during this period inflicted great losses on Japan in terms of vessels, significantly crippled its marine transportation capacity, and led to serious shortages of materials. The move away from the expansion of production and towards production increases was accompanied by the designation of super-priority industries in March 1943 and the passage of the Munitions Companies Law in October of that same year.

The industrial policy implemented by the Government-General of Joseon following the outbreak of the Sino-Japanese War of 1937 was one that originally emphasized the maintenance and development of medium- and small-sized industries. However, the increasingly dire situation on the battlefield in 1943 resulted in the Government-General of Joseon implementing the long-delayed Business Reorganization Act as part of its announcement of the regulations pertaining to the Business Reorganization Committee. Thus, the policy of nurturing and developing medium- and small-sized businesses was officially abandoned. The reorganization of the business structure was implemented in a full-scale manner in Joseon following the designation of companies as targets for business reorganization in February and June of 1944.

During the early 1940s, Joseon industry developed in close conjunction with Japan's war efforts and the changes in policy occasioned by the reversal of fortunes on the battlefront. Therefore, by the time the war ended, Joseon industry had taken on a very unique structure.

First, the industry of Joseon was mainly concentrated in the area north of the 38th parallel, or North Joseon. The location of industries is usually determined based on factors such as the market, labor, resources, and energy. In addition, the presence of a linkage effect more often than not results in industries being concentrated in a specific area. Viewed from this standpoint, the development of Joseon's industry in a specific area can hardly be regarded as an exceptional phenomenon. However, when examined from the standpoint of the industrial development of South Joseon after the division, one can only conclude that the location of the main industries in North Joseon meant that South Joseon industry had few if any linkages with the industrial development that took place during the colonial period.

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Second, the industrial development of Joseon during the colonial period was implemented by large Japanese-owned enterprises. From a quantitative standpoint, a large portion of capital was accumulated in Joseon and domestic industries were responsible for a significant portion of industrial production. To this end, domestic companies accounted for a high portion of overall production amounts and workers. However, highly-advanced technology and capital-intensive industries were developed by large Japanese-owned enterprises. An examination of the factory industry from the standpoint of assets leads one to the conclusion that Joseon industry equals Japanese-owned industry. In this regard, the ratio of such industries that were attached to Japanese-owned capital groups was particularly high. This highlights another characteristic of colonial industrial development, namely the development of ethnic-based industries.

Third, the development of industry in colonial Joseon was closely related to munitions industrialization. A look at investment by period reveals that this phenomenon greatly expanded from the 1930s onwards, and was particularly prevalent during the 1940s when the wartime economy held sway. As a result, munitions companies accounted for an absolute majority of the assets owned by the Japanese mining and manufacturing companies at the end of the war.

Although under the wartime structure Joseon's factory industry developed from both an ethnic and regional standpoint in a manner that was heavily tilted towards the munitions industry, the factory industry did not experience any real quantitative decline until at least 1943. Although the number of factories dramatically decreased from 1944 to 1946, the number of factories had in fact continuously increased prior to this period. As the number of factory workers was still on the rise as late as 1944, the determination is made herein that the actual decrease in the number of factory workers began in 1945. While rock bottom seems to have been hit in 1946, it is hard to ascertain in the case of South Joseon whether the numbers of factories and factory workers actually increased or decreased thereafter. For example, Joseon's factory industry started to fall into decline from 1944 onwards as Japan's wartime economy stood on the verge of collapse. Joseon industry decisively collapsed following the destruction of the colonial division of labor occasioned by the defeat of Japan and the liberation of Joseon in 1945 and the subsequent division of Joseon.

This study focused on a quantitative approach to the prevailing questions; as such, no qualitative analyses were in fact conducted. Here, the qualitative

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aspect can be explained as follows: While one can expect that a sudden increase occurred in the number of factories whose operations were in fact suspended or brought to an end altogether or whose working hours decreased as a result of the strengthening of the wartime economic structure, this issue was not considered in this study. By the end of 1940, the majority of medium- and small-sized industries in Joseon had been seriously damaged by the planned wartime economy. A look at the document entitled 'Investigation of the number of companies impacted by the war situation' compiled in late October 1940 shows that 8,072 company owners, or one-fourth of all company owners, were classified as individuals in need of supplementary assistance measures (The Government-General of Joseon 1994:309-312). A document dating from 1941 states, "Despite the shortage of materials and recent strengthening of distribution controls, the number of companies, as well as the degree of industrial achievement, has been on the rise. However, this is nothing but a quantitative increase made possible by price hikes" (The Investigation Division of the Bank of Joseon 1941:11). The situation became even worse from the summer of 1942 onwards as the war took a decidedly negative turn for Japan. Although such qualitative aspects should be included, these issues were not addressed herein. Such issues will be addressed in a future study.

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Abstract

Joseon's factory industry underwent significant transformations during the period of 1940-1945. The extent of change varied according to region (north and south) and race, and there was an unequal development which tended towards the munitions industry. The number of factories and workers did not decrease until 1943, however. The number of factories started to decrease drastically during the period of 1944-1946, while the number of workers continued to increase until 1944. These statistical figures show that the actual decrease happened after 1945. Joseon's factory industry began to dwindle as its role as a colonial factory base was lost due to several factors such as the deterioration of Japan's war economy from 1944, Japan's defeat in 1945, and Joseon's subsequent independence and division into North and South Korea. This study focuses on the quantitative side of this phenomenon, leaving out any qualitative analysis; however, areas for future study are suggested by this research, including the statistically unaccounted for factory closings, which were due to the enforcement of the war-time economic system, and the significantly decreased productivity levels in many of the operating factories.

Keywords: Industrialization during wartime, number of factories during wartime, number of workers during wartime, industrial assets, munitions industry in colonial Korea

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