

THE OVER-POPULATION PROBLEM IN POST-WAR JAPAN

By TOKIJIRO MINOGUCHI

Lecturer of Population Problem

I

It is very difficult to measure accurately the degree of over-population which is generally said to prevail in post-war Japan.

In order to investigate this problem, I begin by referring to the optimum population theory of Edwin Cannan.¹ In any static state as circumstances remain unchanged, "an increase of labour up to a certain point is attended by increasing proportionate returns (called for short increasing returns) and beyond that point a further increase of labour is attended by diminishing proportionate returns (called for short diminishing returns)." "There is what may be called a point of maximum return, when the amount of labour is such that both an increase and a decrease in it would diminish proportionate returns," and the volume of population at the point of maximum returns is called the optimum population, beyond which point there is over-population, that below under-population. This idea certainly contributes to an explanation of what is over-population, without having any positive value for its measurement.

Another suggestion for gaining access to the measurement of over-population is the volume of unemployment. On this premise, however, it may be paradoxically concluded that there is almost no over-population in post-war Japan.

According to the returns of Employment Status conducted jointly with the Population Census of April 26, 1946, the labour force including the total number of persons between the ages of 13-61 who were able and willing to work amounted to 29,720,000, of which the number unemployed who had no work at all for a month before the date of those returns amounted to 1,590,000, the rate of unemployment being only 5.4 per cent. This number, though it is several fold more than 320,000 in 1930, is considerably low as compared with the percentage of unemployed to persons insured under the Unemployment Insurance Act during the period from 1921 to 1929, that is 9.7 per cent of the lowest (in 1927), 16.9 per cent of the highest (in 1921)

¹ Edwin Cannan, *Wealth*, 3.ed. (London, 1928).

and 11.2 per cent of the average. The labour force, including all persons between the age of 16-61, according to similar returns of October 1, 1947, was given as 33,986,000, of which 658,000 were unemployed and had no work at all for a week before the date of those returns, the rate of unemployment being reduced to 1.9 per cent. These unemployment figures continued to decline for a certain period, according to reports of the Labour Force Survey based on the sampling method, viz. :

Date	Number of Unemployed	Rate of Unemployment
October, 1946	1,490,000	4.7 %
November, 1946	1,230,000	3.7
April, 1947	950,000	3.0
August, 1947	510,000	1.5
July, 1948	150,000	0.4

Thereafter with an increasing tendency unemployment rose to 500,000 in April 1950, the rate being 1.1 per cent, but it may, however, with justification, be said that this figure is quite negligible.

This does not imply that there is no over-population in post-war Japan. For instance, as Professor Pigou² argued, an equilibrium between the demand and the supply of labour may be established in general by means of automatic wage adjustments in which case, the rate of wage will be lowered in the same way in response to a fall in the demand for labour. However, a fall in wage will occur in such a way as always to make the demand for labour and the supply of it equal. The reason why the number of unemployed is very small will eventually be attributed to special circumstances in Japan where employment is apt to be extended by means of a lowering in wages (or income) to a greater degree than in the United States and the West-European countries.

Therefore, over-population in present Japan must rather be measured by the real income per head of the population, and never from the volume of unemployment. According to a calculation by the Economic Stabilization Board (E.S.B.), the real income per head in Japan showed an increase of 55 per cent in 1944 compared with 1930, and a continuous upward tendency throughout the pre-war and war-periods, but after the War declined by 69 per cent in 1946 and by 62 per cent in 1947 as against 1944, the rate of decrease as compared with 1940 being 66 per cent in 1946 and 58 per cent in 1947, and compared with the period 1930-1934 57 per cent and 46 per cent respectively. Furthermore, according to a calculation of the Ministry of Labour (M. L.), the real national income per head, as compared with the base year of 1930 when it was extremely low due to the World Economic Crisis, was 40 per cent in 1946 and 1947, corresponding to 46 per cent as against 1935. This rate, thereafter rather slow as it went, was 28

² A.C. Pigou, *The Economics of Welfare*, 4.ed. (London, 1932).

per cent in 1948 and 24 per cent in 1949 compared with 1930, 32 per cent and 31 per cent respectively as against 1935.

Now, to calculate from the ratio of decline in real income per head as multiplied by the number of population in each year after the War, we should have had the assumed over-population in 1946 and 1947 as follows:

(A) According to the figures of E.S.B.

The base year	1946	Assumed over-population 1947
(1) if 1944 is taken	42,140,000	48,730,000
(2) if 1940 „ „	48,840,000	45,590,000
(3) if 1930-34 „ „	42,140,000	36,160,000

(B) According to the figures of M.L.

The base year	1946	Assumed over-population 1947
if 1930 is taken	29,610,000	31,200,000
(which year was influenced by the world crisis)		

In comparing the figures of the Economic Stabilization Board on the basis of 1930-34 with those of the Ministry of Labour on the basis of 1930, the latter is lower by 12,530,000 in 1946 and by 4,966,000 in 1947 than the former, and the assumed over-population from the figures of the latter would be 22,400,000 in 1948 and 19,820,000 in 1949.

The assumed over-population after the War could also be calculated from the ratio of decline in the real income per head as multiplied by the labour force, in place of the aggregate population, viz. :

(A) According to the figures of E.S.B.

The assumed over-population in 1947 would be (1) 20,640,000 if the real income per head in 1944 is taken as the basis, (2) 19,311,000 if that in 1940 is taken, (3) 15,333,000 if that in 1930-34 is taken.

(B) According to the figures of M.L.

	1947	Assumed over-population 1948	1949
(1) if the real income per head in 1930 is taken as the basis	13,332,000	9,867,000	?
(2) if the real income per head in 1935 is taken as the basis	15,332,000	10,777,000	?

II

The reason why in post-war Japan the number of unemployed is abnormally small, in spite of the immense volume of over-population, can be

attributed to the fact that family enterprises still survive extensively in various industries and, moreover, many people engaged in modern factory enterprises are descendants from family enterprises, proving that the present Japanese economic society remains still in the early stage of capitalistic development, as was the case in England, Germany and the United States in the 19th century.

According to the National Census of 1940, the labour force numbered 34,100,000, of which 19,590,000, or 57.4 per cent were proprietors and family workers engaged in family enterprises and 14,510,000, or only 42.6 per cent belonged to the employee class, most of whom descended directly from family enterprises. For example, in referring to the fact that only 288,000 persons were engaged in factories constructed or extended during the first World War moving from non-manufacturing industries, those who moved from agriculture amounted to 176,000 or 61.1 per cent of the total. According to the Labour Survey of 1939, the total workers who were newly hired before the end of March of that year by factories usually employing more than five workers and were at the date in employment there, were 2,920,000, of which 152,000 had not moved. And of the latter, descendants from agriculture were 895,000, or 59 per cent, and descendants from trade 152,000, or 10 per cent, the total of both of these, 1,047,000, or 69 per cent were persons directly descended from family enterprises. It is for the above-mentioned reason that when the demand for labour is declining, the equilibrium between the demand and supply of labour is apt to be attained by a lowering in wages or income, which will be more evident for the following three reasons.

(1) In countries where family enterprises still survive extensively in various branches of industry even in competition with capitalistic enterprises, those family enterprises can maintain themselves comparatively well, under quite different circumstances from those in highly industrialized capitalistic countries.

(2) In countries where the major part of the employees are primary descendants of family enterprises, anyone not being able to secure employment or who has been dismissed from employment is usually received into a family, in which he becomes a family worker, as a matter of course in the paternalism.

Le Play classifies the forms of family into three categories³: patriarchal, unstable family and stem family. In a stem family (*la famille-souche*) which usually consists of the parents, the eldest son and other children, the eldest son who has to live with his parents succeeds to the real estate; the other children receive a marriage portion and leave the family. However, this type of family is characterized by the feature that it is a refuge for any

³ F. Le Play, *L'organisation de la famille*, 3. ed. (Tours, 1884).

member who may have left home to come back to if he encounters misfortune.

The extensive existence of such family enterprises in Japan which aim at securing a means of subsistence rather than gaining profit, indicates without doubt that Japanese families belong to the type of so-called stem family, in which all members work according to their own ability, but are supported no matter whether they work for the family or not. Therefore, to the extent that nowhere else can more profitable work be secured, they work in the family enterprise, even though they can not earn enough to cover their own cost of living, because the burden of the family would be so much lightened in that it could add something to its means of subsistence. In such circumstances, the returns for labour may decline lower than the reproduction cost of labour.

(3) In countries, where such circumstances prevail, the relation between employers and employees rests on the principle of paternalism through the family life. Hence the business is so to speak, a family employers parents and employees children; that is, the relation is quite different from that between a buyer and a seller of labour, and is comparatively continuous, but never of such a temporary nature as that based on the calculated profitableness. Therefore, it is desirable for both the employer and employees to reduce wages rather than dismiss employees during a depression. This is another reason why unemployment does not increase, notwithstanding a decline in the purchasing power of labour.

III

It is a fact that in post-war Japan over-population manifested itself as an increase of persons occupied in family enterprises, but not as an increase of unemployed. The post-war development of employed persons by industries reveals the following tendencies.

(1) The number of persons employed in manufacturing industries which increased continuously before and throughout the war, dropped rapidly after the termination of hostilities. They increased from 4,660,000 in 1930 to 6,970,000 in 1940 and to 8,250,000 in February 1944, or 3,590,000 during the fourteen years. After the War, in 1947 they numbered 5,620,000, falling by 2,630,000 compared to 1944, or by 1,350,000 as against 1940, and then in March 1950, the figures were 4,290,000, a decrease of 1,330,000 for these two and half years.

(2) On the other hand, it is in the sphere of agriculture-forestry, commerce, and manufacturing and retail trade combined that expansion has been most conspicuous since the War.

The population engaged in agriculture and forestry which had remained at the level of 19 millions since the eighteen-seventies, decreased from

14,286,000 in 1930 to 13,376,000 in 1944, showing a fall of 775,000. However, with the termination of hostilities the agricultural population swelled rapidly to 17,102,000 in October 1947, an increase of 3,736,000 as compared with February 1944, though the tempo of the increase since then has slowed down, the population numbering 17,360,000 in October 1948 and 18,060,000 in October 1949, an increase of 960,000 for the two years. The commercial population which had shown an increasing tendency from 3,662,000 in 1920 to 4,906,000 in 1930, (an increase of 1,244,000, or about 40 per cent in those ten years) was stationary for the next decade and then abruptly decreased during the War from 4,882,000 in October 1940 to 2,247,000 in February 1944, the decrease for these three years and five months being 2,636,000, or 53 per cent, due to government control, lack of consumers' goods, readjustment of enterprises, etc. enforced during the War. Therefore, after the termination of hostilities as trade activities were emancipated from controls, the commercial population began to increase again by 1,050,000 from 2,430,000 in October 1947 to 3,480,000 in September 1948, and has remained stationary as to record 3,200,000 in March 1950.

That part of population in the segment of manufacturing and retail trade combined, which was statistically not classified before the War, has increased considerably during the post-war period, its upward pace, from September 1947 to December 1948 hesitating between 960,000 and 1,240,000 since when it showed a striking advance up to 2,180,000, an increase of 1,200,000 by March 1950.

While in the manufacturing industries in which the number of persons employed declined remarkably after the War, the ratio of the paid employed to the total employed remained relatively high, that is, 74.9 per cent in 1949 as against 77.4 per cent in 1940. On the other hand in various industries where the number of persons employed showed an especially marked increase, the similar ratio is very low, because the business is mostly carried on by family enterprises; for example, the ratio in agriculture was 2.3 per cent in 1947 as against 3.5 per cent in 1940, that in commerce 3.1 per cent compared with 33.9 per cent.

After all, in contrast to the rapid decline in the number of persons employed in manufacturing industries, those in the three segments of agriculture, commerce, manufacturing and retail trade combined increased conspicuously, as a result of which the ratio of the paid employed to the total employed in these segments dropped, a fact indicating an increase in the ratio of persons engaged in family enterprises. A reference to statistical data shows that after the War the number of paid employed dropped to 12,139,000 in 1947, lower by 2,482,000 or 17 per cent as compared with 14,511,000 in 1940. Thereafter the tendency, however, was almost stationary at 12,440,000 in December 1949, which will show that modern enterprises, which should have mostly afforded employment are still far from achieving

a recovery from the extreme shrinkage of the business scale after the close of the War. The employment which expanded by about 4,261,000 after the War was absorbed at first into agriculture based on family enterprises, then with limitations into commerce and manufacturing and retail trade combined.

IV

The fact that the number of persons employed in agriculture, commerce, and the manufacturing and retail trade combined increased markedly in contrast with a rapid fall in that in manufacturing, consequently the number of persons engaged in family enterprises increased remarkably in contrast to the decrease in the number of paid employed, may be said to prove beyond doubt a retrogression in social and economic progress, due to the sharp decline in the level of real income per head and pressure from over-population.

The development of the structure of population by industries in most countries which have followed the normal trend of modern economic and social progress, according to Colin Clark,⁴ indicates that national economy has shifted gradually from the type in which the overwhelmingly great proportion was occupied in primary industry such as agriculture, forestry and fishery, to another type which a greater proportion of the population engaged in secondary industry such as mining, manufacturing and construction, and then in tertiary industry which render various non-physical services like commerce, transportation, public services and the liberal professions. This was also the case in Japan.

By observing the development of the employed population by industries during two thirds of a century from 1872, when modern social and economic progress started in Japan, to before the War in 1940, it is most strikingly illustrated that while agriculture dropped from the dominant position of 81.4 per cent of the total employed to 42.6 per cent, and fishery from 2.3 per cent to 1.5 per cent, on the other hand manufacturing jumped from 4.8 per cent to 25.3 per cent, commerce from 5.5 per cent to 15.0 per cent, transportation from 0.7 per cent to 4.2 per cent, public services and the liberal professions from 2.9 per cent to 6.7 per cent respectively, this development being due to the advance of productivity and the living standard brought about by the progress of the division of labour (specialization) and the accompanied change in the demand structure.

It is perhaps not necessary to mention that the progress in the division of labour has contributed generally to the raising of productivity, and conse-

⁴ Colin Clark, *The Conditions of Economic Progress* (London 1940).

quently the real income per head, and that a realization of the advantages of this specialization has been the fundamental motive of the modern social and economic progress. However, whenever the real income per head grows larger through the elevation of productivity, a person's need for food never increases in the same proportion as that of manufactured goods and services. This is another side of the law of Engel, indicating that the demand for food is relatively inelastic and that it can hardly fall below a certain level, even though the real income declines.

Any increase of the real income per head of population will give rise to an increase in the demand for food followed by that for consumers' manufactured goods, such as clothing, furniture, dwellings and amusements, and then for producers' goods necessary for production of consumers' goods; moreover the demand for services such as administration, public order, education, culture and sanitation, and especially transportation and commerce which participate in the means to effect an increase of the demands above mentioned possible. Now, we can say that the development of the structure of population by industries during the period since the eighteen seventies, in which the greater portion of the population has shifted gradually from primary industry to secondary industry, and then to tertiary industry, is the result of a change in the demand structure due to the elevation of productivity attained by the division of labour and an increase of the real income per head.

However, in order that the advantages of the division of labour can be realized and consequently the productivity and the real income per head enhanced, the demand must be great, stable and of long-term duration, otherwise the disadvantages of division of labour will, on the contrary, only appear from inadequate application of specialized persons and machinery. And the premise for the formation and development of such an immense, stable and long-term demand must be, J. S. Mill⁵ noted, that the market always grows larger and larger. The larger it grows, the more the formation and development of such demand is possible.

The chief causes in Japan for the elevation of the productivity and the standard of living in spite of the rapid growth of the population since the eighteen-seventies are attributed to the freedom of domicile and trade authorized at the time of the Restoration and the abolishment of the feudal system which had held back the formation of a nationwide market on the one hand, and the national unification of local markets accelerated by the development of railway and commerce on the other hand. However, these actually applied to Japan before the first World War, since when international trade has played a much greater role in Japanese economy, the commodity market being extended to a world scale larger than the domestic. This

⁵ J. S. Mill, *Principles of Political Economy* (London, 1848).

is the very way by means of which we can possibly recover a standard of living at least corresponding to the pre-war level.

V

The high level of productivity and living standard attained in Japanese economy during the pre-war period relied considerably upon the expansion of the export trade, the volume of which after the War is, however, still almost nothing in comparison with the pre-war level.

The development of the Japanese export trade, shows that the annual average volume of exports (not including those for Korea and Formosa) has made steady progress from \$760 million for 1920-24, \$920 million for 1925-29, \$700 million for 1930-34, and \$1,126 million for 1935-39, but after the late war it shrank sharply to \$102 million in 1946, \$173 million in 1941, \$258 million in 1948, which amount yet hardly reaches the figures before World War I.

Corresponding to the above stated situation, we may observe that the real income per head in 1948 dropped to the level of that before World War I, and its index numbers, on the basis of 1930, the year of the World Economic Crisis, were not more than 60 in 1946 and 1947, 72 in 1948 and 76 in 1949.

As a result of the decline in the real income per head as mentioned, the structure of the population by industries reverted to a state such as it was before World War I.

(1) The ratio of the agricultural population to the total labour force, which continuously declined from 81.2 per cent in 1872 to 52.4 per cent in 1920, 47.7 per cent in 1930, 42.6 per cent in 1940 and the 42.2 per cent in 1944, after the late war rose to 50.0 per cent in 1947, a ratio approximately equal to the level of 1920, remaining thereafter almost unchanged.

(2) The ratio of the commercial population which rose from 5.5 per cent in 1872 to 13.4 per cent in 1920, to 16.6 per cent in 1930, and 15.0 per cent in 1940, declined during the war-period to 7.1 per cent in 1944, though this ratio remained 9.0 per cent in 1949, tending up-ward after 1947.

(3) The ratio of the industrial population which increased from 4.8 per cent in 1872 to 18.9 per cent in 1920, 19.8 per cent in 1930, 25.3 per cent in 1940 and then 30.1 per cent in 1944, after the War declined to 16.6 per cent, lower than the ratio in 1920.