

# The Continuous Work-History Sample: The First 12 Years

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*What proportion of the Nation's workers continue in employment, year in and year out? Do relatively more men than women shift back and forth between employment in industry or commerce and other employment? How many workers are employed every quarter in the year?*

*To answer these and other questions, important in any study of the national economy, the Bureau of Old-Age and Survivors Insurance in 1941 began tabulating data of this type, based on a continuous work-history sample of workers covered by old-age and survivors insurance. Data for the years 1937 through 1948 are now available and are summarized in the following pages.*

MANY of the workers in jobs covered under old-age and survivors insurance in 1948 had been employed steadily during the program's first 12 years—from 1937 to 1948, inclusive. They made up a segment of the labor force totaling 11.8 million, or one-third the estimated number of covered jobs as measured by average monthly covered employment in 1948 and almost one-fifth of the average monthly total paid civilian employment in the United States in that year.

The steadily employed group was predominantly male; women employees represented less than one-fifth of the total. The median age of these workers was 46.2 years in 1948, as many as 38 percent being 50 years of age and over and 14 percent at least 60 years old. Not only did the persons in this group work at some time in every year, but the great majority were employed in practically every quarter of each year. Their median cumulative wage credits for the entire period amounted to nearly \$24,000, or an average of almost \$2,000 a year.<sup>1</sup> These and other summary data on continuity of employment and earnings are now avail-

able from the tabulations covering the first 12 years of the continuous work-history sample of the Bureau of Old-Age and Survivors Insurance.

## Nature of the Data

The opportunity to develop work-history statistics on a mass basis presented itself with the passage of the Social Security Act in 1935, under which there was set up a system of continuous reporting by employers and the recording by the Bureau of Old-Age and Survivors Insurance of quarterly wage information concerning employees in the industrial and commercial establishments covered by the program. The data, for the most part, are based on actual records maintained by the employers. Utilizing this information, the Bureau of Old-Age and Survivors Insurance originated the continuous work-history sample in 1941.<sup>2</sup> The first tabulations covered the 4-year period from 1937 to 1940, and the tabulations have been extended annually to cover the additional years. It should be pointed out that the data thus far include only segments of the working life cycles of individuals, but eventually the tabulations will cover the com-

plete work history of persons from the time they enter covered employment until retirement or death.

The current continuous work-history sample tabulations include 1 percent of all social security accounts established. The selections to the sample are made on the basis of digits in the account number. Once included, the account remains in the sample, which is augmented each year by accounts of those entering covered employment for the first time. Various tests have indicated that the sampling error in the continuous work-history sample approximates that which would result from a random selection of account numbers.

There are a number of limitations connected with the continuous work-history sample that must be kept in mind in analyzing the data. The principal limitations are due to the existence of "multiple" accounts, the difficulty of identifying all deceased and retired workers, the necessity of basing the tabulations only on information posted before a cut-off date, the limited coverage of employments under the program, and the legal restriction on the amount of wages that are taxable.

A number of individuals have taken out more than one account number, especially during the early years of the program. Some of these "multiples" have been identified, while others are still unknown. When a "multiple" becomes known, no attempt is made to combine the person's wage records until he applies for benefits. In recent years, however, careful scrutiny in issuing account numbers has kept the number of new "multiples" to a minimum. Thus, the continuous work-history sample tabulations are based on accounts and not on individuals, although, for most practical purposes, the difference between the two is believed to be so insignificant that the data may be considered as representing individual workers.

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<sup>1</sup> Because taxes were then collected only on wages up to \$3,000 a year, the figures based on "total" wages for the period would be even higher.

<sup>2</sup> For a more technical description of the sample, see "The Continuous Work History Sample Under Old-Age and Survivors Insurance," by Jacob Perlman and Benjamin Mandel, *Social Security Bulletin*, February 1944; "OASI Earnings Statistics and Their Uses," by B. J. Mandel, *Monthly Labor Review*, April 1950.

**Table 1.—Old-age and survivors insurance: Number and percentage distribution and average number of quarters worked, by number of years employed and by sex, 1937-48**

[1-percent sample]

Number of years employed	Number			Percent			Average number of quarters employed <sup>2</sup>		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total, 1-percent sample	1839, 967	510, 671	329, 296	100.0	100.0	100.0	19.14	21.82	14.99
1	106, 370	53, 781	52, 589	12.7	10.5	16.0	1.70	1.72	1.68
2	87, 548	43, 342	44, 206	10.4	8.5	13.4	4.18	4.23	4.13
3	79, 420	40, 814	38, 606	9.5	8.0	11.9	7.21	7.22	7.20
4	76, 549	41, 884	34, 665	9.1	8.2	10.5	10.42	10.42	10.43
5	74, 011	41, 179	32, 832	8.8	8.0	10.0	13.85	13.74	13.98
6	71, 820	40, 706	31, 114	8.6	8.0	9.4	17.70	17.45	18.01
7	60, 490	35, 635	24, 855	7.2	7.0	7.5	21.51	21.30	21.81
8	49, 086	31, 933	17, 133	5.8	6.3	5.2	25.36	25.36	25.36
9	43, 424	31, 090	12, 334	5.2	6.1	3.7	29.48	29.62	29.10
10	38, 902	28, 899	10, 003	4.6	5.7	3.0	33.54	33.71	33.05
11	34, 373	26, 040	8, 333	4.1	5.1	2.5	37.99	38.19	37.38
12	117, 974	95, 348	22, 626	14.0	18.5	6.9	46.01	46.13	45.47

<sup>1</sup> Excludes 177 workers for whom information is incomplete.

<sup>2</sup> A quarter of employment is defined here as a quarter in which the worker had earnings of \$1 and over.

Only persons who have drawn benefits under old-age and survivor insurance can be identified as "retired" employees in the continuous work-history sample. Since it is possible, however, for a worker to return to covered employment after retirement, the sample still includes workers retired under the program, as well as those who have retired under other arrangements. Moreover, little progress has been made in identifying accounts representing individuals who have died. Only deaths that have been the basis for applications for benefits under the system and a limited number of other deaths reported to the Bureau have been identified. The account numbers of all deceased persons are still included in the sample even after they are identified. Thus, of the 84.0 million workers for whom taxable wages were reported at one time or another before January 1, 1949, there were 79.2 million living individuals. The "retired" and deceased persons in the continuous work-history sample therefore comprise a considerable proportion of the "inactive" accounts, which must be kept in mind in drawing conclusions from the data.

In preparing the tabulations from wage reports submitted by employers, the cut-off date usually is the middle of the year following the last one to which the data apply. Since there is a certain amount of delinquency among employers in submit-

ting their reports, records of some workers and wages for certain of the years under consideration are not included in the tabulations. It should be pointed out, however, that the effect of the exclusions due to the cut-off date is not significant with respect to the over-all totals, as disclosed by specially prepared "carry-over" tabulations. This is particularly true of the cumulative data based on employment and earnings, as shown by the tabulations of the continuous work-history sample.

The 1937-48 tabulations of the sample reflect only the work history in covered employment. In 1948 the average monthly number of workers in jobs covered under old-age and survivors insurance was 35.3 million, as compared with 57.4 million in total paid civilian employment. Many individuals, however, shift between covered and noncovered employments so that, over a period of 12 years, 84 million persons were paid taxable wages at one time or another. When a person stays out of covered employment for a single quarter or a whole year, he may be employed in noncovered work, or engaged in unpaid family labor, or unemployed, or out of the labor force, but this information cannot be obtained from the continuous work-history data.

Beginning in 1951, nearly 10 million more jobs were brought under the coverage of old-age and survivors insurance. Among those whose employ-

ments were included for the first time are the urban self-employed (except for certain specified professions) with annual net earnings of \$400 and over, regularly employed agricultural and domestic workers, Federal civilian employees not covered by any of the existing civil-service retirement plans, employees of State and local governmental units not already included in separate systems (on a voluntary basis), employees of nonprofit institutions (on a voluntary basis), and various minor groups. The inclusion of these employments will enhance considerably the value of the work-history information under old-age and survivors insurance. Workers in these employments will be included in the tabulations covering the year 1951, but there is no way of obtaining their earlier work histories except for any periods they worked in covered employment before that year. Still in jobs excluded from the program are more than 10 million persons—a limited number of urban self-employed, farm operators, seasonal and migratory agricultural employees, day-to-day domestic workers, Federal civilian employees covered by existing civil-service retirement plans, employees of State and local governmental units already covered under existing systems, railroad workers, and others. The data in the future will not reflect the total work history of individuals until these employments are covered.

The continuous work-history tabulations show taxable wages and not "total" wages in covered employment. In general, for the period 1937-48, only earnings up to \$3,000 a year were taxed under old-age and survivors insurance, and during the war and post-war years there were many workers whose total wages exceeded that limit. It should be noted that the 1950 amendments raised the limit with respect to taxable earnings to \$3,600.

What kind of information is available for the accounts in the continuous work-history sample? A considerable amount of data may be obtained from the annual summary cards, which record quarterly and annual wages; the personal characteristics of workers; the characteristics of their employers in terms of type of industry and area; and labor mobility in terms of employer, industry, and

geographical changes. By adding the data for each year to similar figures accumulated for previous years, it is possible to develop a picture over the years showing employment and earnings patterns, cumulative wages, cumulative employment in terms of quarters and years worked, and labor mobility. Thus far, however, the continuous work-history tabulations have been limited, for the most part, to serve specific uses under the program—that is, to reflect the number of workers insured and their potential benefits—but it is hoped that future tabulations will afford a basis for more general uses of the data, especially as regards industry changes and other mobility data.

### Economic Background, 1937–48

Before analyzing the work history data for 1937–48, it is essential to look at the economic background of these 12 years. In general, this period represented two extremes—the first part including the end of the depression of the thirties and the remainder covering the relatively prosperous war and postwar years.

Unemployment declined from nearly 11 million in 1937 to less than 4 million at the end of 1941, when war production began to get under way. In 1937 and 1938 there was a depression within a depression, which was followed by some recovery in 1939, but it took the war to lift the economy out of the depression altogether. The depression was particularly hard on the very young and the very old workers, the former finding it difficult to get a footing in the labor market and the latter being forced out because of age discrimination in hiring.

The period from 1942 to 1948, because of war and postwar activities, was one of high employment. Unemployment dropped to the lowest levels ever reached in the history of the country. What unemployment remained was largely frictional. It was easy for anyone to obtain a job, whether he was young or old, male or female, a marginal or normal worker. Most of the young men, however, were soon drafted into the armed forces; since many of them did not return until 1946, gaps were created in their civilian work histories. The older workers once more found a place in

Table 2.—Old-age and survivors insurance: Percentage distribution of workers, by number of quarters and years employed, 1937–48

[1-percent sample]

Number of quarters with earnings of \$1 and over	Percentage distribution of workers by specified number of years employed												
	Total	1	2	3	4	5	6	7	8	9	10	11	12
Total, 1-percent sample	\$39,967	106,370	87,548	79,420	76,549	74,011	71,820	60,490	49,086	43,424	38,902	34,373	117,974
Percent.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	6.9	54.2											
2	5.5	27.4	19.0										
3	4.4	12.4	21.6	5.6									
4	3.8	6.0	19.1	9.7	1.7								
5	3.3		17.6	11.9	3.6	.5							
6	3.2		11.8	14.0	5.7	1.2	.1						
7	2.9		6.9	13.7	7.8	2.1	.4						
8	2.9		4.0	12.6	9.4	3.5	.7	.1	(2)				
9	2.7			13.3	10.3	4.7	1.3	.2	.1	(2)			
10	2.7			9.3	11.4	6.1	1.9	.4	.1	(2)	(2)		
11	2.6			6.1	11.4	7.5	2.6	.7	.2	(2)	(2)	(2)	
12	2.5			3.8	10.6	8.7	3.6	1.1	.3	(2)	(2)	(2)	(2)
13	2.4				11.4	9.6	4.6	1.7	.5	.1	(2)	(2)	(2)
14	2.4					8.0	10.7	5.5	2.1	.7	.1	(2)	(2)
15	2.3					5.1	10.6	6.8	2.8	1.0	.2	.1	(2)
16	2.2					3.6	9.7	8.0	3.6	1.3	.4	.1	(2)
17	2.1						9.8	9.1	4.5	1.8	.5	.1	(2)
18	2.1						7.3	9.7	5.6	2.3	.7	.2	(2)
19	2.0						5.1	9.5	6.3	2.9	1.0	.3	(2)
20	1.9						2.9	9.0	7.5	3.8	1.4	.4	.1
21	1.8							9.9	8.0	4.4	1.7	.5	.1
22	1.8							7.7	9.0	5.2	2.1	.7	.2
23	1.7							5.7	8.8	6.4	2.8	.9	.2
24	1.6							3.9	8.8	6.9	3.3	1.2	.3
25	1.5								11.3	7.5	4.1	1.6	.4
26	1.5								8.3	8.7	5.0	1.8	.6
27	1.4								5.5	8.7	5.8	2.5	.8
28	1.3									3.6	8.6	6.7	3.2
29	1.2										10.1	7.4	3.9
30	1.2										8.5	8.5	4.6
31	1.2										6.2	8.7	5.6
32	1.1										3.8	9.0	6.3
33	1.1											10.9	7.5
34	1.0											8.0	8.7
35	1.0											6.0	9.5
36	1.1											5.6	9.7
37	.9												12.1
38	.9												8.3
39	.8												5.9
40	.9												4.3
41	.8												
42	.8												
43	.8												
44	.9												
45	.9												
46	1.1												
47	1.8												
48	7.1												

<sup>1</sup> Excludes 177 workers for whom information is incomplete.  
<sup>2</sup> Less than 0.01 percent.

the labor market, and even the very old and other marginal employees obtained jobs and added years of employment to their work histories. Lastly, many women of all ages were drawn into the labor force to meet the demands of a tight labor market. Some of these women left employment during the postwar years, while others continued to work. The prognostications for mass unemployment following the cessation of hostilities were not fulfilled, and the relatively high level of employment was maintained during the years 1946, 1947, and 1948.

Even in normal times there is con-

siderable mobility of the working population, which affects the work history of individuals. Persons constantly move in and out of the labor force, between employment and unemployment within the labor force, and, when employed, from occupation to occupation, from employer to employer, from one industry to another, and from one locality to another. This mobility not only determines their employment patterns, but it also affects their earnings patterns. In the early ages, workers dovetail employment with school attendance, and after finishing school they may have intermittent employment until they

get a firm foothold in the labor market. Many women who go to work stay in employment until they get married, then retire to raise a family, and sometimes return to the labor market later. Furthermore, many women who stay at home also combine their household activities with part-time jobs or seasonal work. Mention already has been made of the intermittency of work by older workers caused by technological changes and restrictive hiring policies of employers. There must be added the effect of disability, retirement, or death on the work history of individuals.

It should be pointed out that, although many persons worked exclusively in industrial and commercial establishments covered under old-age and survivors insurance, there were also many others who shifted between covered and noncovered industries. This was especially true during and after the war. In the war years, for example, many workers shifted into covered employment from agriculture, domestic work, and other noncovered occupations, while others moved out of covered employment to work for the Federal Government. During the postwar years, on the

other hand, this shift was reversed, with many workers moving from covered employment back into agriculture and other noncovered occupations, while there was a fairly large-scale exodus out of the Federal Government into covered employment.

### Duration of Covered Employment

The in-and-out movement in covered employment results in considerable variation among workers in the duration of their covered employment, as shown in table 1, which classifies the individuals who worked at one time or another from 1937 through 1948 by the number of years in which they earned some wage credits.

In terms of the number of years with some wage credits, the largest group numerically is that composed of individuals who worked in every year of the period. It will be remembered that this group numbered 11.8 million persons, constituting 14 percent of all workers with taxable wages during 1937-48. If it had not been for the interruption in the covered employment of many individuals as the result of inductions into the armed forces, this number would have been

considerably larger. By contrast, the next largest group—10.6 million workers, or 13 percent of the total—consisted of those who were employed only during a single year within this period. Most of these workers constitute the fringe element in covered employment, although many of the 1-year workers who were employed during 1948 no doubt continued in covered employment in succeeding years. Except for the 12-year workers, the number of persons decreases gradually as the duration of employment increases; those who worked 11 years out of the entire period amounted to 3.4 million, or 4 percent of the total.

Relatively more women than men worked short periods of time during the 12-year span from 1937 to 1948. As many as 16 percent of the women with taxable wages during the period worked only 1 year, as against 11 percent of the men. In fact, the proportion of women exceeded that for men for each duration of employment of 7 years or less; the totals amounted to 79 percent for women and 58 percent for men. On the other hand, the proportion of men exceeded that for women for each duration of employment above 7 years. The greatest dif-

Table 3.—Old-age and survivors insurance: Number and percentage distribution of workers, by pattern of years employed and by sex, 1937-48  
[1-percent sample]

Pattern of years employed	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
Total, 1-percent sample.....	1 840,073	510,732	329,341	100.0	100.0	100.0
Workers employed in 1948.....	481,006	324,312	156,694	57.3	63.5	47.6
Continuous patterns.....	266,383	171,679	94,704	31.7	33.6	28.8
1937, '38, '39, '40, '41, '42, '43, '44, '45, '46, '47, '48.....	117,974	95,348	22,626	14.0	18.7	6.9
'38, '39, '40, '41, '42, '43, '44, '45, '46, '47, '48.....	6,017	4,007	2,010	.7	.8	.6
'39, '40, '41, '42, '43, '44, '45, '46, '47, '48.....	7,743	5,132	2,611	.9	1.0	.8
'40, '41, '42, '43, '44, '45, '46, '47, '48.....	9,568	6,112	3,456	1.1	1.2	1.0
'41, '42, '43, '44, '45, '46, '47, '48.....	15,064	8,667	6,397	1.8	1.7	1.9
'42, '43, '44, '45, '46, '47, '48.....	21,132	9,836	11,296	2.5	1.9	3.4
'43, '44, '45, '46, '47, '48.....	21,615	9,079	12,536	2.6	1.8	3.8
'44, '45, '46, '47, '48.....	15,648	6,911	8,737	1.9	1.4	2.7
'45, '46, '47, '48.....	14,391	7,357	7,034	1.7	1.4	2.1
'46, '47, '48.....	17,478	9,097	8,381	2.1	1.8	2.5
'47, '48.....	19,753	10,133	9,620	2.4	2.0	2.9
Intermittent patterns.....	189,091	139,630	49,461	22.5	27.4	15.0
11-year patterns.....	21,545	17,250	4,295	2.6	3.4	1.3
10-year patterns.....	21,539	17,452	4,087	2.6	3.4	1.2
9-year patterns.....	21,264	17,007	4,257	2.5	3.3	1.3
8-year patterns.....	19,076	14,437	4,639	2.3	2.8	1.4
7-year patterns.....	19,953	14,898	5,055	2.4	2.9	1.5
6-year patterns.....	23,769	17,662	6,107	2.8	3.5	1.9
5-year patterns.....	24,290	17,387	6,903	2.9	3.4	2.1
4-year patterns.....	18,975	12,565	6,410	2.3	2.5	1.9
3-year patterns.....	12,215	7,373	4,842	1.5	1.4	1.5
2-year patterns.....	6,465	3,599	2,866	.8	.7	.9
1-year patterns.....	25,532	13,003	12,529	3.0	2.5	3.8

See footnotes at end of table.

ference was found in connection with those who worked throughout the 12 years, 19 percent for men and 7 percent for women. The shorter duration of covered employment for women, as compared with that for men, may be attributed to the same factors mentioned earlier—the interruption of

work by marriage and raising of families, the tendency among housewives and other women to be employed intermittently, especially during the holiday seasons, and the fact that many women worked only for the duration of the war.

It is not sufficient, however, to

measure duration of covered employment in terms of number of years alone. There is no record under old-age and survivors insurance of the actual amount of time worked by individuals in the course of a year, but some approximation may be obtained by using the data on number of

Table 3.—Old-age and survivors insurance: Number and percentage distribution of workers, by pattern of years employed and by sex, 1937-48—Continued  
[1-percent sample]

Pattern of years employed	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
Workers not employed in 1948.....	319,067	186,420	172,647	42.7	31.5	52.4
Continuous patterns.....	157,869	92,980	93,919	22.4	15.4	25.5
1937, '38, '39, '40, '41, '42, '43, '44, '45, '46, '47.....	6,812	4,785	2,027	.8	.9	.6
1937, '38, '39, '40, '41, '42, '43, '44, '45, '46.....	6,809	4,505	2,304	.8	.9	.7
1937, '38, '39, '40, '41, '42, '43, '44, '45.....	6,901	4,510	2,391	.8	.9	.7
1937, '38, '39, '40, '41, '42, '43, '44.....	5,481	3,377	2,104	.7	.7	.6
1937, '38, '39, '40, '41, '42, '43.....	6,061	3,626	2,435	.7	.7	.7
1937, '38, '39, '40, '41, '42.....	7,623	4,553	3,070	.9	.9	.9
1937, '38, '39, '40, '41.....	7,236	4,011	3,225	.9	.8	1.0
1937, '38, '39, '40.....	8,428	5,310	3,116	1.0	1.0	1.0
1937, '38, '39.....	7,017	3,842	3,175	.8	.8	.9
1937, '38.....	8,791	4,934	3,857	1.0	1.0	1.2
1938, '39, '40, '41, '42, '43, '44, '45, '46, '47.....	579	298	281	.1	.1	.1
1938, '39, '40, '41, '42, '43, '44, '45, '46.....	616	276	340	.1	.1	.1
1938, '39, '40, '41, '42, '43, '44, '45.....	691	302	389	.1	.1	.1
1938, '39, '40, '41, '42, '43, '44.....	580	237	343	.1	(2)	.1
1938, '39, '40, '41, '42, '43.....	761	378	383	.1	.1	.1
1938, '39, '40, '41, '42.....	1,014	562	452	.1	.1	.1
1938, '39, '40, '41.....	1,020	559	461	.1	.1	.1
1938, '39, '40.....	1,344	734	610	.2	.1	.2
1938, '39.....	1,845	979	866	.2	.2	.3
1939, '40, '41, '42, '43, '44, '45, '46, '47.....	903	462	441	.1	.1	.1
1939, '40, '41, '42, '43, '44, '45, '46.....	1,032	517	515	.1	.1	.2
1939, '40, '41, '42, '43, '44, '45.....	1,155	593	562	.1	.1	.2
1939, '40, '41, '42, '43, '44.....	956	483	473	.1	.1	.1
1939, '40, '41, '42, '43.....	1,156	653	503	.1	.1	.2
1939, '40, '41, '42.....	1,654	1,061	623	.2	.2	.2
1939, '40, '41.....	1,755	1,108	677	.2	.2	.2
1939, '40.....	2,632	1,667	965	.3	.3	.3
1940, '41, '42, '43, '44, '45, '46, '47.....	1,149	537	612	.1	.1	.2
1940, '41, '42, '43, '44, '45, '46.....	1,132	478	714	.1	.1	.2
1940, '41, '42, '43, '44, '45.....	1,264	564	720	.2	.1	.2
1940, '41, '42, '43, '44.....	1,124	491	633	.1	.1	.2
1940, '41, '42, '43.....	1,566	858	698	.2	.2	.2
1940, '41, '42.....	2,083	1,325	758	.2	.3	.2
1940, '41.....	2,311	1,346	965	.3	.3	.3
1941, '42, '43, '44, '45, '46, '47.....	1,994	846	1,148	.2	.2	.3
1941, '42, '43, '44, '45, '46.....	2,160	859	1,301	.3	.2	.4
1941, '42, '43, '44, '45.....	2,488	1,026	1,462	.3	.2	.4
1941, '42, '43, '44.....	2,032	920	1,112	.2	.2	.3
1941, '42, '43.....	2,998	1,654	1,344	.4	.3	.4
1941, '42.....	4,135	2,420	1,715	.5	.5	.7
1942, '43, '44, '45, '46, '47.....	3,402	1,166	2,236	.4	.2	.7
1942, '43, '44, '45, '46.....	3,611	1,356	2,255	.5	.3	.8
1942, '43, '44, '45.....	5,229	2,053	3,176	.6	.4	1.0
1942, '43, '44.....	4,325	1,709	2,616	.5	.3	.8
1942, '43.....	6,313	2,825	3,488	.8	.6	1.0
1943, '44, '45, '46, '47.....	3,957	1,256	2,701	.5	.2	.8
1943, '44, '45, '46.....	4,623	1,509	3,114	.6	.3	.9
1943, '44, '45.....	6,681	2,252	4,429	.8	.4	1.3
1943, '44.....	6,761	2,177	4,584	.8	.4	1.4
1944, '45, '46, '47.....	3,078	1,097	1,981	.4	.2	.6
1944, '45, '46.....	3,041	1,300	2,341	.4	.3	.7
1944, '45.....	6,388	2,289	4,099	.8	.4	1.2
1945, '46, '47.....	3,092	1,312	1,780	.4	.3	.5
1945, '46.....	4,215	1,726	2,488	.5	.3	.8
1946, '47.....	4,837	2,257	2,580	.6	.4	.8
Intermittent patterns.....	171,168	92,440	78,728	20.4	18.1	23.9
10-year patterns.....	2,235	1,514	721	.3	.3	.2
9-year patterns.....	4,179	2,729	1,450	.5	.5	.4
8-year patterns.....	6,508	4,120	2,478	.8	.8	.8
7-year patterns.....	8,429	5,126	3,303	1.0	1.0	1.0
6-year patterns.....	10,261	6,070	4,291	1.2	1.2	1.3
5-year patterns.....	13,190	7,384	5,615	1.6	1.5	1.7
4-year patterns.....	15,558	8,607	6,951	1.9	1.7	2.1
3-year patterns.....	15,794	9,124	7,670	2.0	1.8	2.3
2-year patterns.....	13,088	6,902	6,186	1.6	1.4	1.9
1-year patterns.....	80,527	40,764	40,033	9.6	8.0	12.2

1 Excludes 71 workers for whom information is incomplete.  
2 Less than 0.01 percent.

quarters worked.<sup>3</sup> The average number of quarters worked ranged from 1.70 for persons employed in only 1 year to as much as 46.01 for those who worked every year during the period. It will be seen that the average number of quarters worked per year rose with each increase in number of years of employment. Thus, the 1-year workers averaged less than 2 quarters for the year, the 4-year workers about 2 1/2 quarters, the 8-year workers more than 3 quarters, and the 12-year workers nearly 4 quarters a year. There was little difference between male and female workers in the average number of quarters worked.

The extent to which individuals worked throughout the years during which they were employed may be seen further from the data shown in table 2, which presents a percentage distribution of workers, classified according to the number of quarters worked for each duration of covered employment.

According to these data, if a person worked steadily every year during the 12-year period, the chances are great that he will have worked every quarter during the 12 years. Thus, of the 12-year employees, as many as 52 percent worked during every quarter in each of the 12 years. Thirteen percent missed only 1 quarter during the entire period, and 98 percent of the total worked 3 or more quarters a year. Even among the 12-year employees, however, there were some whose attachment to the covered labor force was nominal, as evidenced by the fact that a few of them worked as little as 1 quarter during each of the 12 years in covered employment.

On the other hand, if an individual worked only 1 year in covered employment, the chances are that he will have worked only in 1 quarter during the year. Thus, as many as 54 percent of the 1-year workers were employed only in a single quarter during the year. About 27 percent worked 2 quarters; 12 percent, 3 quarters; and only 6 percent, during every quarter in the year. This distribution emphasizes the casual attachment to the covered

labor force of most persons with only 1 year of employment. It must be pointed out, however, that some of the 1-year workers took jobs in 1948 and undoubtedly continued in covered employment.

There was no such concentration in the number of quarters worked by persons who had 2-11 years of employment. The 6-year workers, for example, were employed from as little as a single quarter a year to every quarter during that period. There were 7 percent who worked 6-11 quarters; about 38 percent, 12-17 quarters; 51 percent, 18-23 quarters; and only 4 percent, as many as 24 quarters, or every quarter during the 6 years. Even the 11-year workers showed relatively little concentration in the number of quarters worked. Less than 1 percent worked from 11 to 21 quarters; about 12 percent, between 22 and 32 quarters; and the remainder, 33 or more quarters. The largest concentration—12.3 percent—consisted of those who worked 41 quarters. Only 6.3 percent worked during every quarter in the period.

### *Pattern of Covered Employment*

The work experience of individuals with wage credits during 1937-48 may also be summarized in terms of pattern of employment; table 3 shows the distribution of workers by type of pattern of years employed during the period.

An examination of this distribution indicates that the majority of the workers under the program are continuously employed in covered industries. Thus, of the 48.1 million workers in 1948, as many as 26.6 million, or well over half, had 2 or more years of employment that were consecutive. The largest group numerically was also that with employment during every one of the years in the period; this group constituted nearly half of those with continuous patterns. Of the remaining workers employed in 1948, 18.9 million had intermittent patterns of 2 or more years—that is, they worked in years that were not all consecutive. The interruptions in continuous employment were short for many workers—for example, for the more than 2 million who worked for 11 years out of the

12-year period. Many other persons with intermittent patterns would have had continuous employment had they not been drawn into the armed forces; their continuity of employment may thus have been interrupted from 1 to 5 years. Lastly, there were 2.6 million individuals with 1-year patterns who had worked in 1948 for the first time, and a large proportion of them undoubtedly continued in covered employment.

Even among the workers who left covered employment before 1948, the majority were continuously employed in covered industries for 2 or more years consecutively. Thus, of the 35.9 million workers with wage credits who were not employed in 1948, as many as 18.8 million, or more than half, had continuous patterns of 2 years or more. By contrast, 17.1 million had intermittent patterns. As many as 8.1 million worked in covered employment for only 1 year; these workers constituted a fringe element in covered employment.

The effect of the war and postwar prosperity on employment is shown by the data for some of the continuous patterns. For workers with taxable wages in 1948, as well as those not employed in that year, the number of individuals in the continuous patterns beginning in 1941 or later is larger than the number in continuous patterns that began in 1938, 1939, or 1940. This fact seems to indicate that the war demand for workers was met by many persons who had not been in covered employment before 1941; some of them were unemployed individuals who had been looking for work but not finding it, others were attracted into the labor force by higher wages and other factors, and still others shifted from noncovered to covered employment.

Generally speaking, relatively more men than women had long continuous patterns. Workers in the continuous patterns starting in 1940 or earlier, who were still employed in 1948, included 22 percent of all the men with wage credits during 1937-48 but only 9 percent of the women. On the other hand, the proportion who had continuous patterns that began in 1941 or later, and who still had employment in 1948, amounted to only 12 percent for men and 20 percent for women.

<sup>3</sup> A quarter of employment is defined here as a quarter in which the worker had earnings of \$1 or more.

This difference indicates the extent to which women entered the labor market during the war, as well as the extent to which many of them stayed on during the postwar years. All told, the proportion with continuous patterns who were still employed in 1948 accounted for 34 percent of the men and 29 percent of the women.

A somewhat similar situation is shown by the data on continuous patterns of workers not employed in 1948. These workers comprised 18 percent of the men and 29 percent of the women with taxable wages during 1937-48. The number with continuous patterns that began in 1940 or earlier included 12 percent of the men and 13 percent of the women. The proportion with continuous patterns that started in 1941 or later amounted to 7 percent for men and 16 percent for women. This contrast reemphasizes the fact that, though many women took jobs during the war years, a number of them did not remain in covered employment.

Workers employed in 1948 who had intermittent patterns comprised 30 percent of all the men and 19 percent of the women with wage credits during 1937-48. A higher proportion of men than of women was found in the intermittent patterns of each duration except those of 3-, 2-, and 1-year duration. In absolute numbers, there were almost as many women as men with patterns of 1 year.

Workers not employed in 1948 who had intermittent patterns constituted 18 percent of all the men and 24 percent of the women who had wage credits during the 12-year period, with the women showing a higher proportion than men in patterns from 1 to 6 years. For the 1-year pattern, the absolute number of women also nearly equaled that of men.

Still another measure of continuity of employment is in terms of insured status under the program. On the basis of the law in 1948, to be fully insured—that is, eligible for retirement as well as survivor benefits—a person had to have a quarter of coverage for each 2 quarters after 1936 or after he had reached age 21, whichever came later, and before age 65 or death. Ordinarily, a worker acquired permanently insured status by obtaining 40 quarters of coverage. A per-

son was currently insured—that is, eligible for monthly survivor benefits to be paid only to his child and the child's widowed mother—if he had 6 quarters of coverage out of the 13 immediately preceding death. As of January 1, 1949, out of an estimated 79.2 million living persons who had been in covered employment at some time during the period since 1937, there were 44.8 million who were insured, with 38.9 million either permanently or fully insured and 6 million currently insured only; 34.4 million were uninsured. The large percentage of workers insured under the program is ample proof of the general continuity of covered employment.

### Extent of Employment and Cumulative Wage Credits

Some indication of the extent of covered employment can also be obtained from a worker's cumulative wage credits<sup>4</sup> over a period of years. It should be remembered, however, that cumulative earnings—a worker's total earnings in covered employment since 1936—are a product of wage rates as well as duration of employment. Thus, cumulative wage credits cannot be taken as a substitute measure of the extent of employment but rather as a result of the two factors determining the flow of earnings year after year.

The distribution of all workers with taxable wages under old-age and survivors insurance during 1937-48 by cumulative wage-credit intervals shows a wide range of cumulative earnings (table 4). Nearly 9 percent of the employees had cumulative wage credits of less than \$100, a fact that again shows the nominal

<sup>4</sup> The term cumulative wage credits, as used in this article, refers to the total amount of wages credited to a worker's social security account and used in computing his benefit amount. Such wage credits include all taxable wages—before 1940, wages up to \$3,000 a year paid by any one employer to any worker with respect to covered employment; from 1940 on, all wages up to \$3,000 a year. In each of the years 1937-39, a small proportion of the workers who worked for more than one employer received more than \$3,000 in wage credits during the year; these workers might have had more than \$36,000 in wage credits at the beginning of 1949.

Table 4.—Old-age and survivors insurance: Percentage distribution of workers by cumulative wage credits and by sex, 1937-48

[1-percent sample]

Cumulative wage credits	All workers			12-year workers		
	Total	Male	Female	Total	Male	Female
Total, 1-percent sample.	100.0	100.0	100.0	100.0	100.0	100.0
\$1-99	8.7	6.9	11.4	(1)	(1)	(1)
100-299	7.2	5.5	9.7	(2)	(2)	(1)
300-599	6.6	5.2	8.7	(2)	(2)	(2)
600-1,439	11.1	9.1	14.2	(2)	(2)	0.1
1,440-2,159	6.3	5.3	8.0	0.1	(2)	0.2
2,160-2,879	5.1	4.3	6.4	0.1	0.1	0.3
2,880-3,599	4.3	3.7	5.3	0.2	0.1	0.4
3,600-7,199	15.6	14.3	17.3	1.9	1.1	5.6
7,200-10,799	9.9	10.5	9.0	5.0	2.6	15.0
10,800-14,399	6.6	7.7	4.9	8.7	5.0	24.4
14,400-21,599	8.7	11.9	3.9	24.4	21.1	38.2
21,600-28,799	6.3	9.8	1.0	35.1	40.4	12.8
28,800-35,999	3.1	5.0	0.2	21.0	25.4	2.7
36,000 and over	0.5	0.8	(2)	3.5	4.2	0.3

<sup>1</sup> No workers in sample cell.

<sup>2</sup> Less than 0.01 percent.

attachment of many workers to covered employment. About one-third of the workers had cumulative earnings of less than \$1,440 during the 12 years. At the other end of the distribution, only one-half of 1 percent had cumulative wages of \$36,000 or more, but approximately 10 percent had cumulative earnings of \$21,600 and over.

A somewhat different picture is obtained from the distribution by cumulative wage credits of the 12-year employees, most of whom have been working on a full-time basis. Less than 2 1/2 percent of these workers earned under \$7,200 for the 12-year period, or an average of \$600 a year. On the other hand, nearly 60 percent had cumulative wage credits of \$21,600 and over, or an average of \$1,800 a year. In fact, 3.5 percent earned \$36,000 and over, or an average of \$3,000 per year. The level of cumulative wages among the 12-year workers was considerably higher for men than for women. Thus, only a little more than 1 percent of the men earned less than \$7,200, as compared with nearly 6 percent of the women. Almost 70 percent of the men earned \$21,600 or more, as against 16 percent of the females. More than 4 percent of the men but less than one-half of 1 percent of the women earned \$36,000 or more.

The importance of duration of covered employment as an element in

**Table 5.—Old-age and survivors insurance: Average cumulative wage credits of workers, by sex, 1937-48**  
(1-percent sample)

Number of years employed	Median cumulative wage credits			Average wage credits per year		
	Total	Male	Female	Total	Male	Female
Total, 1-percent sample.	\$3,782	\$6,115	\$1,987	-----	-----	-----
1.....	94	97	91	\$94	\$97	\$91
2.....	480	541	426	240	271	213
3.....	1,161	1,284	1,050	387	428	350
4.....	1,984	2,252	1,742	496	563	436
5.....	3,165	3,636	2,738	633	727	548
6.....	4,900	5,455	4,269	817	909	712
7.....	6,552	7,435	5,611	936	1,062	802
8.....	8,382	9,559	6,473	1,048	1,195	809
9.....	10,528	12,027	7,476	1,170	1,336	831
10.....	12,705	14,380	8,648	1,271	1,438	865
11.....	15,385	17,277	10,091	1,400	1,571	917
12.....	23,564	26,159	15,160	1,964	2,097	1,263

the determination of cumulative wage credits may be seen from the data in table 5. Thus, while the median cumulative earnings of all workers amounted to \$3,782, the medians range all the way from less than \$100 for persons who worked only 1 year to nearly \$24,000 for those who worked every year during the 12-year period. The median cumulative wage credits for all male workers amounted to \$6,115, but the range was from less than \$100 to more than \$25,000. For all female employees, the median was \$1,987, with the range from less than \$100 to more than \$15,000.

Still another way of looking at the relation between duration of covered employment and cumulative taxable wage credits is to analyze the data obtained by dividing the median cumulative wage for each duration by the number of years in the period, thus showing the annual rate that persons had averaged in wages under the program. For all workers, these averages range from \$94 for individuals with 1 year's employment to \$1,964 for persons who worked every year in the entire period, 1937-48. The range was even wider for men, extending from an average of \$97 to one of \$2,097. For female workers the range was only from \$91 for 1-year workers to \$1,263 for 12-year employees. The averages increased gradually with the number of years of employment, but there was a very abrupt rise from the eleventh to the twelfth year. Thus, 11-year workers averaged \$1,400, as compared with \$1,964 for 12-year workers. The respective averages were \$1,571 and \$2,097 for men and \$917 and \$1,263 for women. This sharp increase may be due to the fact that a relatively large proportion of the 12-year workers belong to the higher occupational levels in the various industries and thus have higher wage rates as well as the greater continuity of employment shown in terms of number of quarters worked.

## Conclusions

This article has concerned itself with an analysis of the summary data covering the continuous work-history sample for the years 1937-48. A more detailed analysis of the data, especially when it is related to particular cells of workers, will throw additional light on continuity of employment and earnings during the period. Such an analysis, describing the work experience of individuals during the war and postwar years, especially in terms of sex and age distributions, would add to our knowledge of potential labor reserves and thus serve as a basis for the development of manpower policies in connection with the present emergency.

From the long-range standpoint, the usefulness of the data in the continuous work-history sample will be greatly enhanced by the extension of coverage to nearly 10 million jobs in 1950. With the tabulations of continuous work-history data based on employer, geographical, and industry changes, the future data should throw light on the extent of mobility among American workers in the course of a working lifetime. Future tabulations should also throw additional light on the incidence of employment and unemployment among individuals during years of depression and years of prosperity.

## SOCIAL SECURITY IN REVIEW (Continued from page 2)

Administration agreed to allow the States an extra month for filing returns for the first year an agreement is in effect.

The Bureau of Old-Age and Survivors Insurance has expanded its field facilities to handle the increased workloads resulting from the 1950 amendments. By the end of February, 31 additional field offices had been approved, bringing the total to 509. In addition, 74 new detached official stations have been established, bringing the total to 87; they will provide service in areas where the present workload does not justify a full field office staff.

IN JANUARY, as in December, public assistance rolls for aid to depend-

ent children and general assistance showed an increase, while for old-age assistance and aid to the blind they declined. The decrease in old-age assistance, which extended the downward trend to the fourth month, was smaller than in any of the 3 preceding months. The decline continued, however, to be fairly general; 39 of the 53 States reported reductions. The national drop in aid to the blind, the largest since July 1944, resulted largely from the sharp cut in the program in Texas, where as many cases as possible were transferred to old-age assistance. For the second month the aid to dependent children rolls increased. The December-January increase was considerably smaller than the seasonal upswing reported in previous years.

In anticipation of establishing pro-

grams of aid to the permanently and totally disabled, a number of States have been reporting cases receiving aid under this program when medical and social evidence indicated possible eligibility. Most of the cases had been on general assistance rolls. A few of these States reported a substantial reduction in January in the caseload of the new program and a corresponding increase in general assistance when, upon review, some cases were found to be ineligible for aid to the permanently and totally disabled under the criteria established by each State for determining permanent and total disability. Largely as a result of this change, a sharp drop occurred in January in the total number of cases reported as receiving aid to the permanently and totally disabled in

(Continued on page 29)