

these stamps would be borne by the employee. The books would be accepted by the Social Security Board as evidence of earnings, and the farmer would not need to make any report or keep any special records for the purpose.

In these ways the principal administrative problems of bringing social security to the farm would be solved simply and with a minimum of inconvenience to farmers. A number of workable proposals have also been made for adapting the technical details of the program to the needs of farmers. The chief question of that sort is how to remove the handicap that people would otherwise suffer because farm work had been excluded from the program in the past. Several ways of doing this equitably are under study by the Board. They all provide adequate safeguards for whatever social insurance rights farm people have already acquired, and make it unnecessary for them to pay contributions for their earlier periods of noncoverage.

### Practical Effect of Extension

Of the farm operators, about one-fourth were 59 years of age or older at the time of the 1940 census. If the social security program is extended to agriculture in the near future, many of these operators would be able to qualify for retirement benefits, even if they now are over age 65. At current high levels of farm income, many would be eligible to retire after the war with benefits well above the minimum rate.

About one-third of the operators in 1940 were between 45 and 58 years of age. These individuals have time to qualify for benefits if the program is extended within the next few years. Some of them have worked or are now working in covered employment; extension of the program would enable them to continue building up benefit rights and to qualify for substantial benefits.

For many farm people who are under age 45, agricultural coverage would be more a continuance of participation than an introduction into a new system, especially if service in

the armed forces were also covered by social insurance. A larger proportion of this group than of the older workers had some covered employment even before the defense and war booms. The need for retirement benefits is not so immediate for this group, but the advantages of protection for their dependents in case of their death are clear. These younger families would benefit particularly from an insurance program covering the cost of medical care.

The question of social security is, of course, only one of the many problems facing farmers when the war is over. The return of the American economy to a peacetime basis will bring with it many questions demanding earnest attention. But if the farmer can be assured, on a self-respecting insurance basis, of basic minimum security against the risks of illness, disability, premature death, and old age, he and his family will be better prepared to meet the uncertainties of the post-war future and to maintain their traditions of independence and self-reliance.

## Economic Factors in Long-Range Cost Estimates of Old-Age and Survivors Insurance

By Michael T. Wermel\*

UNDER THE PRESENT system of old-age and survivors insurance, the annual expenditure for benefits is expected to rise steeply for many years, as the result of the rise in the number of beneficiaries and in average benefit payments. Both these increases will occur whether or not coverage is extended or benefit and eligibility provisions are liberalized.

The planning of the financing of these mounting future costs of benefits raises many questions of legislative policy. No other aspect of old-

age and survivors insurance is likely to present more serious pitfalls. "In the history of social insurance throughout the world," said the Chairman of the Social Security Board in a recent statement before the Senate Committee on Finance, "the major difficulty of social insurance systems has been the lack of adequate financing of old-age retirement benefits."<sup>1</sup>

Often the framers of retirement systems have failed to understand the importance of making advance financial provision to meet the heavy benefit load which develops only after some decades of operation. As a result, if benefit expenditures begin to outrun receipts from contributions, the legislature is faced with the diffi-

culty of making large unexpected increases in contribution rates, providing a contribution out of general tax revenues, or reducing benefit amounts, or some combination of these possibilities.

Even when the requirements of sound financing are recognized in principle, determination of the specific provisions necessary to give effect to this financial policy involves many difficult decisions. To forecast future disbursements of an old-age and survivors insurance system,<sup>2</sup> estimates must extend over several decades and over a variety of demographic and economic factors whose future trends cannot be foreseen with any degree of assurance. For example, changes in birth rates, mortality rates, age distributions, family composition, and other similar elements, which are basic in determining the size of the covered population and the number of beneficiaries, cannot be predicted with certainty for a half

\*Bureau of Old-Age and Survivors Insurance, Analysis Division. The author acknowledges his indebtedness to Ensign Mason O. Doan (SO), USNR, and to George H. Trafton, of the Analysis Division, for assistance in preparing this article, and to studies in this field by William R. Williamson, Actuarial Consultant to the Board. The article immediately following discusses long-range actuarial factors in costs of this program.

<sup>1</sup> *Freezing the Contribution Rates of the Federal Old-Age and Survivors Insurance at 1 Percent for 1944; Hearings Before the Senate Committee on Finance (78th Cong., 1st sess.)*, revised Oct. 14-15, 1943, p. 10.

<sup>2</sup> Such forecasts are required under the provisions of section 201 (b) of the Social Security Act Amendments of 1939. See the Annual Reports of the Board of Trustees of the Old-Age and Survivors Insurance Trust Fund.

century or more.<sup>3</sup> It is even more difficult to forecast trends in such economic factors as wage levels and employment patterns, upon which depend not only the size of benefits to be paid but also the amount of contributions under the insurance system.

Uncertain as these forecasts must be, they cannot be avoided in old-age insurance, in which benefit rights accrue over many years. Legislators and administrators responsible for the adoption and operation of such a system inevitably make decisions based on tacit, if not stated, assumptions as to future trends in receipts and disbursements. Because of the serious dangers of unsound financial planning, careful administrators therefore are bound to explore as fully as possible the factual and analytic basis for those decisions.

Partly as a result of their significance in private insurance, the demographic factors in actuarial forecasts have been explored in considerable detail. The problems involved in estimating future trends in birth and mortality rates have been fairly well defined. Economists, on the other hand, have seldom attempted to analyze the elements entering into an estimate of trends in employment and earnings over a half century.<sup>4</sup> This hesitation to deal with trends extending for so long a period is entirely understandable, since present data and analytical techniques do not provide the means of forecasting such trends with any degree of certainty. Even for much shorter periods, say of 5 or 10 years, predictions as to the behavior of the many factors affecting employment and earnings are likely to prove far from correct. Yet, in old-age and survivors insurance a recognition of such economic factors is basic to sound financial planning.

The following discussion is an effort to outline briefly the major economic considerations that will affect future income and disbursements under the system. Quantitative conclusions

<sup>3</sup> For a fuller discussion of demographic factors, see Williamson, William R., "Cost Factors in Old-Age Insurance," *Social Security Bulletin*, Vol. 1, No. 7 (July 1938), pp. 3-16.

<sup>4</sup> For an approach to the problem, see Woytinsky, W. S., "Long-Range Trend in Per Capita Income and Wages," *Social Security Bulletin*, Vol. 5, No. 12 (December 1942), pp. 31-39.

are not attempted. In fact, some of the factors which must be taken into account, such as institutional changes, cannot be measured.

In estimating the receipts of the old-age and survivors insurance system, the basic considerations are the tax rate and the total taxable pay roll, which depends on the number of workers in covered employment each year and on their annual taxable earnings. In estimating disbursements, the basic economic considerations are the individual employment and earnings patterns of all covered workers, which determine the number of insured workers and the earnings of individual insured workers, which in turn determine benefit amounts. Thus, the principal economic factors involved in cost estimates may be grouped for analysis under two main headings, "employment" and "earnings."

### Employment

*Population.*—Fundamental to any long-range estimates of income and disbursements are forecasts of the size of future populations, the number of persons in the labor force, their age and sex characteristics, and the size and composition of families in which they will be grouped. Our aged population has been growing progressively and, as the proportion of children declines, may be expected to have a relatively greater number of persons in the labor force. The average age of workers has also been increasing, a fact which in itself may tend to increase the average wage. Because families are gradually becoming smaller, fewer women are responsible for the care of small children; this change increases the number of potential workers and tends to lower the average wage. All these factors are vital to estimates of income. On the other hand, the age composition of the labor force and the family composition of the population are also vital to estimates of future disbursements.

*Labor force.*—The number of persons employed is limited more strictly by the labor force—the total number of persons able and willing to work—than by the total population. The relative size of the labor force, expressed as a percentage of population, is not static. It shows seasonal, cycli-

cal, and secular variation, as well as pronounced changes during major wars.

Usually the seasonal peak in the labor force comes in midsummer and the low point in January or February. In cyclical variations, there seems to be a tendency for the labor force to expand when business conditions are either very good or very bad. Persons not usually in the labor force are presumably induced to go to work in boom times because it is easy to get jobs at good pay, and they are compelled to seek work during deep depressions because the earnings of the main family breadwinner are inadequate.

In the past, the secular increase in the relative size of the labor force has resulted mainly from immigration and the large increase in the percentage of women gainfully employed. At the same time, the lengthening of the normal period of childhood, increased schooling, child-labor legislation, technological changes, and the decline in the birth rate have cut down the relative number of children employed, though not enough to offset the increase in the number of employed women. Although proportionately more women may be gainfully employed as a result of the war, the increase over the next 50 years may not be as great as it has been over the last 50 or 60 years. The size of the labor force, therefore, is subject to such dynamic fluctuations that a census based on the situation during a single week cannot represent accurately even the year in which it is taken.

*Coverage.*—The provisions of the Social Security Act, as well as the occupational distribution of the employed labor force, determine the proportion of the labor force in covered employment at any time. As long as coverage is incomplete, there will always be some shifting between covered and noncovered employment.<sup>5</sup>

<sup>5</sup> Among the various *Bulletin* articles on this problem, see especially Murray, Merrill G., and Wermel, Michael T., "Movement of Workers Into and Out of Covered Employment, 1937 and 1938," Vol. 4, No. 2 (February 1941), pp. 12-16; Slomlin, Herman, "State and Regional Differences in Covered Employment and Taxable Wages, 1939," Vol. 5, No. 1 (January 1942), pp. 35-44; Bronson, D. C., "Wartime Federal Civilian Employees and Old-Age and Survivors Insurance," Vol. 5, No. 7 (July 1942), pp. 28-32; and Saffer,

Experience has provided some basis for estimating the "in-and-out movement" under present coverage. If coverage were universal, this problem would of course become restricted to movements between employment and unemployment.

*Short-term covered employment and unemployment.*—Short-term covered employment is of two kinds: that caused by high employment peaks in seasonal industries, such as canneries and pre-Christmas retail trade, which usually draw upon housewives, students on vacation, and others not normally in covered employment; and that caused by the slackening of work in regular year-round industries. For persons regularly in the labor force, short-term employment means part-time unemployment.

In the depths of the depression in 1933 the number of unemployed persons was estimated at 16 million. In the week of March 24-30, 1940, when business conditions were fairly good, about 8 million persons were either looking for jobs or else engaged on emergency work created by the Government. Even now, in the midst of labor shortages created by the demands for full-scale war production, there are still about three-quarters of a million unemployed persons. This "frictional unemployment" consists almost entirely of persons in the process of switching from job to job, and will always be a factor as long as employees change jobs. Unemployment, in such instances, is usually very brief.

The average duration of unemployment is much longer in peacetime than in war, not only because jobs are scarcer but also because the individual has more difficulty finding the kind of work for which he is fitted and the working conditions he prefers. The problem is intensified by technological unemployment. While technological advances may result in upgrading some men, the usual course is a downgrading from skilled to semi-skilled and to some extent to unskilled status, with only intermittent jobs for the larger body of workers who have been laid off. These dis-

placed workers must face unemployment for much longer periods because their skills are no longer of value; and they must adjust themselves to other lines of work, generally at lower rates of pay. A realistic long-range estimate of unemployment in industries covered by old-age and survivors insurance must allow for normal frictional unemployment, as well as technological, and undoubtedly some volume of cyclical, unemployment.

*Effect of employment conditions on retirement.*—The large number of insured workers aged 65 and over who have not retired, and the substantial number who had retired but now have returned to work, illustrate the effect of employment conditions upon this aspect of disbursements. There will always be some eligible workers who prefer to work while they are able, rather than to retire, and this number can be expected to reach substantial proportions during the expansion phase of the business cycle.<sup>6</sup> The effect of business expansion upon the rate of retirement will be to slow down disbursements, both absolutely and as a percentage of pay rolls. Conversely, disbursements will rise in times of depression.

#### *Earnings*

To be useful for estimating disbursement and income under the present old-age and survivors insurance system, estimates of earnings must be in terms of the distribution of workers by amount of annual earnings in covered employment. The component elements of such earnings are money wage rates and length of time worked in a year. Some of the important forces influencing the movement of these elements are common to both, but others are not. It is therefore desirable to analyze them separately.

*Money wage rates.*—Money wage rates are a "price" element in the economy; they are therefore influenced to some extent by all the forces affecting the movement of prices. Some of these forces are "local," in that they bear mainly on money wages

of all workers or of particular groups; other, and by far the most important, forces are general, in that they affect the economy as a whole and practically every element in it. There is, of course, a complex interaction among the forces affecting the whole economy, but for purposes of analysis they must be treated individually.

*Major wars.*—One of the most important influences on the level of money wages in the past has been the situation produced by major wars. During and immediately following each previous major war, the level of money wages, like the general level of prices, has risen greatly as a result of both inflationary war finance and the shortage of labor created by the recruitment of armies and the production of war goods on a large scale. But, unlike the general level of prices, the level of money wages has never returned after a major war to anywhere near the pre-war level, mainly because of increased productivity of labor and the collective bargaining agreements between labor unions and employers. As a result, the general level of money wages has been increasing since the Civil War.

This experience is being repeated during the present war. Average hourly earnings have already risen almost 50 percent above the pre-war figure. Although this rise has been due in a large measure to widespread overtime work and to the upgrading of many workers, it also reflects a considerable increase in basic hourly wage rates. If Government wage controls are relaxed immediately after the war, and if an inflationary boom develops, average hourly earnings may continue to rise. The level of money wages after the war will provide a new base line from which to project actuarial estimates and about which the other forces influencing money wages will play.

*Cyclical and other fluctuations in the price level.*—Although the movement of money wage rates is comparatively sluggish outside of war periods, the level of money wages does change from time to time between wars. Since the end of the Civil War, wages have usually fluctuated during such periods in fairly close relation to the price level, lagging somewhat behind in time and amplitude of movement. Money wages have declined in each

Fred, Useem, John, and Quinn, Walter, "Farmers and Farm Laborers in Employment Covered by Old-Age and Survivors Insurance," Vol. 6, No. 6 (June 1943), pp. 18-24.

<sup>6</sup> *Third Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund*, Senate Committee Print, 1943, pp. 10-13, tables 4-6.

severe depression and have risen afterward as the general price level recovered. During periods in which the movement in the price level was not marked, such as 1898-1914 and 1923-28, the level of money wages moved in harmony with the general level of prices. It seems fairly clear from the history of the last 60 years that money wages cannot move for any extended period out of step with the price level.

It is therefore of the utmost importance that explicit assumptions be made concerning the movement of the price level during the period to be covered by the actuarial estimates. Such assumptions should take into account cyclical fluctuations as well as the secular movement of the price level.

Periods following great wars in the past have usually been seriously affected by the inflationary financing of Government operations during the wars. The present war also is being financed partly, though not entirely, by borrowing from commercial banks, a method which is potentially inflationary. After the great wartime dearth of durable consumer goods and certain types of capital goods has been met, some time after the war, there will be the possibility of a severe economic depression. Moreover, large segments of the economy, such as agriculture, may have great difficulty in adjusting to the changed economic situation, and this, too, may have repercussions throughout the economy. In view of the magnitude of the adjustment required, a very substantial part of the 20 to 30 years following the war may be seriously affected by developments arising out of the war.

As will be indicated below, Government economic policy will be especially important in the post-war period. Precisely what this policy will be and how effective it will be is of course unknown. Nevertheless, if actuarial estimates are to be made for this period, all these possible developments must be taken into account.

*Increase in productivity of the economic system.*—The great increase in the productivity of the economic system during the last century has enabled hourly and weekly money wages to increase in relation to the price level, and at the same time allowed hours of work per week to be greatly

reduced. Productivity seems likely to increase even more rapidly in the future, but the effect of this rise on the level of money wages is by no means known. Money wages sometimes have remained stable for fairly long periods while the productivity of labor was increasing; at other times, money wages have outstripped productivity. There is no obvious simple harmonious relationship between these two elements. Therefore, to attempt to estimate the future movement of money wages on the basis of probable changes in productivity, without regard to the other forces affecting the economy, would be quite unsatisfactory.

*Changes in the structure of the covered labor force.*—Money wage rates vary widely by industry, by occupation, by size of firm, by geographical area, by degree of union organization, and by age, race, and sex composition of the labor force. Any average rate representing the general level of money wages for a particular period of time is, therefore, a composite summarizing many varying rates weighted according to the number of workers paid at each rate. Changes in the average from time to time, therefore, may result from changes in the composition of the industrial labor force as well as in the general level of money wage rates.

It is virtually impossible, however, to isolate the effects on money wage rates of the many different changes in the composition of the industrial labor force in the past 80 years, and to distinguish these changes from those associated with movements of money wage rates. Some of the changes in the composition of the labor force have tended to increase the average wage rate, while other changes going on at the same time tended to reduce it.

An example of the former is the increase in the number of workers employed by large firms, which generally pay higher wage rates than small firms. Examples of changes which have tended to reduce the average are the large increase in the relative number of women workers, whose average rates of pay are 35-45 percent less than those of men, the increase in the number of semiskilled workers at the expense of skilled workers, and

the growth of industry in the South, where rates of pay are lower than in the North and West.

In forecasting changes in money wage rates, any changes in the composition of the covered labor force which can be anticipated should, of course, be taken into account. Perhaps the relative number of women and of older workers will continue to increase. It seems likely, however, that the most important change, and one which would have a considerable effect on the level of money wages in covered employment, is the extension of coverage to agricultural and domestic workers and possibly to the self-employed.

*Institutional changes.*—Of the many institutional changes since the Civil War, three are of particular importance. The first is the gain in strength of labor organizations; the second, the increasing participation of the Federal Government in economic policy; and the third, changes in the policies of industrial management.

In the years just preceding the outbreak of the present war, the labor movement attained a strength and status never before achieved in this country and had considerable power to influence national economic policy. Since this power seems firmly held, the influence of organized labor on money wage rates during the post-war period cannot be neglected. It can be assumed that labor organizations will maintain a constant upward pressure on money wage rates, by resisting reductions in time of depression and by demanding increases in time of prosperity. Whether this pressure can overcome the opposing forces acting on the price level may be questionable, but probably it can at least cause wage rates to lag farther behind prices on the downswing and to follow them more closely on the upswing.

Government economic policy, even in its early negative form, has always exercised some influence on economic events. The "sound money" policy after the Civil War, for example, was unquestionably an important element in the 25 years' deflation between the early seventies and the late nineties. Beginning in 1933, the Federal Government became a much more active participant in economic affairs. Tho

important change at that time was the assumption by the Government of a more definite responsibility for the economic welfare of individuals. There was scarcely an economic group or interest which did not receive assistance in one way or another from the Government.

During this war, too, Government economic activity has been vastly expanded. Although the extent of Government control undoubtedly will diminish after the war, it seems very likely that the Federal Government will continue to play an active part in economic affairs. This probability complicates rather than simplifies economic forecasting, because of uncertainty as to what measures will be adopted and prove effective. There is no doubt, for example, that the Government can greatly mitigate the impact of depressions, but there is as yet no assurance that it can prevent them. Nevertheless, the likelihood of Government activity must somehow be taken into account in forecasting money wage rates.

A third institutional change, that in management policies, also bears on the question. For various reasons, the time has passed when wage policies of the largest employers will run exclusively in terms of the lowest money wage rates possible, as was usual not so many years ago and is still common in certain highly competitive industries. Increasingly, business executives are recognizing that low wage rates do not necessarily result in low labor unit costs and that frequently sound management combined with higher money wage rates will in fact lower unit costs. Emphasis, therefore, has been gradually shifting to more progressive labor management and to wage incentives as a means of reducing labor turnover and stimulating labor productivity.

Coincident with this change in the philosophy of management, there has been a significant increase in the size of employing organizations. This trend has given additional impetus to a "scientific" wage policy. Such a policy, although it has by no means spread to the many small firms in competitive industries, will probably have some influence, together with that of labor organizations, in retarding the decline of wage rates during a period of deflation.

*Time worked.*—Variations in amount of time worked, as well as in money wage rates, have an important influence on average annual earnings. In the past such variations have been of two main types: the downward secular trend in regularly scheduled hours of work per week; and the variation in hours of work per week and in weeks worked per year associated with seasonal and cyclical fluctuations in business activity and other causes of unemployment. Both types of variation must be considered in any forecast of annual earnings.

Between 1840 and 1940 the standard workweek was reduced from 6 days of 12 hours each to 5 days of 8 hours, and by 1940 the basic 40-hour week had been written into Federal law. This reduction can be attributed mainly to the increase in the productivity of labor, the efforts of organized labor, and, in the years following the 1929 depression, to spread-the-work sentiment.

Hours of work have increased during the war, but this increase is only temporary. There is every reason to believe that the forces leading to the reduction in hours in the years before the war will come into play again after the war is over. Organized labor has already indicated the 6-hour day and the 30-hour week as its new goal, and a number of union wage agreements already stipulate the 30-hour week as a normal workweek. Thus, it seems likely that any future increase in labor productivity will be partly absorbed by shorter hours of work, and that any increase in average hourly earnings will be offset to some extent by this reduction in time worked.

Although adequate data are not available on the extent of short-term employment and unemployment even in recent years, there can be no question that the annual earnings of industrial workers have been substantially reduced from time to time by this cause. Even in a "normal" year there is a certain minimum amount of frictional and technological unemployment, and in a severe depression a very substantial portion of the covered labor force may be unemployed for varying periods of time.

Severe depressions occurred in the 1870's, the 1890's, and the 1930's, and a number of minor ones in the intervening years. It is possible that the

average annual earnings of industrial workers dropped more than 50 percent between 1929 and 1932. Since average hourly earnings dropped only about 21 percent in this period, much of the reduction in annual earnings must be attributed to unemployment and to reduction in hours of work, which fell from more than 44 per week in 1929 to 38 in 1932. As a result of the business recession, the average annual earnings of covered workers in 1938 were about 7 percent less than in 1937, while average hourly earnings actually increased slightly.

As was remarked previously, there is absolutely no assurance, despite the expanded powers and responsibilities of the Federal Government, that cyclical fluctuation in business activity can be avoided in the future. It seems quite imperative, therefore, in estimating earnings covering a long period ahead, to make some allowance for the effects of cyclical unemployment.

### Conclusion

This brief analysis indicates the complexity of the economic factors which must be taken into account in long-range estimates of income and disbursements under old-age and survivors insurance. Because of this complexity and the lack of necessary data, there has been a tendency in the past to base long-range estimates of employment and earnings on the mechanical extrapolations of single statistical series. This tendency has been particularly pronounced in estimates of earnings, whether through the use of a single figure for average annual earnings for the entire period of the estimate or by the use of an annual average wage increased by a uniform percent each year. These solutions to an obviously difficult problem cannot be regarded as altogether satisfactory.

There is an alternative approach to the problem which may be called "analytical," as distinguished from the mechanical approach just described. This method requires explicit assumptions as to the future status of the important factors influencing the basic statistical series before these series are projected into the future. In this way, past experience can be taken into account without the tacit, and probably erroneous, assumption

of an exact repetition of this experience.

In the past, for example, major wars have had a very important influence on the level of money wages. But if it were to be assumed that no major war would occur during the period covered by the estimates, it would be improper to base an estimate of future earnings on a mechanical extrapola-

tion of past experience which had been greatly influenced by previous wars. Moreover, now that data on employment and earnings covered by old-age and survivors insurance are available in considerable detail, differences based on age and sex can be taken into account.

The analytical method cannot be expected, of course, to provide a sure

insight into the future. Its advantage is that it attempts to give due weight individually to the important elements bearing on the problem. Although this approach involves a detailed and laborious procedure and must necessarily result in alternative sets of assumptions and estimates, it seems the most realistic in view of the complexities of the problem.

## Actuarial Factors in Old-Age and Survivors Insurance\*

CERTAIN BASIC COST FACTORS must be continuously recognized in analysis of the costs of the old-age and survivors insurance program. These factors include: (a) population; (b) mortality; (c) family composition; (d) number of years of credited employment prior to qualification for benefits; (e) remarriage of widowed beneficiaries; (f) employment of widowed beneficiaries, older children, and aged; and (g) income in covered employment and its distribution among calendar quarters (as affected by a changing workweek, changing productivity, effectiveness of collective bargaining, long-term trends, cyclical changes, and so forth).

### Population

Population development depends upon the progress of the existing population as changed by future births and immigration and by future deaths and emigration. The 1940 census showed some 600,000 more persons aged 65 and over than had been indicated as probable from an examination of the 1930 census and the deaths and migration between the two censuses. It is also thought that the familiar underregistration of children has continued into the 1940 census. The Bureau of the Census has made comprehensive reports as to the many types of error and bias believed present in the latest enumeration.

Birth rates declined for a number of years, because of the increasing percent of the population completely

above the childbearing ages, the increasing proportion at the higher ages where childbearing is less frequent, and changed attitudes toward the size of the family. However, the long decline of birth rates lasting into the thirties has been reversed since 1937. There also appears to be a marked increase in the rate of first births, tending to increase the proportion of the insured population with dependents. This increases the amount of insurance for survivor benefits under old-age and survivors insurance. The diminution in the proportion of large families has had only a limited effect upon benefits under this program, since aggregate benefits for a family are not increased for children beyond the fourth child in the absence of a mother drawing benefits, or beyond the third child with the mother drawing benefits.

Immigration, which had been heavy up to the end of the nineteenth century and rather intermittent in the early portion of the twentieth century, was definitely checked in the 1930's, and most population forecasts have assumed that no return to the old immigration rates may be expected.

Another population factor to be considered is that of emigration. The war has already led to one type of emigration of considerable magnitude members of our expeditionary forces did not return but continued to live as private individuals in the countries where they had been stationed did not return but continued to live as private individuals in the countries where they had been stationed during the war. There is continuous discussion concerning the extent of

the manpower requirements of the Allied Military Government and the use of American technicians in many countries of the world after the war. The 1943 report of the National Resources Planning Board on future population development gives certain adjustment figures to recognize the effects of the war. Extensive analysis of this and similar material will be made over the next few years. It will call for continuous adjustment in cost estimates.

The possible future progress of the population has been indicated in two different reports:

1. The 1935 report prepared by the staff employed by the Committee on Economic Security in developing long-range cost estimates for the original program of old-age benefits.
2. The National Resources Committee's report on future population trends issued in 1938. The actual experience from which projections were made in that report did not go beyond 1936.

In the light of the as yet unpredictable population results of the war, it has seemed well to retain in the low cost assumptions the rather cautious population forecast made by the staff of the Committee on Economic Security as representative of one reasonable rate of growth. At the same time, the National Resources Committee's medium population forecast of 1938,<sup>1</sup> which has been used in other studies, seems suitable as an indication of the potential increase under high cost assumptions. Table 1 indicates the two assumptions used as to population growth for the group aged 20-64, in-

<sup>1</sup> A new report of the National Resources Planning Board, dated August 1943 and entitled *Estimates of Future Population of the United States, 1940-2000*, was published at the end of 1943.

\*Prepared in the Office of the Actuary for the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund.