

BOOK REVIEW

Behind State Company Nexus: One and Half Century Experience of Japanese Economic Development in a Statistical Mirror by Yoshiro Matsuda and Fumiko Arita, Tokyo, Maruzen Co., 1996, xiii + 352 pp.

This work analyzes Japan's economic development over a period of a century and a half, using a database compiled by the authors on individual observation units such as population, establishments, and enterprises. An internationally well-known database on Japan's economic development is the Long-Term Economic Statistics (LTES).¹ This database was developed mainly by the members of the Institute of Economic Research, Hitotsubashi University, of which one of the authors (Matsuda) is a member, under the leadership of the late Professor Kazushi Ohkawa. The database used in the current book, however, as will be shown later, was compiled in a completely different way from the method used with the LTES, providing readers with several very interesting discoveries.

We will now present a summary and the salient points of the book in order of its composition. Part I presents a short overview of the development of the statistical survey system in Japan, with the purpose of making it easier for the reader to understand the data presented in Part II. Given the extreme paucity of technical literature explaining the history of modern statistical systems, this part provides very useful information for researchers. As is well known, Japan lagged far behind other developed countries in implementing a modern census survey, with the manufacturing census beginning in 1909 and the population census in 1920. This delay can be attributed in large measure to wars that disrupted the financial basis of the census organizations, and the fact that the various ministries were determined to conduct their own surveys of the industries under their jurisdiction.

A decentralized system was used until the end of the nineteenth century, when a census was first carried out under a centralized survey system. In this decentralized system, the Ministry of the Interior and the Ministry of Agriculture and Commerce had local governments independently report statistical data. The method used at this time was an extremely unreliable one known as the *kaki-age-chōsa* (copying-out surveys), which involved simply extracting the needed data from various documents in dossiers. Finally in 1893, Bunsō Kure had the *kaki-age-chōsa* changed to modern survey charts in an attempt to transform them into a modern questionnaire format. Ironically, however, a census survey was carried out in the Japanese colony of Taiwan, for a population census, before it was ever implemented in Japan proper, and this had a major effect on Japan's population census. It is very interesting to note that a centralized survey system was established in a colony before it was in Japan proper.

¹ The LTES was published as *Chōki keizai tōkei* [Estimates of long-term economic statistics of Japan since 1868] edited by Kazushi Ohkawa, Miyohei Shinohara, and Mataji Umemura (Tokyo: Tōyō Keizai Shimpōsha), released in fourteen volumes between 1965 and 1988.

The centralized survey system reached its zenith around the year 1940, and the authors describe the circumstances of its collapse soon afterward. The reason was that under the various acts aiming at controlling the economy which were enacted in the 1930s, the Controlling Agency began in the late 1930s to draft a plan for mobilizing materials. In order to draw up such a plan, it became necessary to conduct surveys to collect data on items such as production, labor force, and consumption expenditures. Since these data were compiled independently by different government organizations which had been reorganized under the controlled wartime economy, redundant surveys were sometimes conducted at the same plants or companies, creating confusion. As a result, the process of collapse of the centralized survey system during World War II is shown concretely for each individual survey.

In Part II, Japan's economic development is analyzed, principally through the database compiled by the authors. They cite the company system as a crucial factor which supported the country's development. This system not only allowed companies to efficiently procure the funds they needed for their activities, but also maintained the high level of productive activities that accompanied technological innovation and gave birth to many new kinds of venture businesses which had not existed under the Tokugawa regime. The authors emphasize that the many state-company nexuses which emerged in the steel-making and ship-building industries, particularly during the prewar period, accompanying the spread of the company system, played a leading role in the country's economic growth.

On the basis of the basic awareness mentioned above, the book persuasively describes the development of the company system, making full use of several statistical tables derived from the authors' database. For example, the authors make use of company lists published by the Ministry of Agriculture and Commerce to compile aggregates of number of companies, total of nominal capital, and total of paid-in capital on a prefectural basis for the years 1889, 1896, 1902, 1909, and 1920, and thus show the geographical distribution of companies. This statistical table (Figure II.2) shows clearly that in each year there were large numbers of companies in Tokyo, Osaka, Hyogo, and Hokkaido, for instance, with vast amounts of capital gathered from investments from around the country, but that in most rural prefectures there were many small-scale companies supported by capital from people inside the region. In addition, in regards to the period between 1889 and 1896, the execution of the Commercial Law in 1893 led to enormous changes in the rankings of regions. For example, the position of Kanagawa Prefecture fell (from tenth to seventeenth in terms of number of companies, from seventh to eleventh in terms of total nominal capital, and from tenth to eleventh in terms of paid-in capital), whereas the status of Okayama Prefecture rose (from twelfth to seventh in terms of number of companies, from fifteenth to eighth in terms of total nominal capital, and from twelfth to tenth in terms of paid-in capital).

In order to gain a concrete grasp of productive activities within enterprises, there is a need for data by each plant as a unit (or more precisely each establishment). This book includes a statistical table (Figure II.3) which shows the number of factories and workers on a prefectural basis for the years 1902, 1909, and 1920. In terms of the types of business, foodstuffs, beverages, and textiles tended to be concentrated in rural areas, machinery in urban regions, and miscellaneous industries in both rural and urban regions, and the authors point out that these trends did not change between the three time points. Here, the authors explain using concrete examples that military industries, and particularly the construction of war-

ships, played an extremely important role in the development of heavy and chemical industries in Japan. Furthermore, they discovered that there were already wage differentials at that time from the statistical table (Table II.19) computing the factory list for 1909 by capital size and number of workers. It is interesting that this claim may refute the established view that the dual structure of the labor market in Japan emerged in the 1930s.

The authors take note that not only the company system, but also the Great Kanto Earthquake of 1923 and World War II had a great impact upon Japan's economic development. The Great Kanto Earthquake devastated capital stocks in the Tokyo metropolitan region, but also led to a renewal of old assets. By contrast, Osaka missed a chance to renew its factory equipment, and fell into economic decline. During World War II, labor was forcibly moved from the agricultural to industrial sectors with the labor mobilization carried out by the government, and these relocated workers received on-the-job training. After the war, this labor was used effectively for the production of civil goods. The authors' contribution by closely estimating labor mobility between industries through labor mobilization is also worthy of special mention.

Part III describes the method of compiling the various databases used in Part II. These databases are composed of what is referred to as longitudinal data. To explain the method of compilation using data on companies as an example, first of all the individual list data such as directories published by the Ministry of Agriculture and Commerce or private-sector commercial inquiry bureaus during the target period is used as the source of data. These list data are inputted to create raw data files, and at the same time other data files such as conversion matrices are compiled for the purpose of changing the industrial categorization. Next, once confirmation is achieved from identifiers such as the name of enterprise, name of manager, and address that multiple raw data files refer to the same enterprise, they are separately combined. Finally, the duplicate information is deleted, creating a single master file. A longitudinal database is compiled by performing this process for several years during the target period.

This method of data compilation is generally referred to as micro-data-matching (MDM). This method was adopted early in certain fields such as historical demography, but for most economic historians it remained an unfamiliar method. In recent years, however, with the increasing processing power of computers, it has become easy to perform. The process is quite easy to explain, but in reality it requires an enormous amount of time and money to carry out, and thus I cannot but admire the authors for their steady and persistent work. The number of tabulation items is naturally limited due to the introduction of MDM, but it can be used to reconstruct statistical tables for periods where statistical surveys were not conducted, and can also be used to check the reliability of previously published statistical data.

The present book has attempted to explain Japan's economic development by expanding its scope to the Japanese Empire and placing the focus on individual survey units. This reviewer had the following questions concerning the overall work. First, the state-company nexuses which are mentioned in the title are not concretely contained in the statistical data. Unfortunately as a result, when comparing state-company nexuses to purely private companies, there are no quantitative answers to questions such as what influences the two groups had on economic growth and what differences existed between the two in terms of the management of their organizations. In the final analysis, the question of the growth of

enterprises and establishments as specified in this book generally means no more than general changes in the numbers of enterprises and establishments, and there seems to be no need to make a special point of the nexuses.

Second, although the target period of the analysis is a century and a half, the time span discussed is for the most part the prewar period, and precisely speaking the era between the 1880s and the middle of the 1940s. There is practically no mention of the postwar period. It is only mentioned in Part I in a section dealing with the problems of the current statistics system, and in Part II as an appraisal of how the various reforms made by the occupation brought about the economic growth of the postwar period. There is no in-depth analysis of the postwar high economic growth, and thus the range of the book is more limited than the title suggests. It is possible that the reason why the authors boldly used the term "state company nexus" in the title was that they intended to focus their analysis mainly on the prewar period.

These criticisms, however, originate from this reviewer's own desires, and do not necessarily lower the value of the book. The authors diligently uncovered directories that had been buried in history, transformed this great mass of list data into longitudinal data, and presented it to us in the form of summary tables. This book surely makes an important contribution to quantitative historical economic analysis by providing us with a vast amount of original information primarily on prewar Japan. . . .

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