BOOK REVIEW

Structural Changes in Japan's Economic Development by Miyohei Shinohara, Tokyo, Kinokuniya, 1970, x+445 pp.

Professor Miyohei Shinohara is a leading figure among Japan's empirical economists today. Thanks to him and other economists of his vintage, principally associated with the Institute of Economic Research, Hitotsubashi University, Japanese economic studies have been enriched with improved data, new findings, and fresh hypotheses. His publications encompass several books, dozens of journal articles, and numerous contributions to symposia and conferences in Japan and other countries. His works available in English, prolific as they are by any standard, are only the tip of an iceberg above water. In 1962, he put together some of his articles published in English and offered an eminently readable book, *Growth and Cycles in the Japanese Economy,* which has since been a required reading among students of Japan in foreign countries. *Structural Changes in Japan's Economic Development* is a sequel to the 1962 volume and explores some of the themes of its predecessor in greater depth and extent. As its author rightly claims, the new book is "more ambitious" in its scope and "attempts to delineate in quantitative terms the structural changes which accompanied Japan's rapid economic growth during the pre- and post-World War II periods" (p. i).

The book in a nutshell. In Part I, appropriately titled "Causes and Consequences of High-Pitched Growth," Shinohara identifies and analyzes some of the most essential factors in Japan's economic growth. Chapter 1 is a useful introduction to the characteristics of economic growth in postwar Japan. In this chapter, specifically postwar factors are separated out from long-term forces. Chapters 2 through 4 analyze two basic factors in postwar economic growth, that is, saving and investment. Chapter 5, the longest chapter in the entire book and a substantial monograph in its own right, presents rigorous experiments in the measurement of Japan's international standing in industrial production. The benchmark year for the international index of industrial production is 1958, from which the relative positions of different nations are extended forward and backward in time.

Some of the correlates of economic growth sustained by Japan since the 1870s are reviewed in Part II, titled "Structural Changes." Chapter 6 presents estimates of personal consumption and Chapter 7 those of industrial output during seventy years of Japan's modern period before the Second World War. These are gems of historical and statistical research with important implications for the characteristics of Japan's modern economic growth. Chapter 8, another long chapter, is a polemical expose of analytical and interpretive issues related to Japan's often-quoted structural anomaly, "dual economy." The last chapter of the book is devoted to the measurement and analysis of changes in inter-prefectural differentials in income and production. A sharp equalization of the geographical distribution of income took place during the Korean War boom and there was a slight increase in the inequality of income distribution among prefectures through 1961.

The book, like its predecessor, is essentially a collection of essays written at different dates for different purposes. While these are revised and compiled with an eye on a maximum of integration, there still remains some unevenness in analysis and presentation among various chapters. The book covers a wide range of topics, and its multiple foci defy an easy characterization of its scope and message. There being no hope to do justice to all the outstanding contributions of the book, I shall limit myself to two major questions of over-riding importance and draw upon Shinohara's data, insights, and arguments, approvingly or critically as the case may be, to explore those questions, which are: (1) whether recent research has produced anything new about Japan's long-term growth, and (2) how one should understand Japan's international status in association with her economic growth.

Long-term growth. The Hitotsubashi economists' sustained research efforts have recently resulted in several volumes of the ***Estimates of Long-Term Economic Statistics of Japan*** (***ELTES*** hereinafter). Chapters 6 and 7 of the book under review report on portions of the ***ELTES*** undertaking which Shinohara supervised and compiled. The resultant rates of increase in these long-term estimates (in constant prices) are as follows:

	1874–1900	1900–1940	
Personal consumption	2.29%	2.82%	(p. 245)
Industrial production	4.55–4.57%	5.85–5.87%	(p. 288)

There is no need to examine the assumptions, procedures and sources of data that have resulted in these and other figures. In any case, this type of examination would require much more space than a short review. For the moment, suffice it to note that Shinohara's meticulous, often self-castigating, evaluation of his estimates through a series of consistency tests is a good enough certificate for their reliability. What is exciting about the rates of increase just quoted is rather that they imply something drastically new about prewar Japan's long-term economic growth compared with what one used to believe about it.

Although the ***ELTES*** volume on national income is not available yet, a reasonable guess may be made about economic growth from the trends of personal consumption and industrial production just quoted. For example, the rate of growth of national income is a weighted average of the rates of increase in consumption and investment where the weights are the ratios of these components to national income. From estimates of capital formation by Shinohara himself and others, one may broadly infer that consumption would have been about 90 per cent of national income during 1874–1900 and about 20 per cent during 1900–1940. In addition, one may suppose that investment would not have increased much faster than industrial output unless the capital-output ratio (or the reciprocal of what Shinohara calls "capacity-increasing coefficient" in Chapter 4) was allowed to increase disproportionately. By putting the annual rate of increase in investment at 5 or 6 per cent for 1874–1900 and 6 or 7 per cent for 1900–1940 and using other relevant numbers, one obtains the rate of growth of national income as a weighted average of the rates of increase in consumption and investment as follows: 2.56 or 2.66 per cent for 1874–1900, and 3.26 or 3.60 per cent for 1900–1940.

These conjectures, if borne out by more rigorous experiments, would lead to a revised image of economic growth in prewar Japan. Three points are worth mentioning. (1) Economic growth during the celebrated Meiji Era may have been substantially lower than 3 per cent per annum, which when corrected for the population increase, would sink substantially below 2 per cent. This record would hardly deserve a praise as evidence of "rapid" economic growth. (2) Economic growth seems to have been accelerated in the latter part of Japan's prewar period, apparently foreboding a higher trend-rate of growth after the war and dimming the luster of a "big spurt" or "take-off" which allegedly took place during the Meiji Era. (3) Japan's prewar economic growth at around 3 per cent per annum, if true, would have been rather mediocre performance by the nineteenth-century standards of the older industrial countries of the West. This directly leads to the question how Japan with this kind of performance had ever hoped to catch up with the economic level of the Western countries which started their growth from much more auspicious initial conditions than Japan did.

Japan's international standing. As expected, Chapter 5 (especially the data on pp. 186–88) shows that Japan's level of industrial production deteriorated relative to the U.S., France, Germany, and Italy before 1910. Thereafter, however, Japan's slightly accelerated growth against the backdrops of the First World War in Europe and of the Great Depression of the 1930s in the United States helped Japan gain in her relative position vis-à-vis the West. During the 1930s, Japan substantially moved forward relative to the U.S., pushing her production up to 26.5 per cent of the U.S. level in 1938. Interestingly enough, Japan did not re-capture this relative position until 1964. One may recall how increasingly fashionable it was by this time to speak of Japan's postwar growth as a "miracle," while Shinohara's data show that Japan was merely coming back to her relative position of twenty-six years before. People evidently suffered from a "miraculous" lack of historical perspective. Even in 1967, despite her ranking as the third largest industrial producer in the world, Japan's standing vis-à-vis the U.S was inferior to the relative positions of France, Germany, and the United Kingdom at the beginning of this century.

Thus, by historical standards, Japan today is hardly a "big power." Reflections on long-term data do evoke a humbling feeling that in the totality of human history, no nation has been without her glories or setbacks. Furthermore, if Shinohara's Juglar cycles, discussed in Chapter 4, have any predictive value, Japan in the summer of 1970 is only a year away from another down-turn in economic activities. Indeed, the bells at the Gion Shōja toll for the fall of the rich and powerful as surely as death is the fate of life.

Although most of Shinohara's data and observations should have a sobering effect on the expanding ego of the Japanese as a consequence of recent economic growth, Shinohara himself has injected a red herring in his discussion of Japan's international standing in terms of industrial production. This has to do with the so-called income-output gap. In the benchmark year of 1958 for which the cross-country production index is constructed, Japan's physical production was 15.6 per cent of that of the U.S. But income from Japanese industry (first, naturally, received in units of yen and then converted into dollars through the official exchange rate) was found to be only 6.02 per cent of the income from U.S. industry (p. 160). Shinohara supposes that this is due to a possible undervaluation of the yen relative to the dollar.

Other factors may also be involved in this gap. But without going into detail in this respect, Shinohara goes on to use his conjecture about the international value of the yen to explain the rapid expansion of Japanese exports (pp. 159–65). This seems to be an unusually daring argument, which runs the risk of causing misgivings that Japan lacks good faith in trading with other countries. Shinohara fans up the misgivings by committing himself to the defense of the supposedly undervalued yen. In the heat of polemic, a conjecture almost becomes a conviction. If the yen were truly undervalued, it would be very difficult to reject an argument for its upward revaluation. "However," says Shinohara, "we have, of course, not urged appreciation but rather to continue it in order to maintain the high export growth rate" (p. 165). I fear that statements like this may be taken by foreign readers as too Japan-centered and lacking in sensitivity to many difficulties that are induced in other countries by Japan's success in export expansion.

But then, the issue of the exchange rate for the yen is entirely secondary in the context of Shinohara's experiments in the international comparison of output. The alleged income-output gap may be largely statistical. The back of the riddle will be broken if a cross-country index of income can be devised that is comparable in form and logic to Shinohara's cross-country index of industrial output. It is not very neat to compare Shinohara's fixed-weight output index with the index of total income from industry without adjusting for inter-country variations in the weights of different branches of industry in relation to income, output, or resource use. Before any drastic inference is made, a quick experiment may be made for an alternative cross-country index of income from industry. First, income from (or value added by) a commodity may be converted into dollars and made into an index number on the U.S. base. Secondly, the resultant indices by commodity may be summed and averaged over all commodities with the same weights as those Shinohara has used to obtain his cross-country index of industrial output. One feels that this type of fixed-weight income index will reduce the income-output gap in question to a substantial extent. Then the question that is likely to arise is why there is such a difference between the suggested fixed-weight income index and the ratio of the dollar value of total income from Japanese industry to total income from U.S. industry. But this question will be answered largely in terms of differences in the industrial structure, lags in the development stage of the whole economy, dissimilarities in the relative price structure, effects of the forces of comparative advantage, and so on. There may still be a place for the suspected under-valuation of the yen, but it is not likely to be as large as whatever is imputed to it in Shinohara's argument.

Fortunately, however, at the last minute before the manuscript went to the press, Shinohara had a revelation of a "new hypothesis" (pp. 214–19), which, if refined and tested further, would eventually jettison the need for an under-valued yen to explain the afore-mentioned income-output gap. It is a great relief that Shinohara winds up his discussion of the riddle with a plea for more detailed studies (pp. 218–19). At times like these when Japan's rising foreign exchange reserve is attracting more than mere curiosity from other countries, the notion of an under-valued yen may prove to be as embarrassing to Japan as the erstwhile charge of cheap labor which is by no means entirely dead.

Conclusion. There is no doubt that Professor Shinohara's new book will make a rewarding reading. The pleasure of reading is heightened by the author's delightful penchant for taking a clear stand and making provocative statements about controversial issues. On the whole, in interpreting and analyzing Japan's economic problems, Shinohara distinguishes and integrates a number of interrelated dichotomies: for example, general economic forces versus specifically Japanese factors, modern versus traditional elements in Japanese life, long-run versus short-run factors in the Japanese economy, psycho-cultural patterns versus economic calculus, and finally, sophisticated techniques versus philosophical insights. These dichotomies are often subdivided and applied to the elucidation of interacting forces at different levels of aggregation and differentiation. From the micro-units of firms and households to national and international aggregates, the complex intertwining of dichotomies plays a great role in Shinohara's analysis and argument, generating from time to time a profound sense of beauty and harmony. The scientific value of the book reviewed in this note is very high. But, more importantly, it may be read as a tract in which one of the most perceptive economists of today's Japan has presented his well-reasoned, yet intensely personal, understanding of the economy of his beloved country. (Koji Taira)