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# THE POPULATION PROBLEM OF JAPAN AND THE TREND OF ITS STUDY

MASAAKI YASUKAWA

## PREFACE

This paper aims at explaining the Japanese population problem and the trends in its study. Before, however, we launch out on the subject, we shall look into the fundamental conditions out of which the study of modern population problems has come into being. For population is such a vast and basic group, composing an economic society and relating to a variety of other human phenomena, that it is often blurred in its essential characteristics.<sup>(1)</sup>

The books referred in this essay are all in Japanese, excepting those that are especially designated "in English".

## I

(1) In order to understand the fundamentals of population study, it is important to look back on the two epochs in the history of economics, to which economists usually pay special attention, that is, the Malthusian period in the beginning of the 19th century and the Keynes' period after World War I. The reason is that people seem to become conscious of population whenever there is some trouble, that is, economists become concerned over population when the world is in the depth of some suffering.

Looking at these two epochs, we find them having a common feature, that is, they were a time of difficulty. As everybody knows, the beginning of the 19th century was the time when the whole of Europe was involved in the Napoleonic Wars which followed the French Revolution of 1789, and the Industrial Revolution was just beginning in England. Certainly the period was threatened with the appearance of a revolutionary age.

Another epoch which was mentioned, that is, the period after the World War I was the time when a chronic depression prevailed as a result of the deadlock of capitalism, calling for a some sort of economic revolution.

Out of these two significant periods of time there emerged the two great economists: T. R. Malthus (1766-1834) and J. M. Keynes (1883-

(1) The basic structure of this paper has been derived from Masaaki Yasukawa: *Jinkō no Keizaigaku (Economics of Population)*, Shunjū-sha, Tōkyō, 1965.

1946). It is to be recalled here that this year, 1966, falls just 200 years after the birth of Malthus, and 20 years after the death of Keynes.<sup>(2)</sup>

Looking back upon these two epochs: Malthus-Ricardo controversy period (1817-21) after the Napoleonic Wars and the Keynes-Beveridge controversy period (1923-24), we find that these two controversies clarified the statement that "overpopulation and unemployment are two different things in spite of their apparent resemblance of each other." Further, it was explained later by A. M. Carr-Saunders in his book, *Population* published in 1925, that overpopulation should be considered in terms of a lowered income per head instead of looking upon it as synonymous with unemployment, and it was also explained by Keynes in 1936 through his reexamination of Malthusian theory (1820) that unemployment is a phenomenon coming from insufficiency in the effective demand for labor. The definite establishment of the distinction between overpopulation and unemployment described above should be the major premise for the understanding of any practical problem in population.

(2) Now, we take up the second fundamental proposition for population study. It is essential that two periods of time be defined when we consider the population trend ranging from the ancient to the present time of society, that is, the premodernization period and the postmodernization period.

The premodernization society is one which is generally called the traditional society. Politically, being controlled over by force, it may have transmitted some sort of records and cultural heritage, but has left no organized statistical research material which will provide the basis for a factual analysis of the economic and social phenomena. The best we can do with this period of time is to execute a rough analysis of its population growth, as was exemplified by the efforts made by the Political Arithmetic School prior to the Industrial Revolution at the end of the 18th century to ascertain "how many years a population will take to increase twofold."

With the effectuation, however, of modernization and the provision of systematized economic statistics, it became possible to conduct any demographic analysis by using the statistical material which was made available.

(2) In commemoration of the 200 years anniversary of Malthus' birth, Ryōzaburō Minami published in 1966 the book *Malthus Hyōden (The Biography of T. R. Malthus)*, Chikura-shobō, Tōkyō. It contains the representative essays selected out of his innumerable works on the basis of Malthus' principle of population. It is such a meritorious work that it will transmit his fame to posterity.

It is important to mention here that there are two basic propositions in the analytical study of population, that is, the "demographic transition" and the "migration". The object of the "demographic transition" study is to look into the *vital change of population*, and that of the "migration" study is to find out the *social change of population* which will take place as a result of an economic or social alteration.

The "demographic transition" means the process of demographic modernization as described below. With the beginning of the economic take-off from a traditional society characterized by high fertility and high mortality, the first thing to happen is the decline of mortality, letting the society take the regular path of high fertility and low mortality, thus having its population on the increase. Many European countries in the 19th century experienced this. The new continent, across the sea was open partly to take care of this increase. Along with this population trend, however, there happened a continued economic development and the consequent elevation of living standard, causing the Europeans to adjust their fertility, thereby to follow the course of low fertility and low mortality. This is the evolutionary process which took place in western Europe from the latter half of the 19th century through the 20th.

Next, we take up the "migration", the most difficult and the most complex of all the population problems at present. It is so because it is involved with *social change*. Any "migration" taking place in a community, which is in a stationary state economically or socially, is to be presumed to be due to the "push force" coming from a population pressure. For example, a flow of people from a poor rural area to a urban area occurs simply because of their seeking for a chance of employment. In this case, they will have to be satisfied with a low wage.

On the contrary, a "migration" due to "pull force" occurs when a technical innovation is effected in an industry, bringing about an accelerated industrialization in the related works, the increase of productivity of labor and hence an increased opportunity for employment. Further, because of the modernization of society through industrialization, urbanization in general takes a rapid stride, accentuating the population concentration in urban areas. At the same time the old mode of life crumbles, which, along with the wide diffusion of education, elevates the age of marriage, and thus causes fertility to decline.

As was mentioned before, the economic development through industrialization improves medical service and public health, lowering mortality. It is important, however, to remember that such a condi-

tion occurs only when a migration proceeds from an area where people get married rather young and raise a large family, thus suffering from poverty and high mortality, to an area where a better economic opportunity, a high standard of living, later marriage, low fertility and low mortality prevail. In addition, the visionary yearning of youths in a retarded area for urban life, as well as the pressing demand for labor in industrialized areas is an incentive to migration, vitally affecting the age distribution and the constitution of rural population.

## II

The details of the population trend of Japan since the ancient time to the present, 1955, have been made known abroad by Mrs. Irene B. Taeuber by her book.<sup>(3)</sup> Almost all the important publications on Japanese population are attached at the end of this book. They will be very useful for the persons who are interested in Japanese population.

Japan after the effectuation of her modernization since 1868 is often considered in a twofold division of time with the end of World War II in 1945 as the line of demarcation, that is, prewar Japan and postwar Japan. Here will be presented the two meritorious works on Japanese population in her prewar time.

Soon after the opening of Japan for foreign trade about the middle of the 19th century, the Restoration was accomplished in 1868. With the importation of the capitalistic form of economy, Japan was busy remodeling herself into a modern state during the last 100 years. The Meiji Era (1868-1912), passing through the Industrial Revolution in the first part of the 20th century, made a promising take-off for the economic development of the nation.

It was the Rice Riot of 1918, however, which made the modernized Japan seriously conscious of her population for the first time. This affair was caused by the nation's failure in her self-sufficiency policy of food on account of her industrialization. But generally it was considered that it occurred as a result of the nation's failure in rice production large enough to take care of her increasing population. Soon afterwards, World War I came to an end, letting Japan suffer from the poverty and unemployment which surged all over the world.

Here the "Malthusian theory" which attributed the cause of poverty to population increase, and the "Marxian theory" which took the cause of poverty to lie in the weakness of capitalism were simultaneously imported into Japan, having the academic world of the nation develop

(3) Irene B. Taeuber: *The Population of Japan*, Princeton University Press, 1958.

a loud but brilliant controversy overpopulation problem around 1920. But it was after all a theoretical argument, and not one positive study on the matter was made.

In such an atmosphere of academic debate, there appeared Teijiro Ueda in the 1930's, who tackled some practical problems in Japanese population with a positive, analytical method. In the third series of the *Studies in Japanese Population Problems*<sup>(4)</sup> edited by Ueda in 1937, he published the essay "Nihon Jinko Mondai no Rironteki Igi" (The Meaning of the Theory of Population Problem in Japan). He states in this essay: "In the political world as well as in the academic world of Japan, the population problem has been discussed for the last 10 years and aroused a great deal of interest among the people. The government set up the Commission for the Study of Population Problems and Food Supply in 1927, and the Foundation Institute for the Research on Population Problems through the assistance of the Social Bureau, Ministry of Interior came into being. The Cabinet Bureau of Survey which was established in 1935 decided to take up the population problem as one of the special subjects for study since there had been very little done in the line in a scientific, systematic manner, in spite of some sporadic references to it in leisurely talks by scholars.

We all know of the controversy on population between two outstanding scholars about this time, H. Kawakami and Y. Takada, but regret to say, it was merely theoretical all the way through, and had no effect on any practical issue of Japanese population which the people at home and abroad were anxious to know. There were also some ardent demographers who were engrossed in digging into some points that are very specific in nature, but rendered no useful service in throwing light on the general trend of Japanese population. Such is the state of the population problem study in Japan, seen by the author as a result of his several year's investigation of the matter. The situation was not very promising.

It is true that the way the population problems of Japan were discussed by statesmen, intellectuals, commentators, etc. both at home and abroad conveyed just a common sense knowledge, but we must be aware that at the same time it embraced some vital points which should be scientifically elucidated by scholars, and it was their duty to set some consistent theories for them.

(4) Teijiro Ueda, edited by: *Nihon Jinkō Mondai Kenkyū* (*Studies in Japanese Population Problems*), 3 vols, Kyōchō-kai, Tōkyō, 1933-37.

While being engaged in the analysis of demographic statistics, for example, a population increase, it is important that we give thought to some economic theories which may be significantly considered in relation to it. In other words, the object of a statistical investigation should be set up and be executed under the possible working of an economic theory. Also, it is important to be aware that in this connection no economic theory remain as an abstraction but be a practical tool for the solution of a given problem.

This work is an attempt to present an outline explanation of what contributions the theories of the various branches of science such as biology, geography, economics and sociology can make in the wide range of the Japanese population problem, interpreted in terms of the stand described above, for the author believes that such an approach will be very useful in discovering some sort of basic theory for the solution of the Japanese population problem.

In other words, the author accepts some common sense knowledge on Japanese population, and tries to turn it into a scientifically ascertained exact knowledge so as to offer it as an effective material for the practical solution of a population problem. It is not, however, necessary to go into a detailed explanation of each of the theories presented below, for our object here is not the introduction of or comment on those theories, but is to seek some sort of theoretical understanding of the 'Japanese population problem'."

In Japan which was very retarded in science and whose language is quite different from those of the advanced countries in Europe, it was and still is generally considered an academic contribution for a scholar, if he should succeed in mastering their languages and introducing their ideas into Japan. Ueda, however, was different; he was not keen in importing some demographic theories of the West as such. What he was interested was to render some positive contribution for the clarification or the solution of the Japanese population problems through some Western theories. For example, since about 1933, he became intent on estimating the future trend of Japanese population.

Such being the case, the Ueda essay cited above was a worthy contribution, in that it threw light on such matters as how people were concerned over the population problem of Japan during the period from the second half of 1920's to 1930's, how the population problem of Japan shifted from one of food to that of employment, while going through the experience of suffering from the worldwide panic, and how enthusiastic Ueda was about this time in establishing his stand on population problem as a positivist.

Ueda and the following things (1) Seeing the necessity of estimating the future population of Japan, he studied the estimation methods of Cannan<sup>(5)</sup>, Bowley<sup>(6)</sup> and Carr-Saunders<sup>(7)</sup>; (2) Stressing the importance of population dynamics as a basis for population estimate, he adopted Kuczynski's Theory on the Reproduction of Population<sup>(8)</sup>; (3) He took the socio-economic cause of Brentano<sup>(9)</sup> as the important one in his explanation of the declined fertility of Western Europe; (4) He made a comparison of Malthusian theory with Marxian theory of population; (5) He introduced Cannan's "Optimum Theory of Population"<sup>(10)</sup>; (6) On the basis of Beveridge's comment<sup>(11)</sup> on Cannan's Optimum Theory of Population and through the comparison of population increase and the speed of industrial development, he arrived at the right conclusion that population problem is basically a question of living standard.

Even Ueda, however, wrote that overpopulation and unemployment run concomitantly in the same direction, as many population scholars thought. The population projects made by Ueda about this time are cited in the previously quoted Mrs. Taeuber's book (pp. 365-66). Ueda's studies on population problem made from 1933 through 1937 were put together in the book: *Nihon Jinkō Seisaku (Japan's Population Policy)*, Chikura-Shobō, Tōkyō 1937. About this time, the world was gradually heading toward a war.

Another work which should be mentioned as representative of the prewar time population condition of Japan is Yūzō Morita's *Jinko Zōka no Bunseki (An Analysis of Population Growth)*, Nihonhyōronsha, Tōkyō 1944. That this book was brought out at the time when Japan was nearing the miserable end of war testifies to the fact that the demographers of Japan were by no means negligent of their studies even in their life or death struggle against the menacing attack from air. In this sense, irrespective of its technical contents, this book should certainly merit the admiration of the academic world.

(5) E. Cannan: "Probability of Cessation of the Growth of Population in England", *Economic Journal*, December 1895.

(6) A. L. Bowley: "Births and Population in Great Britain," *Economic Journal*, June 1924.

(7) A. M. Carr-Saunders: *World Population*, London, 1936.

(8) R. R. Kuczynski: *Fertility and Reproduction, Methods of Measuring the Balance of Births and Deaths*, New York, 1932.

(9) L. Brentano: "The Doctrine of Malthus and the Increase of Population during the Last Decades," *Economic Journal*, September 1910.

(10) E. Cannan: *Wealth*, 1914. L. Robbins: "The Optimum Theory of Population," *London Essays in Economics in Honour of Edwin Cannan*, London, 1927.

(11) W. H. Beveridge: *Unemployment*, revised edition, London, 1930.



The primary end of this work is in the analysis of "population growth" so as to establish a principle for the systematization of demographic statistics; it is an ambitious attempt to set up an independent theoretical system by elucidating the statics and the dynamics of population by a uniform concept. The substance of the book is divided into three. The first part contains the general theories on population development, that is, the establishment of the law of geometrical progression in the 17th and the 18th centuries, the discovery of the logistic law of population as a modification of the above, and the accomplishments resulted from its expansion before 1920. The second part presents the Alfred Lotka and Ladislaus von Bortkiewicz's theories of stable population as the structural analysis of a developing population, and further performs the structural analysis of logistic population by their application. The third part measures Lotka's demographic functions of a stable population as applied to the data of Japan at the four points of time: 1925, 1930, 1937 and 1938, showing the vigor of Japanese population increase.

In addition to the laborious task above, Morita made another contribution worthy of special mention, the analysis of the Japanese population increase in the Meiji Era (1868-1912). With some modification, this study was published in the *Population Studies*.<sup>(12)</sup> The value of this work as a classic of the systematized analysis of Japanese population is indeed immortal.

### III

In 1945, that is, in the year following Morita's publication of his *An Analysis of Population Growth*, peace was restored in the world, and the devastated Japan was left with a large population (72,000,000) to look after. How Japan should face the on-coming 80,000,000 mark of her population was the pivotal concern of the economic rehabilitation plan then laid out. Japan would certainly be called a blessed country, if she had as many pigs!, Japan at the time was in a helplessly primitive condition in the practical outlook of her demographic situation, because, she was up against the hard problem of food supply.

At this moment when Japan was actually in dire straits from her overpopulation, there came forward Takuma Terao who enlightened

(12) Yūzō Morita: "An Estimation on the Actual Birth and Death Rates in the Early Meiji Period of Japan," *Population Studies*, Vol. XVII, No. 1, July 1963, London, pp. 33-56.

the academic world with his work, *Jinkō Riron no Tenkai (Development of Population Theory)*, Tōyō Keizai Shinpō-sha, Tōkyō, in 1948. An economist, he took the staunch stand that "population theory should be considered in terms of economics, nothing else." He carefully studied population problem in the light of economics as developed since its classics, looking into such monumental affairs, as (1) the population dispute prior to the Malthusian theory, (2) Malthusian principle of population, (3) logistic theory and the reproduction theory of population, (4) socialism and the principle of population, (5) Jevons' "coal question", (6) Neo-Malthusianism, (7) theories of fertility (8) optimum theory of population.

Terao looked over a number of optimum theories<sup>(13)</sup> that were developed before 1930 since it was first advocated by Cannan in 1888, rousing a lively interest among the scholars after World War I. He examined the overpopulation of Japan after World War II on the basis of the study above, and warned that unemployment and temporary poverty as such should not be hastily concluded as coming from overpopulation. He also advocated birth control after he had carefully investigated the actual conditions of Japanese population.

Also, he made the following significant warning in his reproduction theory of population. Since the net reproduction rate is the potential of population growth in a generation, and does not mean an actual population growth, it should not be used as a tool in the judgement concerning whether a population should be increased or decreased.

In spite of the termination of war, the academic world of Japan was still in a state of seclusion, having very little access to the latest publications of other countries. Such being the situation, this work by Terao is nothing else but an evidence of Terao's dedicated effort and enthusiasm for population problem.

While suffering from the postwar confusion and economic inflation, Japan had the good a fortune to experience the rapid rehabilitation of her economy on account of the breakout of Korean War in 1950, and pursued a steady upward trend for financial recovery. About this time, the postwar "baby boom" was over, and fertility began to fall, whereby a rapid „demographic transition" was started. On the other hand, the general interest of economists was shifted from the

(13) On the optimum theory of population, Ichirō Nakayama and Ryōshin Minami published *Tekido Jinkō (Optimum Population)*, Keisō Shobō, Tōkyō, in 1959, The book is a dissertation on "the concepts of the optimum size of population (Cannan)" and "the optimum rate of population growth (Harrod, when  $G_n = G_w$ )". Dr. Ryōshin Minami is a son of Dr. Ryōzaburō Minami.

question of "economic growth" to the proposition of helping elevate the backward economy to a higher plane.

The demographers also began to be active in their field. The population problem specialists as well as the experts in such studies as economics, sociology, public health and geography were mobilized for the publication of the *Jinkō Dai Jiten (Population Encyclopedia)*, Heibonsha, Tōkyō, 1957. The chairman of the editing committee for this work was Ryōzaburō Minami, a scholar on Malthusian theory. Needless to say, such well-known demographers as Morita, Terao and Nakayama (previously mentioned), as well as Tachi and Mizushima, who will be referred later, were either on the editing committee or contributors. This publication is the largest of the sort in the world, and is one of the greatest achievements ever made by the demographic circles of Japan.

About this time, three outstanding works were also brought out; United Nations: *The Determinants and Consequences of Population Trends*, New York, 1953, J. J. Spengler and O. D. Duncan (eds): *Population Theory and Policy—Selected Readings—*, Glencoe, Illinois, 1956, and P. M. Hauser and O. D. Duncan (eds): *The Study of Population*, Chicago, 1959. These three are not encyclopedical works, but in the depth and the width of the way in which they present the population problem, as well as in the size of the number of the cited reference materials, they are excellent. These three works and the *Population Encyclopedia* are quite complementary to each other as the latter contains extensively gathered records of the problems, discussions and controversies on population as seen from the Japanese standpoint, as well as the well organized demographic material which reflects the peculiar nature of Japanese society, besides a well arranged list of works and achievements of other countries.

In 1958, that is, in the following year of the publication of the *Population Encyclopedia*, Mrs. Irene B. Taeuber published her *The Population of Japan* and sent us a copy. Stimulated by this work, the academic world of Japan became more interested in the analytical study of Japanese population, and called for the information of the analytical method in demographic research. In response to this requirement, Minoru Tachi published his great work, *Keishiki Jinkō-gaku (Formal Demography)*, Kokon Shoin, Tōkyō, in 1960, a book long awaited by the demographers of Japan. It was the fruit of Tachi's untiring effort for the systematic presentation of the analytical method for the study of demographic phenomena. It was the life work of Tachi's. Below is explained the contents of this work in the author's

own words:

The author believes that proper understanding of the nature of demographic phenomena is of basic importance in order to make demographic analysis successfully, and that social and organic self-renewing or reproduction movement of the population is a pivotal characteristic of demographic phenomena. He understands that the phases of population size, geographical distribution and composition of population are consequences of the reproduction movement of population, and at the same time, conditions through which reproduction factors, namely fertility and mortality, operate, and every type of migration is the disturbing factor of the reproduction movement of population.

In this volume, from this point of view, the author has tried to arrange various demographic methods or techniques including those of collecting and evaluating demographic data, of analysis and utilization, and has explained their nature and adequate applications.

This book is composed of five parts. In the first part; basic and general concepts in formal demography are discussed. In the second part, the methods of analysing population size, especially population increase, geographical distribution and composition of population as consequences and conditions of population reproduction are explained. In the third part, the mechanism of population reproduction in which marriage and divorce are dealt with as a framework of reproduction, methods to analyse death and birth including fetal death, and reproductive capacity and potential which are considered as the micro-dynamic balance between fertility and mortality, are explored. In the fourth part, the methods to measure internal and international migration as the disturbing factor of reproduction of population are dealt with. In the last part main types of population estimates are discussed as the broadest and integral utilization of all knowledges on formal demography.

This book by Tachi as a collection of the analytical methods for demographic research should be designated the "requisite reference" if *An Analysis of Population Growth* published by Morita in 1944 be called a classic in the line.

#### IV

Coming into the decade of 1960, we find a young president leading the United States, having America and Europe enjoy the "golden '60's", following the stupendous technical innovation achieved since World

War II. On the other side of the sea, in Japan, a "demographic transition" has been working quite smoothly since 1950, as the "effective demand" was steadily on the increase. Favorably influenced by the prosperity of the United States and Europe also, Japan then set forth into a high rate economic growth. Along with it, however, there appeared some fresh demographic phenomena.

In the first place, with the "demographic transition" being activated, the expectation of life at birth broke through the thick wall of the 70 mark, and with birth control being widely put in practice, fertility and mortality reached as low a level as in some advanced countries. But the productivity of labor, that is, the wage level of workers remained far below that of the advanced countries. In other words, we have not yet reached the same level as the advanced countries both in productivity and the standard of living.

Seeing the matter differently, we find the various economic problems in present Japan are due to the imbalance between the demographic level that of an advanced country which Japan has reached, and the economic level of Japan which still lags behind the advanced countries. For example, the prevalence of high rate economic growth and the fall in fertility have enabled the Japanese to become more self-conscious, and aspire for a higher standard of living than before, looking for some high class consumption goods more strongly than they look for babies. But with the actual economic level which is way behind the advanced country, the national economy was unable properly to meet the people's requirements. Here is the reason why so much talk on the necessity of the social development which will be well balanced with economic development, letting the statesmen suffer and the people struggle in their frustration.

While keeping in mind the actual state of life existing in the present Japan as described above, we now proceed to look into the age distribution of the nation. With the bewildering change of social conditions brought about in the latest years, the age distribution of Japan is now shifting from the pyramid shape to the vase shape, and is bound to take a houn-glass shape in the near future. It is obvious that such a demographic situation will largely affect the old person's problem, the employment of the middle aged and old persons, the number of young workers, educational problems and many other affairs. And Japan is now actually faced with the question how these rapidly changing aspects of various social problems can be taken care of in the development plan of ever pressing national economy.

We stated before, while discussing the basic propositions of popula-

tion study, that a "demographic transition" and a "migration" of the "pull force" type take place when the modernization of a society gets realized. It looked as if this was the case with Japan since the Meiji Era when the industrialization of society was proceeded with the introduction of capitalistic form of economy. But with Japan the situation was somewhat different. Japan in those days harbored a "population pressure" in rural area, that is, being furnished with an ample supply of labor, she was able to manage the situation with the low wage in labor market. In other words, there occurred rather a "push force" type of migration, instead of a "pull force" migration.

Such being the actual condition of Japan even till quite recently, the problem of migration was in the hands of rural problem experts or rural sociologists instead of being a concern of professional demographers. Especially, the migration due to the *rison* (emigrant from rural village) or the *dekasegi* (outside job seeking) was an important issue<sup>(14)</sup> attended by sociologists ever since the prewar period.

But with the setting in of the high rate economic growth in 1960's, a real "pull force" type of migration happened, bringing about a rapid improvement in the employment conditions of workers, and the consequent marked rise in wage. At the same time, this high rate economic growth, effecting a sudden change in the economic structure, hence a sudden transformation of the general social structure, disturbed the set conditions of the rural as well as the urban community, having the question of migration take an ever complex aspect.

For example, the *rison* was performed mainly by the young masculine members of rural community, and caused the "aging" and "feminization" of rural population, creating a serious anxiety among the demographers. To ascertain the change in age structure of various areas, the Prefectural Life Tables<sup>(15)</sup> were made. Also, the actualities of the mobility of the labor force from agriculture to industry have been studied, for instance, by such a means as the cohort analysis by age group<sup>(16)</sup>.

Such is the situation of the migration or mobility from country to

(14) Shinichi Watanabe: *Nihon Nōson Jinkō-ron* (A Study on Rural Population in Japan), Nankō-sha, Tōkyō, 1938. Megumi Hayashi: *Nōka Jinkō no Kenkyū* (A Study of the Population of Farm Households), Nikkō Shoin, Tōkyō, 1940. Shigeo Nojiri: *Nōmin Rison no Jisshō-teki Kenkyū* (An Analysis of the Results of Field Surveys on Rural Exodus of Agricultural Population), Iwanami Shoten, Tokyo, 1942.

(15) The life table is essential in any population analysis. As an excellent example of life table study, the author recommends Haruo Mizushima: *Seimei-hyō no Kenkyū* (A Study of Life Table), Seimei Hoken Bunka Kenkyū-jo, Ōsaka, 1963.

(16) Yōichi Okazaki: *Nihon no Rōdōryoku Mondai* (Labor Force Problems in Japan), Kōbun-sha, Tōkyō, 1966.

city, concentrating labor into urban industries, and thus having the pivot of population study transferred from the rural community to the field of demography in large. Lately, therefore, migration is studied not only by rural sociologists<sup>(17)</sup>, but more positively by urban sociologists<sup>(18)</sup>. Further, some economists have come forward to look into the problem so as to find out how it will affect the mobility of the labor force revealed in the marketing mechanism of the demand and supply of labor<sup>(19)</sup>. On the other hand, some demographers became interested in studying it as a process of urbanization, investigating the matter with the demographic analysis. In other words, the present trend of demographic study is to take up such a proposition as the megalopolis plan, parting with such an antique as metropolis<sup>(20)</sup>.

Judged by the description above, it seems quite safe to state that the study of "migration" is steadily following an upward path for its development. There have been published many useful essays on the subject, and it is expected that they will be put together in some well-systematized books in the future.

This paper, however, being an attempt to conduct a general survey on the population problem of Japan and its study trend, has ignores practically all of these essays, as it was feared that it is premature to judge their value on the basis of the works which made the basis of this essay. Only very few of them have been cited as footnotes, as we found them quite useful for this work.

(17) Nōson Jinkō Mondai Kenkyū-kai, edited by: *Nōson Jinkō Mondai Kenkyū (Research on Rural Population Problems)*, Nōrin Tōkei Kyōkai, Tōkyō, 1951-56.

Seiichi Tōbata, edited by: *Nōgyō ni okeru Senzai Shitsugyō (Underemployment in Agriculture)*, Nihon Hyōron-sha, Tōkyō, 1956.

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