

RECENT IMPORTANT JAPANESE WORKS ON ECONOMICS

Nihon no Keiki Junkan [Japan's Business Cycles], **Junkanteki Hattatsu-katei no Riron-teki, Tōkei-teki, Rekishi-teki Bunseki** [Theoretical, Statistical and Historical Analyses of the Cyclical Process of Development]. By Shōsaburo Fujino. Tokyo: Keisō-shobo, 1966. 588 pp. Y1,350.

One Japanese economist wrote recently that "the reason why economics in Japan has far too long been pedagogic and imported economics, and mere compilation of facts is due to our failure to respect and appreciate originality."¹ If this ever was correct, which the reviewer doubts, it is no longer so. An increasingly large proportion of literature on economics published in Japanese since the end of the War, are "domestic" products of original research. This is evidenced, especially during the past decade, in the increasingly frequent contributions by Japanese economists in journals published in English.

The purpose of this review is to show that not only those interested in Japan but also economists in general run a risk of neglecting important literature in their profession if they ignore the publications in Japanese. To accomplish its end, this note reviews one of the best books published in Japanese during the past several years, and briefly comments on several books which the writer believes worthy of special attention. Those valuable contributions by the many Japanese scholars whose works have been translated or who have written in English (and published either in or outside of Japan) are not included in this note.²

One can rarely claim by any standard (be it "international" or the judgment of experts) that the book he reviews is an important contribution. The reason simply

¹ Tsuchiko Watanabe, *Ekonomisuto*, January 4, 1966, p. 164.

² This category includes many econometric and quantitative studies. Several Japanese journals published in English (wholly or partly) often carry translations of significant contributions originally written in Japanese.

is that such a book is rare. But, after wading through Shōsaburo Fujino's book—*Nihon no Keiki Junkan*⁸—this writer believes that he has come upon one of these books.

The title could be translated into either *Japan's Business Cycles* or *Japan's Economic Circulation*. Neither is satisfactory, as *keiki* means economic condition and *junkan* has a double meaning of circulation and cycle.⁴ More useful is the subtitle of the book; A Theoretical, Statistical and Historical Analysis of the Process of Emergence of Business Cycles. For convenience, this review examines in turn these three aspects of the analyses.

In the area of theoretical analyses, Fujino sets out to accomplish three ambitious goals: (a) to improve the post-Keynesian model of income determination, i.e. to build "a model which analyzes parametric functions of price and income concurrently in income determination"⁵ in order to avoid the weakness of overemphasizing parametric functions of price or that of output in real terms; (b) to synthesize the Keynesian theory and the quantity theory of money—"a marriage"⁶ of these two in the analyses of income determination; and (c) to integrate the Schumpeterian theory of innovation with the process of income determination. Given the massive scope of this undertaking, the following must necessarily be only bare outlines of Fujino's models.

The purpose of the first model is to remedy the prevailing weakness which is summarized as follows:

In the post-Keynesian income determination analysis, the aggregate supply and the aggregate demand are evaluated by a price or the nominal price. Thus when both are deflated to obtain (values) in real terms, the determination of income results in determination of real income. On the other hand, in Nicholas Kaldor's multiplier analyses under the full-employment condition, nominal prices are determined in this process.⁷

This model consists of five equations:⁸ (1) $Y_s \equiv pqc + I$. This is the first equilibrium condition. Y_s is the total supply in supply prices, qc is demand in real term, I is investment in money term, and p is the price level. The consumption function postulated is: (2) $qc = qc(p, Y/p)$; $\partial qc/\partial p < 0$; $\partial qc/\partial(Y/p) > 0$; where Y is the aggregate supply at nominal prices.

The third equation is the second equilibrium condition (3) $p = p_s$. p_s is the supply price which is defined as the sum of normal profit: "that profit which, as long as it could be obtained, satisfies firms to preclude changes in the scale of production"⁹ and the cost of production is assumed to reflect a given level of capacity and stable factor prices. The relationship between (Y/p) and p_s is: $p_s = p_s(Y/p)$; $dp_s/d(Y/p) \geq 0$. The last equation is a definitional one: (5) $Y \equiv p/p_s$

⁸ Shōsaburo Fujino, *Nihon no Keiki Junkan* (Keisō-shobō, 1965). Fujino's book has received the 6th annual *Ekonomisuto* prize and the eighth annual *Nippon Keizai Shimbun* award since its publication.

⁴ Throughout the book, Fujino distinguishes these two meanings to eliminate ambiguity.

⁵ Fujino, p. 110.

⁶ *Ibid.*, Preface, p. 3.

⁷ *Ibid.*, p. 107.

⁸ *Ibid.*, pp. 107-27 and Mathematical Appendix 1, pp. 522-37.

⁹ *Ibid.*, pp. 99-100.

Ys. In this system, I is exogenous and his model is designed to evaluate the impact of changes in I on Y, p, thus (Y/p).

On the basis of this model, he proceeds to evaluate the theoretical impact of changes in I on Y and p. The three key multipliers obtained from his model for this purpose are:¹⁰

$$a. km = dY/dI = 1 + \eta/s + \eta[1 - C/Y(1 - \xi)];$$

$$b. kp = dp/dI = \eta p/Y/s + \eta[1 - C/Y(1 - \xi)]$$

$$c. kr = d(Y/p)/dI/d(I/p)/dI = km - kpY/p/1 - kpI/p = 1/s + \eta C/Y$$

where: $s \equiv 1 - \partial qc/\partial(Y/p)$, $\xi \equiv -\partial qc/\partial p \cdot p/qc$, $\eta \equiv dps/d(Y/p) \cdot (Y/p)/ps$ and $C \equiv pqc$. He calls "a" monetary investment multiplier, "b" price-investment multiplies and "c" real investment multiplier. (Note that if $\infty > \xi \geq 0$ and $\eta = 0$ then $km = kr = 1/s$ and $kp = 0$. $kp = 0$ means that changes in I do not cause changes in $p \cdot 1/s$ is the familiar inverse of marginal propensity to save.) This then is Fujino's attempt to unite the theory of price, anchored in his novel definition of normal profit, with the theory of income determination.

Secondly, to achieve the "marriage" between the Keynesian theory of income determination and the classic quantity theory of money,¹¹ Fujino assumes that: (i) changes in supply of money (ΔM) act in a more significant way than working its impact on I through the changes in rates of interest, and (ii) there exists a relatively stable relationship between demand for money by firms and *the amount of physical assets*¹² owned by firms (or, in equilibrium condition he envisions $M = aA$. A is physical asset, and a is a coefficient).

Thus, as Fujino sees it, if a is constant the relationship between I, which is ΔA , and ΔM is $\Delta M = aI$. Fujino calls this "the theory of Investment Determination by Monetary Availability." In this framework, if ΔM is constant, the level of I remains unchanged. For I to fluctuate, the magnitude of ΔM must vary, i.e., $(\Delta M) = aI \cdot$ Fujino calls $1/a$ the "money-multiplier."¹³ He then elaborates upon the effects of the money-multiplier, which of course is subject to a set of reactions, *tatonnements*, in rates of interest, marginal propensity to save, changes in demands for bonds by household sectors, changes in demand for transaction money by firms, etc.

The second model, which is closely related to the first, as it is clear from the above, is Fujino's *pièce de résistance*. Faced with the "water and oil relationship"¹⁴ of the two theories he wished to synthesize, Fujino's model is an attempt to achieve his goal by reformulating the quantity theory of money not as a theory of income determination, but as a theory of determination of the magnitude of physical assets. This was done by transforming the quantity theory of money into a theory of determination of investment by availability of money for firms.

The last of the theoretical contributions is more of an analytical framework

¹⁰ Briefly the derivations of these multipliers go as follows: (i) Substitute equation (1) into (5) and differentiate the result respect to I. (ii) Differentiate (Y/p) terms of the product of (i) respect to I. (iii) Combine the results of (ii) and (iii) to obtain equation (6) and substitute identities (s, ξ , and η) into it. (iv) Differentiate equation (3) respect to I to obtain equation (7). Then solve (6) and (7).

¹¹ Fujino, pp. 150-203 and Mathematical Appendixes II and III.

¹² *Butsuriteki shiran* is Fujino's expression, *ibid.*, p. 154.

¹³ *Kahei jōsu* in Japanese, *ibid.*, p. 162.

¹⁴ *Ibid.*, preface, p. 3.

within which we can evaluate the rapid technological changes than a model in the sense of the first two.¹⁵ Fujino's framework is straightforward. To exploit innovation (an exogenous factor) fully, K_T amount of capital is needed as against the available K . Thus at time t , an economy has $K(t)$ and needs $K_T(t)$. To reduce the discrepancy between $K_T(t)$ and $K(t)$, $I(t)$ is made. Fujino postulates this process as: $K(t)/K(t-1) = (K_T(t)/K_T(t-1))^\sigma$ and I proceeding gradually ($0 < \sigma < 1$). When the above equation is rewritten in logarithmic terms and differentiated with respect to t , we obtain: $g(t) - g(t-1) = \sigma[g_T(t) - g_T(t-1)]$ in which g_T is the growth rate of K_T and g is that of K . For $g(t)$, a more general case is $g(t) = A\rho_1^t + B\rho_2^t + \sum_{\tau=0}^t \lambda(\tau)G_T(t-\tau)$.

These are the irreducible skeletons of Fujino's theoretical contributions. As for all new theories, Fujino's models will need to be examined by specialists in income, money, growth and general equilibrium theories. This writer is certain that those familiar with the works of Walras, Wicksell, Patinkin, Friedman, Lydall and others in related areas would undoubtedly find Fujino's theoretical contributions stimulating and useful. Several Japanese economists have challenged more than a few aspects of the first two models in recent review articles and this reviewer could add a few questions of his own.¹⁶ But this is to be expected of all bold theoretical attempts and attests to the innovative quality of Fujino's models.

This, however, is only a third of the impressive volume. Fujino's efforts in the collection and analyses of data alone merit recognition. In this endeavor, he attempts to establish the existence of inventory, investment and construction cycles. He also investigates thoroughly the quantitative evidence of the impact of innovations on rates of investment, and the industrial structure in several key industries.

Or, to cite examples of his work in terms of actual procedure, his statistical contribution falls in the following three categories: (i) computation of a diffusion index using monthly data of 56 items for the period between 1888 and 1940. As the statistical appendix for the index shows this was an undertaking of massive proportions;¹⁷ (ii) compilation and analyses of several series of data relating to money for the period between the early eighties and 1962. These include such series as supply of money (variously defined), bank loans, interest rates, several indicators of the dependency of banks on the Bank of Japan, deposits and loans of banks, etc.;¹⁸ (iii) compilation and analyses of useful sets of long term data for several key industries to analyze the effects of innovations.¹⁹

For example, the data for the textile industry include quantities of several types of products, prices of the industry's outputs and inputs, productivity indexes of

¹⁵ *Ibid.*, pp. 302-17.

¹⁶ There have been nearly a dozen reviews and a few review articles on Fujino's book since its publication. Those interested readers can begin with Fujino's rejoinder to those comments and criticisms in *Keizai Kenkyū*, July 1967, no. 3, vol. 18. This lists all published reviews and review articles and presents Fujino's rebuttal to the criticisms made in these reviews. For this reviewer, the major weakness of Fujino's models—also to some extent his applications of models on empirical data—is that he is too anxious to prove his points. For example, in building the second model, Fujino must rely on an implicit but necessary assumption that the rate of operation of assets (capital utilization ratio) be constant. In testing the models, he tends to neglect to analyze the results which might not fit into his models as neatly as he wishes. The case in point is the evaluation of relative importance of three types of cycles mentioned in the text.

¹⁷ Fujino, pp. 24-41, and Statistical Appendix I.

¹⁸ *Ibid.*, pp. 423-98.

¹⁹ As discussed below these are integrated into historical chapters.

various kinds, etc. In these, Fujino's careful evaluations and use of the often unwieldy data for these industries earn the respect of those who have ever worked in related areas. Not to be forgotten are the statistical appendixes which include, in addition to the methods and the raw data for the diffusion index, data on loans and deposits for 1886 by prefecture, classes (samurai, peasants, companies, etc.) and 7 pages of various series of data relating to the electric power industry for the period between 1907 and 1940.

As for Fujino's historical analysis, only a few words are needed. These chapters are, in effect, testing grounds for his theories, and his discussions on cycles, money, and the growth of several key industries are laudable examples of the "new economic history."²⁰ Those who have read many of the prewar Japanese books on economic history in the hope of gleaming useful information from these volumes, more often than not exercises in the Marxist discourse, will find that Fujino's chapters are refreshing as well as rewarding.

Professor Shinohara did not exaggerate when he said that this book contained enough material to fill three volumes.²¹ The significance of its contributions, especially in the clarity of the theoretical framework and the scholarly workmanship, reminds this writer of Professor Rosovsky's *Capital Formation in Japan*. Like Rosovsky's book, Fujino's work deserves close reading by those in the profession for in both cases Japan is the medium of their analysis, and the tools of this analysis are universal.

Following are several books, published in Japanese during the past few years, which merit special attention. The first two, in the area of economic history, reflect a recent surge of renewed interest in this field by Japanese economists.

Toshio Furushima's *Sangyo-shi* [A History of Industries] (Yamakawa Shuppansha, 1966) is a solid history of industrial development in Japan during the period from the late Tokugawa years to 1920. Throughout the book, Furushima's evaluations are based on a careful use of official statistics, including the rarely digested production table of 1874 (*Meiji 7-nen bussan-hyō*), and other data embedded in prefectural, municipal and company histories. To support his analyses of the effects of policy, international trade and "linkage," he also combed through diaries and other available records on village administration of the Meiji-Taishi periods. His chapters begin with a lucid description of the general trend of each industry or period and are followed by a balanced analysis of the impact of the new technology, changes in wages, and increases in the supply of capital and policy. Though there are several good histories in English on Japanese industrial development, Furushima's 512 pages assemble and analyze evidence with a care for pertinent details that no books published in English have ever been able to achieve. In spite of the abundance of quantitative evidence, Furushima manages to give a readable account of the industrial development in Japan.

Kazuo Shibagaki's *Nihon Kinyū Shihon Bunseki* [An analysis of Japanese Financial Capital] (Tokyo University Press, 1966) is a good book in spite of its dusty title. The book examines the process of the accumulation of capital in the

²⁰ Fujino, pp. 292-461. These industries include: cotton textile, silk-reeling, communications and transportation, iron and steel, electric power and chemical (related to electricity) industries.

²¹ Miyoei Shinohara's review of Fujino's book in *Tōyō Keizai*, July 3, 1965, p. 119. Some might argue that the book is too long and could have been better integrated.

hands of the Zaibatsu, its expansion into the manufacturing fields, and the consequent development of the full-fledged financial empires. The distinguishing quality of this book, dealing with an old topic on which literally hundreds of books have been written in Japanese, is its painstaking use of company histories. Although he at times lapses into the familiar phrases of the last generation of Marxists, he succeeds in presenting a cogent and well-knit description and analysis of the growth and role of the financial empires in Japan's rapid economic growth. Even for those familiar with "the Zaibatsu questions" in general, Shibagaki's book has much to offer in giving a sharply focused depiction of the birth-growth-maturity of the Zaibatsu empires.

Also on a familiar topic, Kikutaro Takizawa's *Nihon Kogyō no Kōzō Bunseki* (The Analysis of the Japanese Industrial Structure) (Shunjusha, 1965) is a valuable book. The author's detailed analysis of voluminous data on the small-medium firms, and his intimate knowledge of these firms, make this contribution unique among the many written on this popular subject. His conclusions, if not new, are free of generalizations based on secondary sources, as they are well supported by evidence and by his thorough knowledge of the small-medium firms, a subject of life-long interest to Takizawa. This, in short, is an important book for those interested in a careful analysis of the many aspects of change in the industrial structure of a rapidly developing economy, and a necessary book for those who wished a comprehensive analysis of dual-structure, *keiretsu* and *shiwayose*, and other issues vital to an understanding of the Japanese economy. Above all, the readers will find a useful examination of the multi-faceted problems facing the small-medium firms in an economy in which the trend of market structure is to become increasingly oligopolistic.

Although basically Marxist in their analyses, Kenji Yoshioka's *Chiki Kaihatsu to Chihō Zaisei* [Regional Economic Development and Local Finance] (Tōyō Keizai, 1966) and Minoru Shimazaki's *Nihon Nōson Shakai no Kōzō to Riron* [The Social Structure and Theory of Agricultural Villages in Japan] (University of Tokyo Press, 1966) are valuable books. The former analyzes the changing patterns of the fiscal problems of local governments within a rapidly developing economy. Detailed case studies, examination of the role of theories of fiscal policy and of regional economic development, are the ingredients which make this book outstanding among many on this increasingly popular topic among Japanese economists. The latter is a book by a sociologist and contains many valuable observations and descriptions of the changing face of the Japanese village since the end of the Second World War. For economists, these descriptions and observations are of significant values although his theoretical analyses appear forced and doctrinaire.

Two more books merit notice among the crop of the last two years. Ryutaro Komiya and Ryuichiro Tachi, *Keizai Seisaku no Riron* [Theories of Economic Policy] (Keisō Shobō, 1966) and Hidetaka Nakamura, *Gendai no Nihon Keizai* [The Contemporary Japanese Economy] (University of Tokyo Press, 1966) are well written books which could be read by economists as well as those in other areas of social science. Neither is a research or reference book, but they merit attention as they are the best of many which try to discuss various issues of the post-war Japanese economy, and the economic growth in general. In these books,

nonspecialists on Japanese economy will find excellent descriptions and easy-to-follow analyses of wages, capital, taxation, income distribution, market structure, technology and policies. Theoretically, Komiya-Tachi's book is on a slightly higher plane, but both are clearly written, and welcome additions to this category of books.

It goes without saying that there are many more excellent books which could have been mentioned, and the writer undoubtedly missed some important contributions, since nearly five to six hundred books on economics and closely allied areas are published annually in Japan.

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