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THE FUTURE POTENTIAL OF JAPANESE PRODUCTIVITY

Patricia Haley

I. INTRODUCTION

In recent years, the literature concerning Japan's economic development has grown significantly, with numerous articles being written not only by American scholars, but by Japanese and other foreign scholars as well. Such an interest in the Land of the Rising Sun is hardly surprising. Since World War II, Japan has risen from a predominantly low-income, agrarian society to a modern, high-income industrial economy, strongly and successfully competing with the advanced nations of the world (Kelley & Williamson, 1974). The preponderance of books and articles have dealt with the sources of Japanese economic growth and the "lessons" to be learned by the advanced nations from the Japanese experience. However, few authors have addressed Japan's potential for future economic growth.

It is the purpose of this paper to discuss this very question of Japan's future growth potential. We will argue that because of changing demographic conditions, Japan will in all likelihood not be able to maintain the rate of economic progress which she has enjoyed to date. Rather, as has been the prior experience of today's advanced nations, Japan will soon encounter new and perplexing social problems. These problems will ultimately retard her rate of economic growth.

II. JAPAN'S DEVELOPMENT

A. Growth Factors

In looking at Japan's future, one must glance back at her past. How did Japan get to where she is today? What were the major sources of her growth? In one recent study, Denison and Chung (1976) argued that from 1953 to 1971 the major
source of Japan’s economic development was her growth in capital. They estimated that increases in capital stock accounted for 2.1 percentage points of Japan’s average annual growth rate of 8.8 percent during this eighteen-year period. The main components of the capital stock, nonresidential structures (including equipment) and inventory, grew at an annual rate of 9.2 percent and 11.9 percent, respectively, over the period. These rates might be compared to the 3.5 percent average annual growth rate in each of these components in the U.S. over a similar period (1948–69).

According to Denison and Chung, such a rapid growth of fixed capital stock and inventories could have been achieved only with enormous levels of annual investment. Such investment levels, in turn, were made possible by a combination of three factors. The first factor was the large relative decline in the prices of capital goods. From 1960 to 1971, the average price of all output (GNP) grew at a 43 percent faster rate than did average prices of all fixed nonresidential business investment goods. One can argue convincingly that such a sharp decline in relative prices of investment goods had a favorable effect on the level of investment.

A second factor contributing to the high level of Japanese investment over this period was the rapid increase in national income. From 1952 to 1971, Japan’s national income grew at a rate of 9.2 percent per year (Denison & Chung, 1976). Along with the fact that most of this gain in income was accompanied by rising land and equity values, Japanese development was highly favorable toward private business. As business leaders were driven to match their own enterprise expansion with those of their rivals, a correspondingly large proportion of the growing corporate wealth was poured into industrial growth. Furthermore, because Japanese government policy was directed toward developing an industrial sector similar to those of the advanced nations, generous support was given to innovative industries dedicated to expansion.

The third factor which contributed greatly to Japan’s superior investment performance over the period was the great increase in the proportion of national income directed to savings. Japan’s savings rate (savings as a percentage of GNP) nearly doubled over the period from 1952 to 1971. From 1961 to 1971, Japan saved 28.8 percent of GNP compared to the U.S. rate of 15.8 percent for the same period (Bieda, 1970). Significantly, noncorporate savings accounted for more than half the Japanese total, a reflection of the Japanese tradition of thriftiness. The high savings rate can also be attributed to an inadequate social security system. Because social security benefits are low in Japan, individual families are usually left with the major responsibility for making provisions for themselves in case of unemployment, illness, or old age. Another factor influencing the high Japanese savings rate is the high priority which has been given to education in the postwar period. With education seen as the key to entering most careers, Japanese families are usually willing to pay high tuition fees to ensure their children a quality education. This, of course, has encouraged families to save a sizable portion of their incomes to finance the costs of their children’s education.
We have stressed the fact that a large portion of Japan's savings consists of personal savings rather than corporate savings. This being the case, we will now analyze the present and future Japanese labor force—the primary source of personal savings in the Japanese economy.

B. The Changing Japanese Labor Force
Given the present structure of any nation's population, further changes in the population are determined solely by births, deaths, and migration (Hauser, 1979). Migration to and from Japan has played virtually no role in Japan's changing population. The migration rate has averaged zero percent per year since 1950 and is not expected to change significantly in the future. There has, however, been a sharp decline in the birth rate since 1950. The reasons for this decline are numerous, but one of the most important reasons is the freer access to information on contraceptive techniques. Furthermore, the population policies of Japan are very liberal toward abortions, a fact which has made the abortion rate in Japan one of the highest in the world.

The death rate in Japan, on the other hand, has shown little overall change since 1950. One might at first expect that the advances in medicine and hygiene and the improvements in Japanese nutrition over the past thirty years would have caused the annual mortality rate to decline. Indeed, the average life expectancy has increased from 58 to 73 years for males and from 62 to 79 years for females over the postwar period (Ogawa, 1982). In general, however, a rise in the life expectancy of the population tends to result in only a temporary decline in the death rate. Eventually, the increase in the number of older people causes the death rate to reverse its decline. For the case of Japan, the sharp decline in the birth rate accompanied by an initial (at least) decline in the death rate has meant that the proportion of older people in the Japanese population is currently rising. According to present estimates, the percentage of the total Japanese population which is 65 years or over will increase from just under eight percent in 1975 to almost 19 percent in the year 2020 (Ogawa, 1982). This aging of the general Japanese population will result, of course, in a similar aging of the Japanese labor force. For example, the percentage of workers aged 45 to 64 (as a percentage of the total working age population) is expected to increase from 29 percent in 1975 to about 38 percent in 2020 (Ogawa, 1982).

III. ECONOMIC CONSEQUENCES OF AN AGING SOCIETY
The economic consequences of the aging of the Japanese population will be both numerous and far-reaching. First, a large portion of productive Japanese manpower will have to be redirected to the service industries to accommodate the increased demand for health, medical and welfare services for the elderly (Hauser, 1979). Such industries are by their nature labor-intensive and do not easily lend
themselves to capital substitution of a labor-saving type (Kurihara, 1971). With the birth-rate decline already having caused a marked reduction in the supply of certain types of labor (particularly new recruits and management trainees), the increased demand for labor in these industries is likely to further aggravate the general problem of labor scarcity in Japan. The growing labor requirements in these service industries will thus increase competition in an already tight labor market and will affect not only the services sector, but the manufacturing sector as well. Inasmuch as productivity growth in the service industries is generally lower than that in manufacturing, the relative growth of the service sector would also mean a lower rate of growth in labor productivity in the Japanese economy.

A second major consequence of the aging of the Japanese population concerns the wage system in Japan. Unlike the situation in the United States, where pay is usually based upon skill, past experience, and the degree of responsibility, many Japanese companies follow a seniority wage system (nenko) in which pay is a function mainly of age and education. Japanese employees are given an initial base wage, to which is added a work allowance (usually a certain percentage of the base pay), an age allowance, and an attendance allowance (Ogawa, 1982). Since the base wage comprises only about 25 percent of the total pay, there is little relationship between work performance and compensation. Rather, it is implicitly assumed that each employee is working at his capacity (Galenson & Konosuke, 1976). All employees therefore receive compensation largely according to the length of service with the organization, regardless of individual performance. A major consequence of such a system of compensation is that as the average age of the Japanese firm's labor force increases, the firm will find itself faced with increasing labor costs.

It should also be pointed out that the aging of any labor force generally carries with it a reduction in its adaptability to new techniques and working methods, causing the average quality of the labor factor to decline as it ages (Ogawa, 1982). Therefore, as the proportion of older workers in the Japanese labor force increases, those companies operating under the nenko system will find themselves faced with an increasing wage bill coupled with a deterioration in labor quality. The consequence is that future labor costs in Japan will probably rise at a faster rate than in the past.

Within the manufacturing sector, the relative decline in the youngest segment of the Japanese labor force in the upcoming years may also greatly limit expansion in new and innovative areas. Indeed, this may be aggravated by one of the unique features of the Japanese industrial relations system—the practice of "lifetime employment." Exercised by virtually all major enterprises, the lifetime employment concept involves a permanent job guarantee made to all employees who attain regular status with a firm. During this time, an employee can expect to receive proper training in his field and advancement in rank and wage. As a result, the typical employee usually acquires a strong loyalty to the firm, and it is rare for such an employee to voluntarily leave the firm. With employee turnover practically nonexistent, virtually all new employees hired by the firm are
recruited from schools and universities. As the changing demographic forces discussed above result in a decline in the student-age population and the number of young graduates, a shortage of technical minds for industrializing firms will occur. This shortage may affect not only the efficient operation of already existing industrial equipment, but also the volume of new technological developments. Because Japan's growth is so highly dependent upon new and creative technologies, her competitive position could be seriously weakened by the scarcity of educated youth manpower.

Taken as a whole, the above-mentioned consequences of Japan's aging population make a lower rate of economic growth in that country a very distinct possibility. But, perhaps the most serious effect of the demographic changes is the rise in the proportion of the population which will be dependent upon the working population. This increase in the "dependency ratio" will result primarily from the aging of the Japanese population, since the proportion of youthful dependents is falling with the birth rate. In analyzing the consequences of an increasing dependency ratio, it is important to distinguish between the older and younger segments of the dependent population. While outlays on the part of the work force are necessary for the support of both groups of dependents, outlays for the younger dependent may properly be regarded as an investment in human capital, an asset whose earning potential will be tapped once the child enters the labor force. On the other hand, although the outlays for the older dependent may still provide positive psychological and emotional returns ("psychic income," in the language of economists), such outlays yield no economic return since the nonworking older dependent will no longer be a contributing member of the workforce.

To some extent, the nonworking older population can live on their savings or rely upon Japan's social security system. As we have previously mentioned, however, the latter program is largely inadequate. By international comparisons, expenditures for social security in Japan are very low, with the average monthly pension in 1972 only about 22.5% of average wage income at that time (Galenson & Konosuke, 1976). Furthermore, company benefits to the retired worker normally consist of a single lump-sum payment. This payment, although not uniform, usually ranges from only two to four years' salary, depending on the size of the firm and the length of service of the employee. Such an amount is often not sufficient to support an individual for the remainder of his life. Not only is the real value of the payment subject to inflation, but the average life expectancy for individuals upon retirement is considerably greater than two to four years. Undoubtedly, the working population of Japan will bear an increasingly heavy burden in the future because of the rising dependency ratio and the inadequate social security system.

It is important to note that the Japanese social insurance system covers virtually all residents of the country, whether or not they have been gainfully employed (OECD, 1973). The system actually consists of two funds, the Employees Pension Program (EPP) and the National Pension Program (NPP). The EPP is financed jointly by employee contributions (currently 4.55% of total yearly earn-
ings) matched by equal contributions by employers. The government also provides a subsidy of 20% of benefit costs. The NPP is funded through payments of approximately 3300 yen per month by all adult citizens who are not covered by any other pension program, with the government contributing an additional one-third of the benefits paid during the year. Thus, as the dependency ratio of the Japanese population rises, both the government and employers will be subject to increasing financial burdens from these social insurance programs. The proportion of national income allocated to these programs will rise sharply and may comprise as much as 40% of national income according to some estimates (Seki, 1980). This being the case, savings rates will be further affected, along with Japan's ability to finance future investment.

III. CONCLUSION

Demographic conditions in a particular nation cannot be excluded when estimating that nation's potential economic performance. The age structure of Japan's population proved to be extremely advantageous to her growth process during the postwar period. But, there is no such thing as a free lunch, and in future years, Japan will have to pay the price. Although her GNP growth rate will not drop to zero, it will probably be slowed to a considerable degree because of the aging of her population.

The United States, incidentally, is not immune from the problems of an aging population either. In fact, declining birth rates and falling mortality rates are conditions prevailing in most countries of the world today. But while the present proportion of persons over 55 years of age in Japan is not as high as in North American and Northern European countries, by the year 2025 Japan will shoulder the highest proportion of older people (29 percent) among these countries. Thus, the particularly pressing problem for Japan is that the change in the age structure of her population will be a most abrupt one.

This is not to paint a gloomy scenario for the country, for steps are already being taken to protect against the upcoming "storm." Such steps include possibly raising the retirement age and refining the social insurance systems. The implementation of such reforms will have to be prompt, however, for it may be too late to buy a new umbrella when the rain has already begun.

REFERENCES


