THE SIGNIFICANCE OF IMMINENT POPULATION CHANGES IN THE UNITED STATES

by FRANK LORIMER

In the preceding issue of this *Quarterly,* Dr. O. E. Baker, Senior Agricultural Economist, United States Department of Agriculture, pictured a dark outlook in *Significance of Population Trends to American Agriculture.* In the present article, Dr. Lorimer, secretary of the Population Association of America, examines the assumptions and interpretations set forth by Dr. Baker.

THE EDITORS.

THE issues raised in the article by Dr. O. E. Baker in the April number of this *Quarterly,* "Significance of Population Trends to American Agriculture," are matters of vital importance to the national welfare. They merit intensive study and general consideration. This paper is an attempt to explore their implications further, and from several different angles.

The outstanding fact to which Baker calls attention is the present trend toward cessation of population growth and the approach of a period of population decrease in the United States. This trend, as regards natural population change, is well established; but there is room for much difference of opinion about some important details. For example, according to the "medium" estimates of Thompson and Whelpton, the turning point will not come until after 1980, rather than "about 1950, perhaps sooner," as predicted by Baker.

The situation may be briefly summed up as follows. The immediate population prospect is that of a population approaching stabilization as regards total numbers during the next few decades. Meanwhile, the intrinsic reproductive tendency of the population is moving in the direction of eventual rapid decrease. Furthermore, it must be recognized that no large group enjoying a high standard of living and characterized by voluntary control of reproductive processes has yet demonstrated a capacity for effective population replacement. The "true" rate of natural increase (adjusted to elimi-

nate the effects of "abnormal" age distribution) of the population of the United States is now slightly below the population replacement level. And the present approximate balance in reproductive tendency exists only by virtue of the element of involuntary reproduction still characteristic of many population groups, especially farm families in poor rural areas. Among population groups in the United States where reproduction is largely voluntary, the tendency is probably similar to that observed in Great Britain and Sweden. The expansion of the pattern of voluntary family limitation, which we may assume to be both inevitable and desirable, will establish a definite trend toward population decrease. This general statement may be accepted as substantially accurate. But before we proceed to intriguing and elusive questions of significance, let us examine the expected course of population change in the United States in somewhat greater detail.

The alternative assumptions as regards fertility used in recent estimates by Thompson and Whelpton are described below.[1] The present writer considers the "high" assumption, that age-specific birth rates remain constant, quite improbable. He expects that birth rates in this country will actually follow a course between the "medium" and "low" assumptions, as here defined:

> With birth rates at each age of life as they were during 1930-1934, 1,000 native-white women living through the childbearing period bear 2,158 children. Counting only women who marry (before age 50), there are about 2,410 births per 1,000 married women. Decreasing the number of women still further by excluding those who bear no children (estimated at about one-sixth of the group) raises the expected number of births to approximately 2,900 per 1,000 fertile women. In other words, under birth rates of recent years the average native-white woman living to age 50 bears approximately two and one-fifth children; if only those to

[1] Reference is made here to revised estimates of the future population of the United States, prepared by Warren S. Thompson and P. K. Whelpton of the Scripps Foundation for Research in Population Problems, for the National Resources Committee, which will be published in the forthcoming Report of the Committee on Population Problems: PROBLEMS OF A CHANGING POPULATION.

whom births occur are counted, the average does not rise quite to three children per woman. In view of the past trend in the United States, and the lower rates that prevail in certain other nations, the highest assumption that seems justified for native-white women in the future is a continuation of the present rates.

As a probable lower limit, it is assumed that the decline in birth rates will continue until 1980, although at a rapidly diminishing rate. For native whites the maximum decrease anticipated in the fifty years after 1930-1934 amounts to 31 per cent compared with the 34 per cent decline in the twenty-five years prior to 1930-1934. According to this low assumption there will be about 1,500 births per 1,000 women living to age 50, or one and one-half births to the average woman. Allowing for childless women raises this to about two births to the average fertile woman. This is approximately the present situation in California and Washington, D. C., as well as in all of England.

The medium assumption for native whites continues the past decline in birth rates, but slows it up much more rapidly than the low, the 1980 rate being somewhat nearer the high than the low. It anticipates a decrease of about 13 per cent in the next fifty years, with 1,000 women living through the childbearing period having about 1,900 births. This is slightly less than an average of two births for all women, and slightly more than two and one-half per fertile woman. It is approximately the 1930 rate in Massachusetts, Connecticut, Washington, and Oregon, and also in Sweden. In the opinion of the staff of the Scripps Foundation these medium birth rate assumptions are more likely to be followed than either the high or the low. It is admitted, however, that there must be a rather rapid change in attitude regarding the desirability of three and four-child families if this medium trend is not to prove too high.

Birth rates to native-white women are somewhat lower than those to foreign-born white, Negro, and other colored women. In the high assumptions this differential is maintained, but in the medium assumption it is reduced by one-fourth, and in the low by one-half on the basis that the higher the rate the greater the opportunity for loss in a period of general decline.

With "low" birth rates, "medium" death rates, and no net immigration, Thompson and Whelpton obtain a peak population slightly under 140,000,000 in 1955. This is followed by a gradual

decrease. The estimated population for 1980 on these assumptions is still about 6,000,000 above the population in 1935. A combination of low birth rates and extreme restrictions on immigration would cause the population of the United States to remain practically stationary for the next fifty years.

If a stationary population is an ideal situation, and Baker suggests that it may be the most desirable economically, then it may appear at first sight that the outlook for population represents a close approximation to the ideal. More intensive analysis, however, reveals that in spite of the very gradual changes in total population expected during the next fifty years, intrinsic forces making for rapid natural decrease may be brought into play.

There is, at present, an excess of persons in the reproductive age classes above that normally to be expected on the basis of present age-specific birth and death rates. Thus, in 1930, 47.6 per cent of all white females were included within the age bracket 15-44 years, whereas in a stable population corresponding to fertility and mortality conditions at that time, the corresponding proportion would be 42.4 per cent.[2] Such a condition cannot continue indefinitely in a stationary or decreasing population. The number of women entering the childbearing ages is obviously a function of the number of births occurring fifteen to twenty years previously. Up to about this time, the number of births each year has been sufficient or more than sufficient to supply a "normal" accession of women to the childbearing ages fifteen to twenty years hence. Thus, accessions to these ages will remain "normal" up to about 1955. Thereafter there will be a deficiency in such accessions, although the proportion of females within the childbearing ages may be "normal" for a decade or more thereafter. In other words, the differential between the "crude" rate and the "true" rate of natural increase in the United States will not disappear until about 1965. But if by that time the net reproductive tendency of the population has fallen to a level as

[2] *See Population Index,* April, 1937, iii, No. 2, p. 97.

low as that already observed in England and Wales and in Sweden (0.73 per generation, data for 1933),[3] toward the end of the century there will be only three-fourths as many women of childbearing age as there were in the sixties, and if these in turn have only three-fourths as many children as are needed for replacement, there will be established a trend toward a very rapid natural decrease. This is succinctly expressed by Baker. "The declining number of such women will supplement the decline in births—both factors will work in the same direction."

What, then, are the economic and social consequences of a declining population? And what measures, if any, would seem to be socially desirable in meeting the challenge presented by the present demographic situation? We may first ask: What are the economic consequences of a declining population? So far as the present writer can see, the economic aspects of the situation are important but not in any way alarming. Much ado is frequently made about the increasing burden of a large proportion of aged persons. As a matter of fact, however, even on the assumptions of "low" fertility, "medium" mortality, and no net immigration of foreign-born persons, mentioned above, 55.8 per cent of the total population of the nation in 1980 is expected within the productive age class 20-64 years, whereas the corresponding proportion in 1930 was only 52.4 per cent. The number of aged persons is normally much less than the number of children. In a stationary, normally distributed population corresponding to death rates for white males in the United States 1929-1931, 27.8 per cent of all males would be under eighteen years of age, in contrast to 10.5 per cent aged sixty-five or over. The proportion of persons in the productive age classes is likely to be larger in a slowly decreasing than in an increasing population. We are, fortunately, becoming aware of the problems associated with the employment of older persons and the economic security of retired persons. These problems must be met; but

[3] *Op. cit.*, p. 98.

there is no reason to assume that they cannot be met effectively.

The interesting question of the relation of population change to the accumulation and use of capital resources is the topic of the Galton Lecture by J. M. Keynes, February 16, 1937.[4] The point of view represented in this lecture is perhaps as significant as the interesting statistics introduced in the presentation:

> . . . Unquestionably a stationary population does facilitate a rising standard of life; but on one condition only—namely that the increase in resources or in consumption, as the case may be, which the stationariness of population makes possible, does actually take place. . . .
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> With a stationary population we shall, I argue, be absolutely dependent for the maintenance of prosperity and civil peace on policies of increasing consumption by a more equal distribution of incomes and of forcing down the rate of interest so as to make profitable a substantial change in the length of the period of production. . . .
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> A too rapidly declining population would obviously involve many severe problems, and there are strong reasons lying outside the scope of this evening's discussion why in that event, or in the threat of that event, measures ought to be taken to prevent it. But a stationary or slowly declining population may, if we exercise the necessary strength and wisdom, enable us to raise the standard of life to what it should be, whilst retaining those parts of our traditional scheme of life which we value the more now that we see what happens to those who lose them.

Aside from changes in age distribution, all of the economic consequences ascribed by Baker to a decline in births are functions of differential reproduction rates rather than of general level of fertility in the total population: the tendency of the rural-urban differential in fertility to force a maldistribution of population; the economic cost to rural areas of continued emigration of young people at the threshold of productivity activity; and the influence of differential reproduction on concentration of wealth. All of these particular ills would be cured as effectively through a decrease in the fertility of groups with high birth rates as through an increase

4 Keynes, J. M.: Some Economic Consequences of a Declining Population. *The Eugenics Review*, April, 1937, xxix, No. 1, pp. 16, 17.

in the fertility of groups with low birth rates—and during the next few decades the former change seems much more likely to come about on a large scale than the latter. This would still leave unsolved, in fact this would intensify, the trend toward decline in national population. But if we can establish a high economic and cultural level in American life, our sons and daughters may be prompted to establish conditions of living more favorable to reproduction. In order to achieve this high purpose, they may need to establish a more cooperative economic order, new institutions, and a new philosophy of life. Meanwhile, any attempt to prevent a decrease in numbers through constraint or artificial rewards might intensify rather than mitigate the evil effects of present differentials in reproduction among population groups in this country.

The complexity of the problem is illustrated by examination of the relation of general population trends to distribution of population, with special reference to the balance between the population engaged in the extractive industries, especially agriculture, and the population engaged in manufacturing, mutual exploitation, and service—the former being predominantly rural, the latter being predominantly urban. Baker here arrives at the surprising conclusion that a decline in national population will lead to increasing population pressure on the poorer lands and the further impoverishment of farm families. The argument on which this conclusion is based rests on four assumptions: (1) the difference between urban and rural birth rates will persist; (2) this will cause a more rapid decline in urban than in rural population, unless migration from rural to urban areas is accelerated; (3) per capita consumption of farm products will remain fairly stationary; and (4) there is no prospect for any great increase in agricultural exports except possibly in the case of cotton, tobacco, and fruit.

All of these assumptions, except the last, seem to the present writer to be extremely hazardous. There is definite indication that during the last two decades fertility has been declining most rapidly

among groups now characterized by very high birth rates. The very striking decline in the birth rates of the foreign born, who are largely concentrated in cities, is an instance in point. This is largely responsible for the conspicuous decline in urban births in recent years. Among native elements fertility has been declining more rapidly in rural than in urban areas. Thus, comparing ratios of children under 5 years of age to native-white women aged 20-44 years, we find that between 1910 and 1930 fertility dropped 12.3 per cent in rural areas as compared with a decrease of only 4.8 per cent in urban areas. Comparable data for rural farm and for rural nonfarm populations are available only for the last decade. Here we find a decrease of 8.4 per cent in the fertility of native-white rural farm women as compared with a decrease of 5.3 per cent for the native-white rural nonfarm women. Interestingly enough, the most rapid decreases during this period are found in the agricultural Gulf States and in some of the far western states. We may expect the persistence of a moderate differential in fertility between rural and urban areas for many decades, but this differential is likely to be very greatly diminished in the near future.

In any case, emigration from rural areas in the decade preceding the depression was more than sufficient to offset differentials in natural increase, causing a net decrease of more than one million in the farm population between 1920 and 1930. In many sections of the country, the farm population in poor areas actually decreased in spite of high fertility. Among the twenty-nine counties with the highest percentage of population on relief in 1933-1934, we find that the index of net reproduction per generation, based on 1930 age-distribution data, was above 1.50 in twenty of these counties, and above 2.00 in eleven cases. In spite of this fact, fifteen of these counties lost population between 1920 and 1930; in seven cases the increase was negligible or data were not available; in only two counties (Wayne County, West Virginia and Martin County, Kentucky) was there an increase of more than 10 per cent during this period.

It is true that reduction of population in poor farm areas through emigration was partially blocked during the early depression years. But there is good reason to suppose that this tendency is being resumed in full force as recovery progresses.

Any general increase in economic well-being will result in increased demand for agricultural products, especially increased demand for more expensive types of food—although this increase may be less rapid than that for many other types of goods and services. The demand for agricultural products may be relatively inelastic, but it is by no means static. There is, in fact, a possibility that the raising of nutritive levels in the United States may lead to a very considerable increase in demand for certain products, especially dairy products, leafy vegetables, and fruits. Even with fewer babies, we still need and may use more milk.

Nevertheless, there are far too many persons in agriculture, and this was true before the depression. In 1929 the families on 49 per cent of all the farms in the United States (with gross value of products less than $1,000) produced only 11 per cent of all farm goods sold or traded, and somewhat less than their half of farm products consumed at home. If this half of the farm population of the United States were withdrawn from agriculture, the resulting deficiency of production could easily be made up by increased production on the better farms. The poverty of these families on poor farms is proportional to the meagerness of their economic contribution. One symptom of their condition is an extremely high, largely involuntary fertility. In the counties with lowest rank on the plane of living index of the Study of Population Redistribution (the poorest one-sixth of all counties), the reproduction index based on 1930 age-distribution data shows fertility 77 per cent in excess of that necessary to replace the population permanently. The existence of large depressed agricultural groups, with meager patrimonies divided among many children, poor educational facilities, a discouraging outlook at home, and the necessity of forced emigration,

presents one of the most serious aspects of the present population situation. It is hardly practical to suggest that the rest of the nation set out to match these groups in fertility. Two spontaneous corrective tendencies seem to be already at work: (1) the tendency for the less privileged and more isolated groups to adopt the pattern of family limitation already in force among the more prosperous, and (2) the tendency for people to leave problem farm areas in sufficient numbers to reduce population in such areas. There seems to be some likelihood that these tendencies will be supplemented by national efforts directed toward improvement of school facilities, health facilities, and other means of raising standards of living in poor areas. Every consideration, except anxiety for the maintenance of population at any price, points to the desirability of encouraging these developments. We must, nevertheless, clearly recognize that a rise in the standards of living of the farm population, extensive emigration from areas of low opportunity, and the accompanying shift from involuntary to voluntary reproduction on the part of many rural families will definitely accelerate the forces making for natural population decrease.

Must we then accept a trend toward population decrease as inevitable? Frankly, as regards the immediate future, in my judgment, we must. The people of Europe and their descendents increased, according to estimates by Willcox, from about 100,000,000 in 1650 to 642,000,000 in 1929. The people of western Europe and the United States may sustain a loss in total population during the next half century, or more, but this change need not spell disaster. It may be accompanied by continued technological progress and it may conceivably facilitate the improvement of economic and political relations. The trend toward decline in reproduction has been developing during many decades. It is one of the fundamental aspects of our present civilization. The establishment of sound population trends will require many fundamental changes in social organization and outlook. Such changes cannot be made suddenly.

The dangerous aspect of Baker's presentation seems to me to be an apparent willingness at times to countenance measures that may be unsocial or dysgenic as means of combating the trend toward population decrease. If the price of population maintenance be the perpetuation of involuntary parenthood or rural poverty, it may be questioned whether the game is worth the candle. I do not mean to imply that Baker is personally opposed to making contraception equally available to all groups, but he has been cited to this intent. Nor does he by any means view rural poverty with complacency; but it is possible that efforts to force decentralization might have that effect.

Those who have studied Baker's writings in recent years and who have had the privilege of his acquaintance realize that he is seeking a very different goal than the mere maintenance of population on a more or less compulsory basis. In his thinking, the willingness to share generously in the renewal of life is a critical measure of personal and social values. He perceives, more clearly than most of his contemporaries, the seeds of self-destruction in many of the current modes of contemporary urban civilization. Accordingly, he reacts in favor of a more agrarian society with enriched family inheritance of both physical and cultural goods. It may be that the final social answer to the challenge of the current trend toward population decrease will be found along quite different lines. It may be that new technology and new forms of social organization will supply the materials for a solution with much less likeness to the patterns of peasant society. But I think that Baker is right in his insight that very fundamental changes in economic organization, institutions, and attitudes must be established before reproduction in this, or any other modern, nation will be both voluntary and adequate.

From the standpoint of qualitative population trends, it is not likely that any situation could be much worse than the present, in which reproduction is partly voluntary and partly involuntary, and

in which many families with high standards of living believe that they cannot make proper provision for as many children as are, on the average, required for population replacement.

The whole situation presents a problem that cannot longer be ignored. The time is ripe for intensive study of the conditions affecting reproduction. There is no reason to suppose that our society is incapable of making adjustments that will be socially beneficial in their immediate effects and that will also provide a new basis for effective voluntary reproduction. The situation is not one of those sometimes referred to as "an emergency situation." The changes taking place are very gradual in character and intricate in their effects. May we not hope that in meeting the challenge so effectively presented in the article here cited, social action may be guided by the same painstaking and candid scholarship as that characteristic of its author? If American scholarship fails to develop a clear presentation of this situation and to explore effectively its implications and consequences, popular hysteria may give force to many ill-conceived and socially harmful measures.