# The Cost of Unemployment Insurance: Part II

### By W. S. Woytinsky*

*In this article, the second of two, the author discusses the effect of statutory and administrative factors on the operation of an unemployment insurance system and outlines the implications of the findings on cost estimates for the future development of a rounded social security program. As in all Bulletin articles, the opinions expressed are those of the author and do not necessarily reflect the official views of the Social Security Administration.*

THE PRECEDING ARTICLE dealt with estimates of the volume of compensable unemployment in relation to long-range cost estimates of an unemployment insurance program. By means of simplified "models" it showed how the volume of compensable unemployment was affected by possible combinations of labor-market conditions, in terms of rates of unemployment and labor turn-over, changes in the level of employment, and heterogeneity of the labor force. This article is concerned with the effect of administrative factors on the operation of the program and with estimates of the possible average volume of compensable unemployment in the course of a business cycle. In conclusion, an attempt is made to translate those findings into tentative cost estimates for various benefit formulas and for various assumptions related to the available reserve funds that can be utilized as an auxiliary source for financing the program under unfavorable business conditions.

## Impact of Administrative Factors

Since all State unemployment insurance laws provide benefits for a limited duration of unemployment, we started our study of costs of unemployment insurance with an analysis of the proportion of unemployed workers in specified duration intervals. Actually, however, compensable unemployment is not identical with unemployment in a definite du-

ration interval. The most important administrative factors that cause compensable unemployment to deviate from the strict duration pattern as discussed in the first article are the method of measuring the duration of benefits and the provisions in State unemployment insurance laws for the variable maximum and for disallowances and disqualifications.

### Effect of Benefit-Year Concept on Duration of Benefits

State unemployment insurance laws determine the duration of benefits either uniformly for all eligible claimants (uniform maximum duration) or in accordance with the employment and earnings experience of the individual claimant in a preceding 12-month period (variable duration). In either case the statutory duration relates to a period of 52 consecutive weeks, which in some States is a specific period set by the State law (uniform benefit year) and in other States varies for the individual claimant (individual benefit year), most commonly starting with the first week for which he files a valid claim for benefits.

All State unemployment insurance laws but one provide for a maximum *cumulative* amount or duration of benefits during the benefit year, instead of relating these maximums to a single spell of unemployment. Only the first spell of unemployment during a benefit year, therefore, is compensable for the duration indicated by the benefit formula (for example, 14, 20, or 26 weeks). If a claimant returns to work after exhausting his benefit rights and becomes unemployed again during the same benefit year, he is not eligible for benefits un-

til the beginning of a new benefit year. However, if his benefit rights were not completely exhausted in his first spell of unemployment, he is entitled to the remaining benefits up to the cumulative maximum or up to the end of the benefit year.

Thus, in States that provide a uniform duration, the potential duration of a claimant's benefits during a single spell of unemployment amounts to the statutory duration minus the duration of any unemployment for which he had already obtained benefits in the same benefit year. On the other hand, the method of defining the eligibility of unemployed workers for a 12-month period (benefit year) on the basis of their employment experience in a preceding 12-month period (base year) may make workers who were unemployed longer than the statutory maximum duration eligible for benefits in a new benefit year without intervening employment.

Even in States with uniform duration and individual benefit years, therefore, the potential compensable interval—in terms of the number of weeks elapsed after separation—is longer than the statutory maximum in some cases and shorter in others.

The cumulative effect of the factors curtailing the duration of benefits and those tending to increase the duration depends on business conditions. In prosperous times, when relatively few workers are without jobs and the employed labor force is fluid, many workers may have short spells of unemployment during a year; only a few will remain out of work for any appreciable period, however, and the previous compensable unemployment of the separated workers cannot be substantial on the average.

A similar situation develops at the depth of a depression—when more than 20 percent of all workers are unemployed, for example, and the labor market is extremely rigid. In these circumstances, there are few shifts between employment and unemployment; single spells of unemployment are long, and few persons are likely to have more than one spell of compensable unemployment during the same benefit year. When a worker loses his job for the second time during the benefit year, however, he is likely

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to discover that his benefit rights were largely or completely exhausted during the previous spell of unemployment.

On the other hand, if a moderate unemployment rate—for example, about 10 percent—is combined with a high separation rate—say, more than 5 percent per 4 weeks—two or more spells of unemployment within a benefit year become more usual, and an appreciable proportion of the separated workers are likely to have exhausted at least part of their benefit rights during an earlier spell of unemployment within the same benefit year.

The relative number of persons whose benefit rights are prolonged beyond the statutory maximum because they are entitled to benefits in 2 consecutive benefit years likewise varies with changing business conditions. Under typical conditions, this proportion is unlikely to exceed 2 percent when unemployment is low, and it may reach 4 or 5 percent when unemployment is heavy—15 percent or more. The probable net balance of the two factors depends on the level of unemployment. If unemployment is low, both factors are practically negligible. With mounting unemployment the practical significance of the curtailment of the potential duration increases and tends to outweigh the effect of the extension of benefits beyond a benefit year. All in all, when more than 15 percent of the labor force is out of work, compensable unemployment may be 3 to 6 percent less than the total volume of unemployment in the statutory benefit-duration interval.

### Impact of the Heterogeneity of the Labor Force

The impact of the elimination of the assumption of perfect homogeneity of the labor force (equal chance of reemployment for all unemployed persons and equal risk of termination of jobs for all employed workers) remains to be examined. It seems plausible that a newly hired worker has a greater probability of being separated than does an old employee of a firm. This factor tends to increase the proportion of persons with several spells of unemployment during a single benefit year. In other words,

the spells of unemployment will be distributed not at random but among a narrower circle of individuals; when one of this group becomes unemployed, he has probably exhausted a large part of his benefit rights in the preceding spells of unemployment. In addition, the new assumption suggests that, among the persons who are out of work at the close of the benefit year, the proportion who have insufficient wage credits to qualify for benefits in the new year just beginning is higher than among all persons covered by the program. Thus, the uneven distributions of the risks of unemployment and the chances of reemployment tend to reduce the average potential duration of benefit payments and consequently the volume of compensable unemployment. The effect of this factor on the volume of compensable unemployment cannot be estimated exactly since the computation would necessarily rest on a number of more or less arbitrary assumptions. A rough and purely tentative estimate of the impact of this factor at 3 to 6 percent seems to be on the conservative side.

### Variable Maximum Duration

In adopting the principle of the variable maximum duration, which relates the claimant's potential maximum duration of benefits to his employment and earnings in his base period, the aim is to reduce the probability that the unemployment trust fund will be drained by persons who are loosely attached to the labor market and have comparatively long' interruptions between short spells of employment. This principle is applied in 37 States that include more than 75 percent of the total covered labor force, while the principle of uniform duration is used in the other 14 States, with less than 25 percent of all covered employment.

The impact of a variable maximum duration varies widely from State to State and from year to year. It may be measured by comparing the statutory maximum with the average actual duration for claimants who exhausted their benefit rights. In 1941, for example, Alabama and Rhode Island had the same maximum duration of 20 weeks of benefits for claimants who qualified for the maximum,

but the average actual duration for claimants who exhausted their rights in the benefit year was 17.3 weeks in Alabama and 9.2 weeks in Rhode Island. Both Iowa and Vermont in that year had a statutory maximum duration of 15 weeks, but the average actual duration for claimants exhausting their rights was 8.5 and 13 weeks, respectively. The weighted-average statutory maximum for all States with variable maximum provisions amounted in 1941 to 17.4 weeks, but the average actual duration for all persons who exhausted their benefits was only 10.4 weeks. The impact of a variable maximum-duration provision is conditioned to a large extent by the eligibility requirements in State laws.

The statutory maximum of 26 weeks, therefore, does not necessarily imply that all the unemployment in the duration brackets of 2 to 28 weeks is compensable. The statutory provision of a variable maximum entitles workers strongly attached to the labor market to benefits during 26 weeks, but it does not promise the same protection to persons with lower earnings, who constitute a substantial proportion of the unemployed. As a rule, therefore, the average potential duration for all claimants under such a program is substantially lower than 26 weeks. A program with a variable duration and a statutory maximum of 26 weeks must be fairly liberal for persons with irregular employment if all the claimants are to have an average benefit duration of 22 weeks.

All in all, the experience of States with a variable maximum duration suggests that the principle of adjusting the duration of benefits to the employment and earnings records of individual claimants may reduce the volume of compensable unemployment significantly. In estimating costs of an unemployment insurance program, serious attention should be paid, therefore, to provisions reducing the maximum duration of benefits for definite groups of claimants. The present article, however, deals with a program providing only uniform duration of benefits.

### Disallowances and Disqualifications

When an initial claim is filed in a local office, the agency must first of

all determine whether the claimant is entitled to benefits. Often the claimant may not have sufficient wage credits to be eligible. His previous earnings in covered industries may prove to be insufficient, the establishment by which he was employed may not have been covered by the State unemployment insurance law, or he may have exhausted his benefit rights during an earlier spell of unemployment in the same benefit year. In brief, not all initial claims mark the beginning of a spell of unemployment that is compensable in the statutory duration interval.

The proportion of initial claims disallowed in a State because of insufficient wage credits depends on a great variety of factors, such as the qualifying earnings requirement itself, the composition of the labor force, the coverage of the State law, the procedure of claims taking and disposition of new claims, and the extent to which workers are familiar with the State law and aware of their rights. The proportion of disallowances may also vary with business conditions.

In all, 6.3 percent of all initial claims were disallowed in 1945 and 8.5 percent in 1946 because of insufficient wage credits. In individual States the percentage of initial claims disallowed in 1945 ranged from an estimated 0.6 percent in Wisconsin to 13.9 percent in Maryland. In 1946 the estimated range was from 1.6 percent in Wisconsin to 18.4 percent in Florida.

To the disallowances because of the lack or insufficiency of wage credits are added denials of benefits because of the claimant's unavailability for work and disqualifications for voluntarily leaving the job without good cause, misconduct, refusal of suitable work, and other reasons. The respective provisions of State laws are far from uniform, and administrative practices vary widely. The proportion of denials and disqualifications may be affected also by changing business conditions. The proportion of eligible initial claims denied on the issue "able to work and available for work" amounted to 5.8 percent in 1945 and 6.9 percent in 1946. Disqualification determinations as a proportion ·of all such claims were 5.3 and 6.2 percent, respectively, in the same 2-year period.

Table 10.—*Unemployment rate,*[1] *in a hypothetical 10-year business cycle*

| End of year | Favorable conditions | | Medium conditions | | Unfavorable conditions | |
|---|---|---|---|---|---|---|
| | Pattern (1) | Pattern (2) | Pattern (1) | Pattern (2) | Pattern (1) | Pattern (2) |
| 1 | 5 | 5 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 15 | 10 | 15 |
| 3 | 5 | 10 | 12.5 | 15 | 20 | 15 |
| 4 | 10 | 10 | 20 | 15 | 25 | 25 |
| 5 | 10 | 10 | 20 | 20 | 25 | 25 |
| 6 | 10 | 10 | 20 | 15 | 25 | 25 |
| 7 | 5 | 10 | 12.5 | 15 | 20 | 15 |
| 8 | 5 | 5 | 5 | 15 , | 10 | 15 |
| 9 | 5 | 5 | 5 | 5 | 5 | 5 |
| 10 | 5 | 5 | 5 | 5 | 5 | 5 |
| Average rate for the period | 6.5 | 7.5 | 11 | 12.5 | 15 | 15 |

[1] Employed persons as percent of labor force.

The impact of disallowances and disqualifications on benefit disbursements may be roughly estimated as follows. Denials usually refer to a single week. Assuming that on the average each beneficiary is on the rolls for 10 weeks, 5 denials per 100 initial claims would mean about 0.5 denials per 100 compensable claims and would reduce the total number of compensable weeks proportionately. Disqualifications may affect the benefit rights of beneficiaries for several weeks and may represent a reduction in benefits even when the penalty is only postponement of payments. Assuming that each disqualification is equivalent to a net loss of 3 to 5 weeks of benefits, the cumulative effect of disqualifications of about 5 percent of all claimants may reduce the total amount of their benefits by 1.5 to 2.5 percent. Thus, denials and disqualifications may have cut the benefit load by 2 to 3 percent.

The impact of these administrative factors on the volume of compensable unemployment may be summarized as follows:

Total _____ 15 to 23 percent

The effect of measurement of cumulative duration of benefits _____ 3 to 6 percent
The impact of accumulation of repeated spells of unemployment among the same persons (heterogeneity of the labor force) _____ 3 to 6 percent
Disallowances _____ 7 to 8 percent
Denials and disqualifications _____ 2 to 3 percent

This estimate does not take into account the effect of variability in the maximum duration.

## Unemployment Insurance in a Business Cycle

To estimate the long-range cost of unemployment insurance it is necessary to visualize the operation of the program throughout a typical business cycle. There is no compelling reason why this cycle should repeat the pattern of 1923–33. Economic developments in that period appear to have been exceptional, and their repetition in the coming years is not very probable. In developing models of a more or less typical and probable cycle, various assumptions may be used and some of them are illustrated in chart 5.[1]

The types of economic development presented in this chart are described as "favorable," "medium," and "unfavorable," depending upon the severity of the economic set-back in the depression phase of the cycle. The shape of the patterns examined is irrelevant for the subsequent discussion. Only three general characteristics are essential: (a) the assumption of a satisfactory level of employment at the beginning and at the end of the 10-year period; (b) the assumption that employment declines in the early phase of the cycle and rises in its later phase; and (c) the range of variation in the average volume of unemployment in the three types of economic development—favorable, medium, and unfavorable.

The rate of unemployment according to these patterns averages 6.5 to 7.5 percent under favorable conditions, 11 to 12.5 percent under medium

[1] Charts 1–4 and tables 1–9 appeared in the first article.

conditions, and 15 percent in the event of an exceptionally severe depression in the middle of the 10-year period.

Variations in the unemployment rate for the 10 years of the hypothetical business cycle are shown in table 10. These figures require substantial adjustment, however, if changes in the size of the labor force are taken into consideration. On the assumption that there were 60 million persons in the labor force at the beginning of the 10-year cycle and 66 million at its end, 63 million persons would be in the labor force in the middle of the period, under normal conditions. This may be the case in the pattern exemplified in panel A of chart 5. Independently of the gradual growth of the labor force (at the rate of 1 percent a year), however, new job seekers invade the labor market during a protracted depression and constitute a steadily growing fraction of the unemployed labor force. At the depth of a depression— if we assume an unemployment rate of 25 percent for several years as in the unfavorable pattern—the labor force would be much larger than at the beginning of the 10-year period and might decline in the more advanced phase of the cycle, when conditions improve. Assuming that when unemployment rises by 1 million its increase includes 150,000 to 200,000 "additional workers," it is likely that the labor force would be inflated by 1.5 to 2 million under medium conditions (when the unemployment rate is supposed to reach 20 percent) and by 3 million under unfavorable conditions (when unemployment rises to 25 percent). Under this assumption, the labor force might vary during the 10-year cycle somewhat as shown in chart 6.

If this pattern of variation in the labor force is combined with the changes in the unemployment rate suggested by chart 5, the average absolute volume of unemployment throughout the 10-year period will appear higher than suggested above. The impact of changes in the labor force on *covered* unemployment and its relation to the *covered* labor force is very different, however. Since new entrants into the labor market—not only emergency workers but also boys and girls graduating from school—are

joining the ranks of the unemployed but, having no wage credits, are not part of the covered labor force, the ratio of covered unemployment to covered employment in the advanced phase of a depression is lower than the corresponding ratio for the non-covered labor force. It is conceivable, in fact, that under unfavorable business conditions the covered labor force would decline from month to month while the total labor force was expanding through the influx of "additional" workers.

Though this reaction can hardly be measured statistically, it seems sound to assume that the growth of the covered labor force will stop when the

unemployment rate is as high as 15 percent and the number covered will decline if the tide of unemployment mounts above this mark.

If covered unemployment is defined as including all unemployed persons with some work experience in covered industries and still seeking work in these industries, it is likely to change through a heavy depression as shown in chart 7.
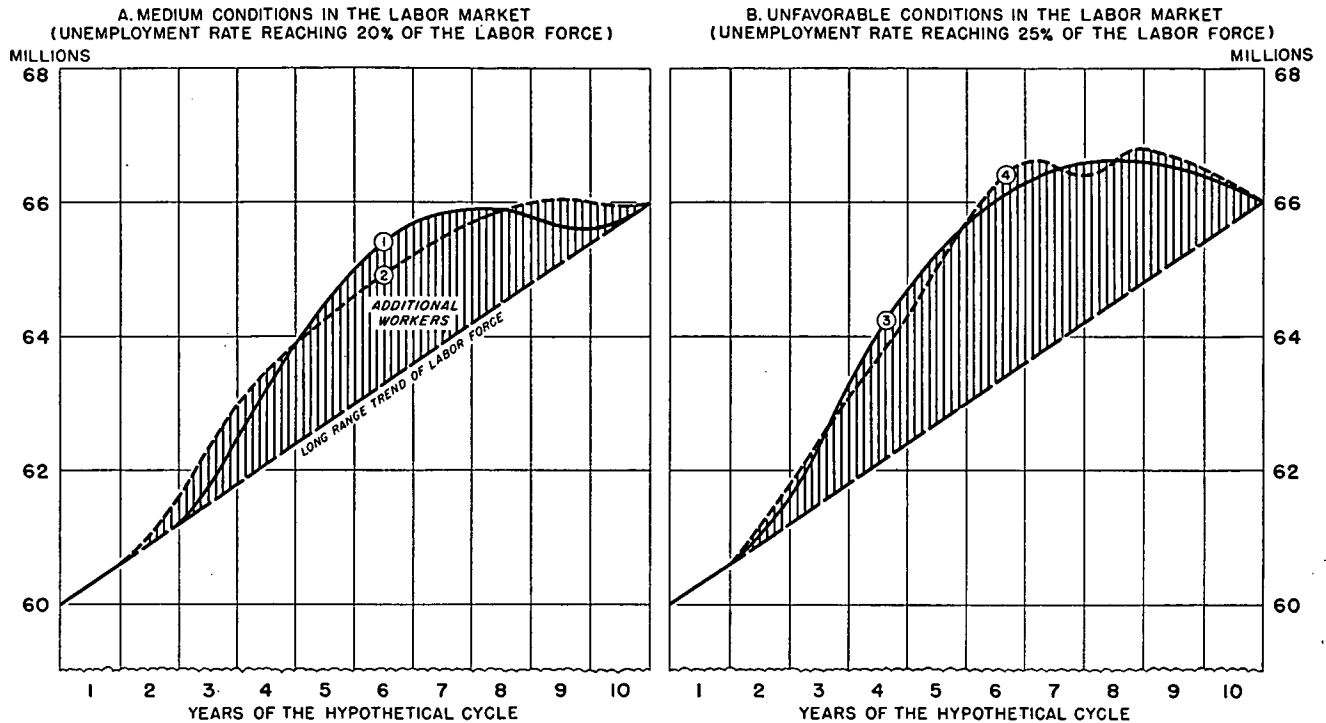
This chart portrays the development in the labor market through a 10-year period when the unemployment rate varies as in the panels B and C of chart 5 and the total labor force changes as in chart 6. It is assumed that under favorable em-

Chart 5.—*Hypothetical variations in the rate of unemployment\* during a 10-year cycle*
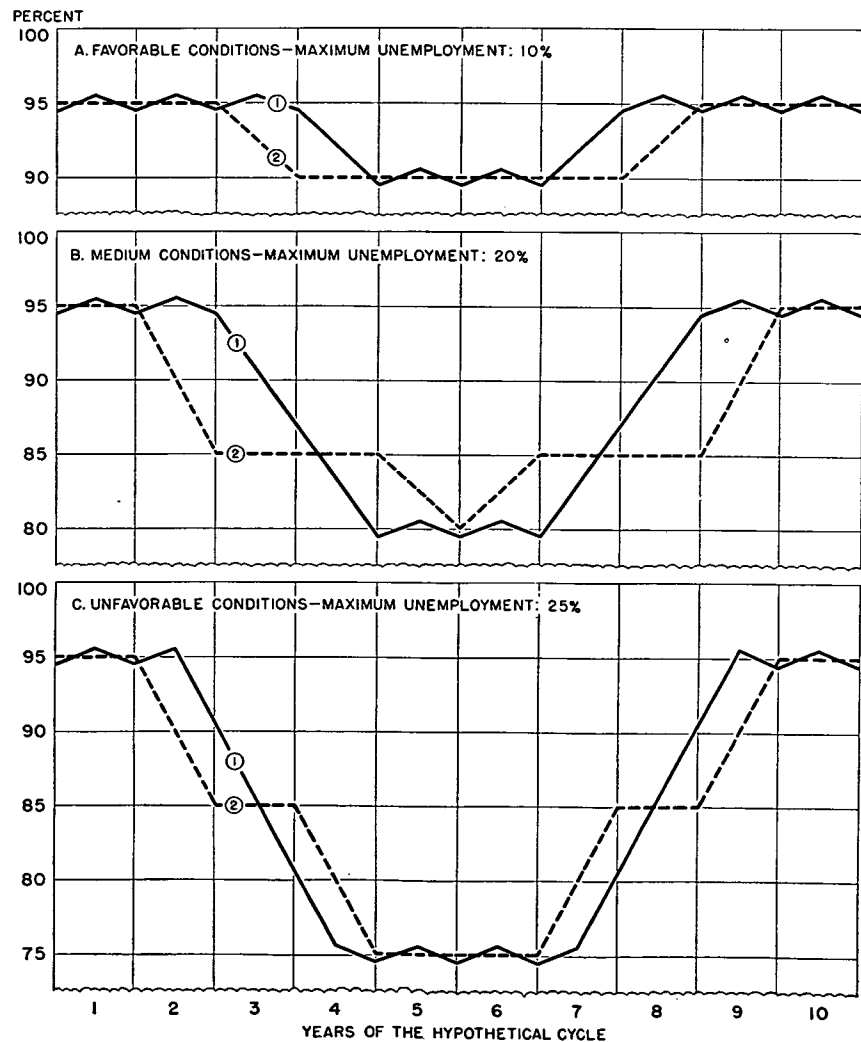


\*Employed persons as percent of labor force.

Chart 6.—*Hypothetical variations in the size of the labor force in a 10-year cycle, assuming considerable unemployment in the middle of the period*

A. MEDIUM CONDITIONS IN THE LABOR MARKET
(UNEMPLOYMENT RATE REACHING 20% OF THE LABOR FORCE)

B. UNFAVORABLE CONDITIONS IN THE LABOR MARKET
(UNEMPLOYMENT RATE REACHING 25% OF THE LABOR FORCE)



YEARS OF THE HYPOTHETICAL CYCLE

ployment conditions (at the beginning and at the end of the cycle) half of the total labor force is attached to covered industries. Excluding 500,-000 unemployed persons seeking work in these industries but lacking work experience, the covered labor force would amount to 29.5 million $\left(\dfrac{60,000,000}{2} - 500,000\right)$ at the beginning of the surveyed period and 32.5 million $\left(\dfrac{66,000,000}{2} - 500,000\right)$ 10 years later. The half of the total labor force represented by the upper curve

on each plot in chart 7 is assumed to form a hump above the hypothetical long-range trend line, while the line of the covered labor force deviates downward. The retardation in the growth of the covered labor force cuts covered unemployment to almost half at the deep point of the depression.[2]

The hypothetical pattern of variations in the ratio of covered unemployment to covered labor force, un-

[2] For a fuller discussion see the author's monograph, *Principles of Cost Estimates in Unemployment Insurance,* ch. 7.

der these conditions, is illustrated in table 11.

To estimate the compensable unemployment during these hypothetical business cycles, definite assumptions had to be made regarding the probable effective separation rates.[3] An examination of the ratios of initial claims to average covered employment during past periods indicates that, for the Nation as a whole, an average effective separation rate of 2 percent for the 10-year hypothetical cycles is reasonable. Assuming a 2-percent separation rate and the covered unemployment rates presented in table 11, it is possible to estimate the average annual compensable unemployment per 100,000 workers, under unemployment insurance programs providing benefits for 14, 20, and 26 weeks for all eligible claimants after a 1-week waiting period. Such estimates are shown in table 12.[4] From this table, hypothetical
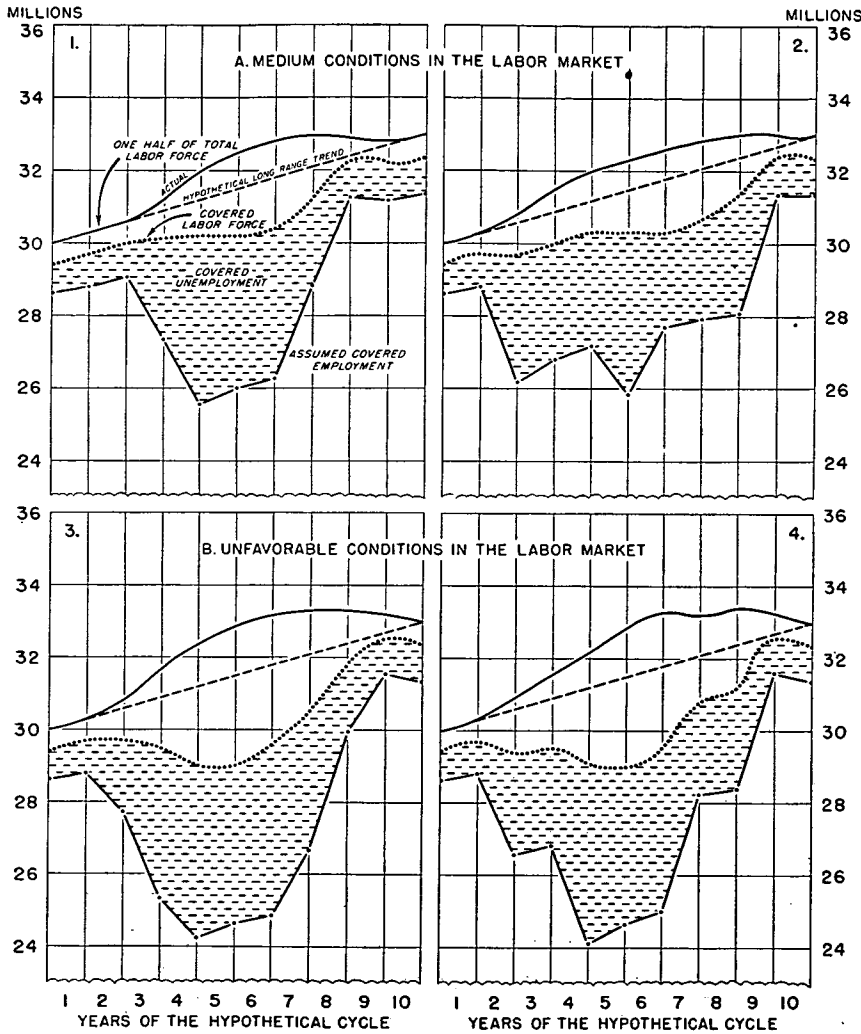
[3] In the first article, the "effective" separation rate was defined as the ratio of initial claims filed during a year to average employment.

[4] For more detailed discussion, see the monograph.

Table 11.—*Variations in covered unemployment rates (percent) in a hypothetical 10-year cycle*

| End of year | Favorable conditions | | Medium conditions | | Unfavorable conditions | |
|---|---|---|---|---|---|---|
| | Pattern (1) | Pattern (2) | Pattern (1) | Pattern (2) | Pattern (1) | Pattern (2) |
| 1 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| 2 | 3.4 | 3.4 | 3.4 | 12.1 | -7.0 | 10.7 |
| 3 | 3.4 | 8.5 | 9.1 | 10.8 | 14.2 | 9.4 |
| 4 | 8.5 | 8.5 | 15.1 | 10.1 | 16.3 | 16.9 |
| 5 | 8.5 | 8.5 | 13.6 | 14.4 | 15.0 | 15.0 |
| 6 | 8.6 | 8.6 | 15.9 | 8.2 | 16.0 | 15.3 |
| 7 | 3.5 | 8.6 | 7.3 | 9.2 | 12.7 | 12.2 |
| 8 | 3.5 | 3.5 | 3.5 | 10.9 | 6.3 | 12.0 |
| 9 | 3.5 | 3.5 | 3.8 | 3.5 | 3.3 | 3.1 |
| 10 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Average rate during period | 5.0 | 6.0 | 7.9 | 8.6 | 9.8 | 10.1 |

Chart 7.—*Hypothetical variations in the size of the covered labor force in a 10-year cycle, assuming considerable unemployment in the middle of the period*

MILLIONS

MILLIONS

**A. MEDIUM CONDITIONS IN THE LABOR MARKET**

ONE HALF OF TOTAL LABOR FORCE

ACTUAL

HYPOTHETICAL LONG RANGE TREND

COVERED LABOR FORCE

COVERED UNEMPLOYMENT

ASSUMED COVERED EMPLOYMENT

**B. UNFAVORABLE CONDITIONS IN THE LABOR MARKET**

1  2  3  4  5  6  7  8  9  10
YEARS OF THE HYPOTHETICAL CYCLE

1  2  3  4  5  6  7  8  9  10
YEARS OF THE HYPOTHETICAL CYCLE

average annual ratios of compensable unemployment per 100,000 persons in covered employment may be readily derived (table 13).

At first sight it may seem puzzling that the average compensable unemployment under the most unfavorable conditions differs so little from that anticipated for the favorable course of events. This difference does not appear understated if the contrast between favorable and unfavorable business conditions is examined more closely. The difference lies in the number of workers laid off in the declining phase of the business cycle. In both the unfavorable and the favorable patterns, these workers are added to the number suffering fric-

tional unemployment. The increment may be measured as the difference between the volume of unemployment at the deepest point of the depression and that assumed for the same period under favorable conditions. For the pattern discussed, the difference between favorable and unfavorable conditions is 15 percent of the total labor force or 15,000 per 100,000 workers, but only about 8 percent of the covered labor force or 8,000 per 100,000 covered workers. If throughout the whole 10-year cycle frictional unemployment remained the same as under the most favorable assumption and the workers laid off because of deteriorating business conditions had no chance of finding jobs

before the end of the depression, the additional load of compensable unemployment would amount to 8,000 times the statutory maximum duration of benefit payments. For a program with a maximum duration of 14 weeks, the additional load would be 112,000 weeks, for one with a 26-week maximum, 208,000. Distributed over a period of 10 years, the additional weekly load would approximate 215 per 100,000 workers in the first case and 400 per 100,000 in the second.

Administrative factors tend to reduce this additional load, while the decline in work opportunities for the workers who are assumed to be out of work under any business conditions acts in the opposite direction.

## Cost of Unemployment Insurance

Most benefit formulas under State unemployment insurance laws are designed to furnish compensation amounting to 50 percent of the earnings lost by an individual worker because of unemployment. This does not mean, however, that the weekly benefits paid by the States to unemployed beneficiaries amount on the average to 50 percent of the weekly earnings of employed workers in covered industries. In fact, unemployment is not distributed at random among workers in different earnings classes. Those in the higher wage brackets, such as skilled factory workers, foremen, high-grade white-collar employees, and officials with executive and managerial responsibility, are not exposed to the same risk of unemployment as the rest of the covered labor force. On the other hand, manual laborers and young workers without experience or special skills are exposed to a higher-than-average risk of unemployment. The seniority rule and individual selection operate in the same direction: persons who have been with the same firm many years are likely to earn more than those whose work is interrupted time and again by spells of unemployment.

Although available unemployment insurance statistics provide no direct comparison between average earnings of claimants and those of other covered workers, they show conclusively

Table 12.—*Average annual compensable unemployment per 100,000 workers in a hypothetical 10-year cycle, with allowance for heterogeneity of the labor force and administrative factors*

| Business conditions | Uniform duration of benefits (after a 1-week waiting period) | | |
|---|---|---|---|
| | 14 weeks | 20 weeks | 26 weeks |
| **Favorable:** | | | |
| Pattern (1) | 2,430 | 2,715 | 3,000 |
| Pattern (2) | 2,805 | 3,080 | 3,475 |
| **Medium:** | | | |
| Pattern (1) | 2,775 | 3,230 | 3,685 |
| Pattern (2) | 2,910 | 3,568 | 4,080 |
| **Unfavorable:** | | | |
| Pattern (1) | 2,805 | 3,450 | 3,995 |
| Pattern (2) | 2,815 | 3,490 | 4,030 |

that benefit payments of unemployed workers average less than 50 percent of the average weekly earnings of workers in covered employment. If the maximum weekly benefit amount payable under each State law in effect at the close of 1946 were increased to $25 and wages paid by an employer to an employee were taxed up to $3,600, instead of $3,000, during a calendar year the average weekly benefit rate could safely be estimated at 45 percent of average weekly taxable earnings for the Nation as a whole.

The cost rate—benefit expenditures as a percent of taxable wages—can be estimated from the following formula: (compensable unemployment × average weekly benefit amount) ÷ (average covered employment × average taxable weekly wage). This formula is identical with the product of two ratios: (compensable unemployment ÷ average covered employment) and (average weekly benefit amount ÷ average taxable weekly wage).

By substituting 45 percent for the ratio of average weekly benefits to average taxable weekly wages in the second formula, the cost rate is found to be equal to 45 percent of the ratio of compensable unemployment to average covered employment. By applying the multiplier 0.45 to the ratios of compensable unemployment to 100 persons in covered employment, derived from table 13, the probable average annual cost of unemployment insurance through the hypothetical 10-year cycle as a percent of taxable wages is determined (table 14).

It should be borne in mind that these figures refer to benefit load and

include no allowance for the administrative cost of the program. Neither do they make allowance for the possible changes in the pattern of turnover of unemployment, such as an agreement of employers and labor unions on rotating employed workers during a depression.

Furthermore the cost rates in table 14 are hypothetical averages; the actual cost for a single year in an individual State may be considerably lower or higher. The extremes tend to offset each other in the course of a cycle, however, and the ultimate cost of a program with benefits at 50 percent of wages up to a maximum of $25, a waiting period of 1 week, plus 26 weeks' duration is likely to average about 1.5 percent of pay rolls [5] under favorable conditions, 1.9 percent if a depression develops in which 20 percent of the labor force is unemployed, and perhaps slightly more than 2.0 percent if the depression is more severe and about 25 percent of the labor force is unemployed. A program providing benefit payments for 20 weeks will cost 1.3 to 1.5 percent of taxable pay rolls under favorable business conditions and 1.8 percent under the most unfavorable conditions. The average cost of a program with 14 weeks' duration may range, under the two extreme sets of assumptions, between 1.2 percent and somewhat less than 1.5 percent. The cost rates should be raised by 0.1 or 0.2 percent if the program also provides for partial and part-total benefits.

Although the difference between the unfavorable and medium patterns in table 14 is not large, it is worth stressing the point that the perspectives exemplified by the unfavorable patterns are not very probable for the next decade. In a realistic appraisal of the probable unemployment load, an unemployment rate of more than 15 percent in the near future should be discarded. With this correction, 2 percent of taxable pay rolls appears as the probable limit of the cost of benefits under a program with a uniform maximum duration of benefits of 26 weeks and a weekly benefit rate averaging 45 percent of average taxable weekly wages.

[5] Includes wages paid by an employer to an employee up to $3,600 per year.

Table 13.—*Average compensable unemployment per 100,000 persons in covered employment in a 10-year cycle, with allowance for heterogeneity of the labor force and administrative factors* [1]

| Business conditions | Uniform duration of benefits (after a 1-week waiting period) | | |
|---|---|---|---|
| | 14 weeks | 20 weeks | 26 weeks |
| **Favorable:** | | | |
| Pattern (1) | 2,558 | 2,858 | 3,158 |
| Pattern (2) | 2,984 | 3,277 | 3,697 |
| **Medium:** | | | |
| Pattern (1) | 3,013 | 3,507 | 4,001 |
| Pattern (2) | 3,184 | 3,904 | 4,464 |
| **Unfavorable:** | | | |
| Pattern (1) | 3,109 | 3,825 | 4,429 |
| Pattern (2) | 3,131 | 3,882 | 4,483 |

[1] Figures in this table derived by dividing the figures in table 12 by following ratios: favorable conditions, 0.950 and 0.940; medium conditions, 0.921 and 0.914; unfavorable conditions, 0.902 and 0.899.

In brief, the long-run cost of unemployment insurance seems to be less than one-third of the estimates made when the original Social Security Act was being drafted.

## Reserve Funds

The accumulation of reserve funds by State unemployment insurance agencies has introduced a new and important factor in long-range cost estimates of the program. It is generally recognized that a reserve fund built up in a period of prosperity should serve to ensure the solvency of the program in time of depression. Such a contingency reserve is particularly necessary if the program is financed by moderate current contributions. Reserve funds serve their purpose, however, only if they are actually used from time to time: current contributions should be kept just above the limit of expenditures in good years. A program with huge reserves that continue to rise through all the phases of a business cycle is overfinanced and may exercise a deflationary effect on the economic system. It may even contribute to a rise of unemployment, by withholding from circulation a part of the current purchasing power. By the end of 1947, more than $7.3 billion—or the equivalent of 10 percent of taxable wages during that year—had been accumulated by the States in their unemployment insurance funds. The smallest reserves—in relation to tax-

able pay rolls—were in Michigan (5.7 percent), Massachusetts (5.8 percent), Alabama (6.9 percent), Delaware (7.4 percent), and Oklahoma and Texas (7.9 percent). Eleven States—Florida, Illinois, Indiana, New Mexico, North Dakota, Pennsylvania, South Carolina, South Dakota, Virginia, West Virginia, and Wyoming—had reserves ranging between 8.4 and 9.9 percent of taxable pay rolls. In 33 States, the ratios ranged from 10.0 to 14.2 percent, and one State—New Jersey—had a ratio of 15.2 percent.

So long as reserves of individual States are not pooled, each State must rely on its own reserve fund in planning its unemployment insurance system. Such planning should take account of the possibility that the reserve fund may be depleted in the lean years but will be at least partly restored during the recovery that is supposed to characterize the final phase of the cycle in our six hypothetical patterns. In other words, at the end of the 10-year period, the reserve fund should not have fallen below a specified limit.

The difference between the initial size of the fund and the hypothetical minimum to which the fund may be reduced at the end of the period may be prorated over 10 years as the contribution of the reserve to financing the program. For example, if the reserve fund amounted to 15 percent of annual taxable pay rolls at the beginning of operations and might be reduced over the period to 10 percent, the annual contribution from this source to financing the program would be equivalent to 0.5 percent of pay rolls. To this amount the interest earned by the fund should be added, say 0.3 percent of pay rolls in the first year of the cycle and 0.2 percent in the last year, or an average of 0.25 percent annually for the whole period. In this instance, the contribution of the reserve and interest earned would average 0.75 percent of taxable pay rolls annually.

These general considerations may be applied to different levels of reserve funds at the beginning of the hypothetical 10-year period. If the period begins with a reserve fund amounting to 5 percent of taxable pay rolls, this fund will probably suffice as a contingency reserve during a depression.

Table 14.—*Probable average annual cost of unemployment insurance in a 10-year cycle as a percent of taxable pay rolls*

| Business conditions | Uniform duration of benefits | | |
|---|---|---|---|
| | 14 weeks | 20 weeks | 26 weeks |
| Favorable: | | | |
| Pattern (1) | 1.15 | 1.29 | 1.42 |
| Pattern (2) | 1.34 | 1.47 | 1.66 |
| Medium: | | | |
| Pattern (1) | 1.36 | 1.58 | 1.80 |
| Pattern (2) | 1.43 | 1.76 | 2.01 |
| Unfavorable: | | | |
| Pattern (1) | 1.40 | 1.72 | 1.99 |
| Pattern (2) | 1.41 | 1.75 | 2.02 |

Suppose mass unemployment develops 3 or 4 years after the beginning of operations; by that time the reserve will amount to 6 or 7 percent of pay rolls. The reserves may be spent almost completely in the lean years, but they should be restored in the later phase of the cycle, when employment is recovering. Thus, only interest earned by the reserve fund should be considered as a means of current financing of the program. This interest is likely to average somewhat less than 0.1 percent of taxable pay rolls annually.

If the system starts with a reserve fund amounting to 10 percent of taxable pay rolls, the interest earned by the fund may amount to 0.2 percent. Apart from this, the system will apparently remain financially sound and solvent if its reserve fund by the end of the decade remains as high as 7 percent of annual pay rolls. Thus the contribution from the reserve fund distributed over 10 years will be equivalent to 0.3 percent of annual pay rolls. The reduction of the reserve fund will necessarily curtail the amount of interest, however, from 0.2 percent to 0.15 percent of annual pay rolls. As a result, the annual contribution of the reserve fund to financing the program will total 0.45 percent of pay rolls.

If the system starts with 20 percent of annual pay rolls in reserve, the fund may be allowed to drop to less than half this amount—say, to 9 percent of pay rolls by the end of the decade. In this event its annual contribution to financing the current program will be 1.1 percent of pay rolls from the reserve and approximately 0.3 percent provided by interest.

To sum up, the annual contribution of the reserve fund to financing the program, under the most unfavorable business conditions, may be estimated as follows as a percent of annual pay rolls:

| Reserve fund at beginning of 10-year period | Reserve fund at end of 10-year period | Annual contribution of fund to financing current expenditures | | |
|---|---|---|---|---|
| | | Total | Interest | Reduction of fund |
| 5 | 5 | 0.10 | 0.10 | _____ |
| 10 | 7 | .45 | .15 | 0.30 |
| 15 | 8 | .90 | .20 | .70 |

The current contributions necessary for financing the program are determined by subtracting these rates from those suggested in table 14.

To protect the system against a precipitous drop in its reserve fund, the average contribution rate suggested above may be increased. It would be sound to increase the annual cost by 0.2 percent of taxable wages if the system starts operation without reserve funds, and by 0.1 percent if it starts with reserves amounting to 5 percent of annual taxable pay rolls. With this additional safeguard for the solvency of the program, the average pay-roll contribution rate (percent of taxable pay rolls) would be as follows:

| Reserve fund at beginning of operation as percent of taxable pay rolls | Uniform duration of benefits | | |
|---|---|---|---|
| | 14 weeks | 20 weeks | 26 weeks |
| 0 | 1.60 | 1.90 | 2.30 |
| 5 | 1.40 | 1.70 | 2.00 |
| 10 | 1.00 | 1.30 | 1.60 |
| 15 | .50 | .80 | 1.10 |

Thus, under normal conditions, a State that has accumulated reserves equivalent to 12.5 percent of annual taxable wages may finance a program providing for 26 weeks of benefits with a contribution rate of 1.3 to 1.4 percent. This rate may prove too low for States that have experienced a particularly heavy benefit load—such as Michigan or Massachusetts—and too high for the States with an exceptionally light benefit load—as the District of Columbia—but it is likely to fit the conditions in States whose pattern of employment and unemployment approaches that prevailing in the United States as a whole.

## How To Utilize Unemployment Insurance Reserves

The conclusion is inescapable: the existing system of State unemployment insurance, which at the time of its inauguration seemed to be threatened by insolvency, has proved to be overfinanced. It is still overfinanced in many States, despite the increased duration of benefits, shortened waiting period, and curtailed contribution rates in all State programs.

Several factors have been responsible for this situation: the extreme, though defensible, conservatism of the unemployment insurance program as incorporated in the original Social Security Act; the sudden upturn in labor-market conditions under the impact of the defense program and war boom; the comparatively light unemployment during mobilization and reconversion; the favorable employment outlook for the coming years.

Because of the concurrence of all these factors, the aggregate reserve funds of State unemployment insurance agencies are now about $5 billion larger than they need be as a comfortable contingency reserve. Even if all the State programs were revised to provide for 26 weeks of benefits and if contribution rates were curtailed as suggested in this article, the reserve funds would not decline much during the next 10 years. Furthermore, it is not certain that they will decline at all. If unemployment is stabilized on a level slightly higher than now, if the cyclical set-backs in production in the coming years are not very severe and are partly absorbed by the practice of sharing the work, and if Federal and State public works are timed in such a way as to offset the business cycle, the suggested contribution rates may prove to be too high and the Federal-State unemployment insurance system would have, by the end of the 1950's, the same amount of reserves as now. Under particularly favorable conditions, the reserve may even rise by that time to $10 billion.

It may be argued that no harm was done by the accumulation of reserves during the war and that no harm will result from their further rise under the hypothetical conditions described. During the war the surplus of collections over outlays in the un-

employment insurance system acted as a deflationary (anti-inflationary) measure. As long as there was a surplus of purchasing power in the Nation that could not be used because of the shortage of consumer goods, extraction from circulation of a few billion dollars of idle money tended to diminish the inflationary pressure on the economic system and had no adverse effect on the real earnings of workers or the standard of living of other consumers.

It may be argued also that the hypothetical conditions that might result in a further growth of reserve funds in the coming years presume the predominance of inflationary forces in our economy, and in such a situation a program with a surplus of collections over disbursements would be preferable to one operating in the red.

From the standpoint of economic theory, these are very serious arguments. It should be borne in mind, however, that unemployment insurance is essentially a tool of social policy rather than part of an economic program. The purely economic effect of an unemployment insurance program of the usual type is necessarily limited by the fact that, in the event of a heavy and long depression, the benefit payments can offset only a small fraction of the losses in earnings and purchasing power of the population. With contributions amounting to 1.3 percent of taxable wages and outlays fluctuating between 1 and 2 percent of wages, the contribution of such a program to the Nation's economic equilibrium throughout a business cycle cannot be very important. Its contribution to the security of individuals exposed to the risk of unemployment, however, is considerable. Not only does it protect millions of temporarily unemployed workers and their families from need and destitution, but it also gives a feeling of security to scores of millions of persons who are threatened by the possible interruption of their earnings.

Unemployment insurance has the same purpose as other branches of social security: to ensure a minimum income to those suffering the risk at the time the risk is incurred. It contributes to the general welfare by the

fact that in terms of satisfaction of needs, each dollar, in its operation, weighs more when it reaches the claimant than it weighed when it was collected.

From this point of view, accumulation and perpetuation of huge reserves constitute a serious shortcoming in the present program. Why should billions and billions of dollars be kept sterile when they could be put to work for the advantage of the community?

There is no formula that shows the optimum level of the unemployment insurance funds and how they should be used to serve most effectively the goals of social policy and the general welfare. A strong argument might be made, however, in favor of utilizing the surpluses of the funds for promoting the security of the working population with respect to those risks that are not covered by the present program. *Temporary* disability is such a risk and one that from the point of view of the affected individuals is not essentially different from the risk of unemployment. The main difference between the two hazards is that, in the case of temporary disability, the interruption of current earnings is combined with additional expenditures for doctors' bills and medicine.

It is realized that the issue of health protection and medical help to low-income groups of the population is too complex to be handled in connection with the problem of reserve funds of the unemployment insurance system. But at least one aspect of this issue— the problem of interruption in the flow of earnings—is very close to the objective of unemployment insurance. A worker can be protected against the risk of temporary disability in the same way as against the risk of unemployment and under the same program, properly amended.

Three States have already expanded their unemployment insurance programs to include temporary disability insurance. Unemployment insurance protection for railroad workers has also been extended to cover the risk of illness. In a dozen more States the problem is under consideration, in various phases of discussion and legislative action. The trend in this direction is perfectly clear, and it seems

appropriate to stress here how the discussion of the cost of unemployment fits into this new development in social security in the United States.

The conclusion of our analysis of the long-range costs of unemployment insurance is that this form of social insurance is much less expensive than it was believed to be 10 years ago and that it can be made still less expensive by the proper utilization of existing reserve funds. This conclusion implies that if, in the future, the community is willing to spend for the social security program the same fraction of current incomes as it was ready to put aside for unemployment insurance in 1935, it can protect its workers not only against the risk of unemployment but also against the risk of temporary disability.

According to the opinion of experts, satisfactory insurance against temporary disability might be financed by contributions at a rate of 1 percent of pay rolls, whether split between employers and employees as in old-age and survivors insurance or collected by a pay-roll tax on employers. The writer believes that a split arrangement is preferable because it would encourage direct participation of employees and employers in the program's operation. Starting with a reserve fund amounting to 10 percent of annual taxable pay rolls, a joint program of unemployment and temporary disability insurance—for 26 weeks of benefits—might be financed in this case by a combination of a 2-percent pay-roll tax and an 0.5-per-

cent employee contribution, with the provision that, if disbursements are larger than collections, the difference will be met during the next 5 or 10 years from the reserve fund.

Such an arrangement would require, of course, a revision of certain provisions of the Social Security Act and of State laws, and enactment of measures to protect the solvency of States that would start operation with insufficient reserves. The problem might be solved in different ways which cannot be discussed in detail in the present article. It suffices to state here that the difficulties are trivial in comparison with those the Nation has surmounted since the inauguration of its social security program.

vide payments for disability which are based on rank and which are payable, in general, only after relatively long service. An individual who is eligible for payment under one of the retirement systems as well as under veterans' legislation (which bases the payment on the degree of disability without regard to rank and which has only negligible service requirements) has the option of choosing the higher payment.

For the enlisted personnel of the Regular Establishment, the retirement systems compensate only permanent incapacity after 20 years of service; persons disabled before serving 20 years may draw disability compensation under the laws administered by the Veterans Administration at peacetime rates, which are slightly lower than those payable on the basis of war service. Under the provisions of these systems, officers may be retired for service-incurred disability without regard to length of service. One basis for disability retirement, for instance, is failure to pass a physical examination for promotion.

No data are available as to the number of disability retirants under the special systems for members of the Regular Establishment. The total number of persons retired—for age or service as well as for disability—was almost 63,000 in June 1947, and

payments for the fiscal year ended in 1947 amounted to about $130 million. The Veterans Administration was making payments in June 1947 to 43,000 veterans of the Regular Establishment for disabilities incurred in service other than during a war period; the annual value of these payments was $23 million.

*Summary*

Fairly well-rounded disability protection is available to almost 5 million members of the civilian labor force who are covered by special public retirement systems. For the approximately 33 million industrial and commercial workers covered by Federal old-age and survivors insurance in an average week, extended or permanent total disability is not compensable under public programs unless it results from a work-connected injury or accident (and even then benefits may be definitely limited as to duration and amount) or unless the disabled individual is a veteran who can meet the eligibility requirements for pension or compensation. And for an additional 16 or 17 million persons in agriculture or domestic service or in business for themselves, no public protection against disability is available unless they can qualify under the veterans' program.

Through the inclusion of provisions for premature retirement due to dis-

ability, the special public retirement systems are able to offer greater continuity of protection than they could otherwise achieve. An individual who qualifies for a disability annuity has the assurance that during his disablement he will receive some income —although perhaps only a small amount if his disability occurs after relatively short service. When he reaches the age at which members of the system retire for superannuation, his annuity is continued even though he may recover subsequently. If, on the other hand, he recovers before retirement age, his return to employment covered by the system is encouraged and he is given an opportunity to build up rights to a retirement annuity.

The special retirement systems differ in their relationships to the workmen's compensation programs covering the same groups of employees. In general, however, the protection which the worker has in the event of injuries resulting from his employment is reinforced—rather than duplicated—by the disability provisions of the special retirement system. The special system commonly picks up where the workmen's compensation program leaves off, through supplementing the amount of the workmen's compensation benefit or through continuing a benefit after workmen's compensation is no longer payable.