

# FAMILY STUDIES IN THE EASTERN HEALTH DISTRICT

V. JOB STABILITY FOR WHITE MEN, 1939 TO 1947<sup>1</sup>

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IT HAS been widely assumed, that, in our fluid society, an individual's attachment to a single occupation and industry is of short duration. As a consequence, few studies of the mortality of the population of the United States have been made by occupation and industry. It has been taken for granted that a cumulative effect on the length of life could not be associated with the one occupation and industry held at the date of death if a person had made frequent job changes during his lifetime.

The series of censuses of the Eastern Health District in Baltimore, through which the records of the same people made in 1922, 1933, 1936, 1939, and 1947 have been brought together, offer an opportunity to study the attachment of this group to an occupation and industry. This paper is an analysis of that factor for a part of the Eastern Health District census material.

## PREVIOUS STUDIES

Mortality studies by occupation are concerned only with a person's attachment to his *regular* occupation, since that is the job reported on the death certificate. Davidson and Anderson (1) found that persons over 55 years of age had averaged 28 years in the occupation which they reported as their regular one and persons of ages 35-54, 16 years. By major occupation group, the average number of years at their regular occupation varied from 18 for proprietors to 10 years for clerks.

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The Philadelphia Labor Market studies, reported by Bell and Palmer (2) while primarily designed to obtain data on unemployment in Philadelphia, also included a question on the length of service in present or last job. The results, tabulated from unpublished data, are shown in Table 1. The median number of years in present or last job increases quite regularly with age for both employed and unemployed men and women. The employed men and women over 45 years of age reported that they had been in their present jobs for an average of 15 and 11 years respectively. Since it is in this age group that most deaths occur, their stability is a strong factor in making occupational mortality studies possible.

An underlying assumption in occupational mortality studies is that deaths tabulated by the occupation reported on the

Table 1. Median length of service of previously employed white persons on present or last job, by age, employment status and sex. Philadelphia, 1937.

AGE IN YEARS	EMPLOYED				UNEMPLOYED			
	Men		Women		Men		Women	
	Number	Median Number of Years	Number	Median Number of Years	Number	Median Number of Years	Number	Median Number of Years
Total Reporting	38,674	7.1	14,513	4.1	7,964	4.5	2,721	2.6
16-19	1,748	.8	1,508	.8	429	.6	456	.5
20-24	4,764	2.2	3,553	2.7	1,108	1.6	742	2.0
25-29	5,077	4.4	2,608	5.4	1,014	3.2	454	3.2
30-34	4,749	7.0	1,649	7.0	807	4.6	251	4.0
35-39	4,565	8.8	1,424	6.9	740	5.9	212	5.7
40-44	4,628	11.1	1,185	7.8	860	6.8	185	6.0
45-49	4,109	12.9	927	9.0	779	8.1	134	7.2
50-54	3,456	14.4	715	11.3	712	10.1	123	7.3
55-59	2,397	16.0	421	11.3	585	11.2	74	8.7
60-64	1,760	19.1	310	13.5	513	12.2	60	7.7
65 and Over	1,421	20+	213	15.6	420	13.8	30	15.0

SOURCE: Unpublished data from EMPLOYMENT AND UNEMPLOYMENT IN PHILADELPHIA IN 1936 AND 1937. PART II: MAY 1937. (Through courtesy of Dr. Gladys L. Palmer of the University of Pennsylvania.) (Reference 2).

death certificate do actually come from the population at risk in that occupation. Dublin and Vane (3) made a study of the correspondence in occupation on two records, the occupation recorded at issuance of a life insurance policy and the occupation recorded at time of death. This comparison was made for 4,198 males over 15 years of age selected at random among the deaths occurring in August, September, and October, 1923. It was not possible to analyze the data by age at death or duration of the policy. Over all ages the authors found that 41.5 per cent of the matched records reported the same occupation. A higher proportion, namely 57.3 per cent, remained in the same industry, although not necessarily in the same occupation. The proportions varied, of course, with the several occupations, ranging from a minimum of 23.7 per cent for saloon keepers and bartenders to 74.6 per cent for tailors.

A small sample, a by-product of another study, yielded some information on the correspondence between census records and death certificates in the Eastern Health District (4). Death records were made available by the Baltimore City Health Department for 308 white men, enumerated in the 1936 Eastern Health District Census, and over 45 at that time, who had died between 1936 and 1947. It was found that on many of the death certificates the occupation was given but the industry was omitted. Comparing occupation and industry on the death certificate and on the census schedule when both items were reported, or occupation only when industry was not reported, the two records agreed for 60 per cent of the men who died between 45-64 years of age, and for 48 per cent of those who died at ages 65 and over. For these two age groups, persons who had retired accounted for 13 per cent and 28 per cent of the paired records. No agreement was indicated in 27 per cent of the records of the men 45-64 years of age, and in 24 per cent for those 65 years and over. The study suggested that with a little extra care, directed towards occupation and industry returns on the death certificates made

by funeral directors, sufficiently accurate information should be available on which to base occupational mortality rates.

#### CLASSIFICATION OF OCCUPATION AND INDUSTRY

Studies of occupation and industry generally classify the data obtained according to the "Alphabetical Index of Occupations and Industries" issued by the Population Division of the Bureau of the Census. Such indexes have been in use in the Bureau since 1910. The 1948 edition (5) used in this study represents a revision and expansion of the 1940 index based primarily on the experience of the 1940 census. It contains an exhaustive list of occupation terms classified into 220 occupations, which can be combined into eleven major occupation groups. Each of the 220 occupations is identified by a three-digit code, of which the first digit indicates its major group. The industries are divided into 131 groups each identified by a two-digit code. These can be recombined into twelve major industry groups. In the 1939 census of the Eastern Health District 175 occupations and 116 industries of the total categories in the code are represented. The frequency in each of 135 of the occupation classes is less than 25, while in the industry groups only 66 categories contain fewer than 25 persons. Because of the greater variety of occupations reported, the occupation attachment in the District should be less than the industry attachment.

The occupation classification is based on the nature of the work done. Every effort has been made to keep it quite independent of other variables. Because specialized occupations in modern mechanized industries are not well described, and because of the belief that these occupations, while they may differ in task details, are subject to essentially the same occupational environment, an industrial rather than a strictly occupational subdivision of workers has been made in certain groups. These groups are: proprietors, managers, and officials, not elsewhere classified; clerks, (n.e.c.); foremen and inspectors, (n.e.c.); operatives and kindred workers (n.e.c.); and

laborers, (n.e.c.). The concentration of people in the Eastern Health District found in these five groups created a problem in measuring occupational stability, because no occupation change can be measured within the group. In the order named, these groups contain 6.6, 5.8, 2.0, 16.3, and 6.0 per cent of the total employed groups.

The classification gives every job both an occupation and industry code. For those occupations that can occur in only one industry, a further problem in measuring stability arises, since every change in such an occupation is necessarily accompanied by a change in industry. For example, a taxi-driver is always in the industry taxi cab service; physician, lawyer, barber, shoemaker, are occupations that are concentrated so highly in one industry class that they can be coded to their respective classes even when no industry is specified. For these jobs, either both occupation and industry will remain the same, or both will change.

Even though the classification code was designed for household enumeration (6), some difficulties were met in classifying the census returns on the Eastern Health District schedules. The Bureau of the Census has encountered similar problems in the decennial censuses. They have been described in detail in the Census volumes and will only be summarized here.

The most serious problem is that of the vocabulary used to describe manual occupations. The census return is usually made by a housewife, who may not know the worker's exact occupation, or knowing it, may lack the technical vocabulary to describe it accurately. The housewife's vocabulary is still that of the well-known crafts; but craft terms no longer describe the work content of the occupation as it has changed under industrialization. Any worker in the garment industry may be returned as a tailor. He may actually be a cutter, marker, trimmer, baster, finisher, or button-hole maker. The occupational code differentiates between these terms according to the specific task performed within the industry. A man returned in 1939 as a tailor in a shop is classified as 360:65,

tailor: custom tailor shop, while the same man returned in 1947 as a cutter in a pants factory becomes 496.06, semiskilled operative: clothing manufacture. In the present study, he is observed to have changed both occupation and industry. Actually, the only change may be the improvement in his wife's vocabulary. Occupations in new industries where the manufacturing processes have no corresponding craft may be described even less accurately.

The housewife's returns for industry are often in general terms. Returns such as "auto co.," "bus co.," "oil co.," are common both in the Eastern Health District and the Federal censuses. The census classification divides "auto co." into manufacturing, service and repair, wholesale sales, retail sales, etc., each assigned to a different class. Edwards (7) has discussed such returns which the Bureau of the Census found most troublesome and indicated the type of entries in which the choice of code would be left to the coder.

#### THE RESPONSE VARIATION

The combination of job, informant, enumerator, coder, and code produces a classification for each job. Through the variations described in the previous paragraphs, it is possible to start with the same job and reach a different classification. This error has been labeled "response variation." In the present study, a person whose job classification is not the same on both censuses is considered to have changed his job. How large a part of this change is "response variation" becomes an important problem. A rough measure of its size can be obtained by enumerating the same population twice within so short a time period that true job changes are negligible.

Such a study was made as part of the census of unemployment in Philadelphia in 1937 (2) in which 5.8 per cent of the households included in the original survey were revisited by a different interviewer within a week or ten days after the first visit. The difference in returns for the occupations of people in the labor force was 21.8 per cent and the difference in the returns for industry, 16.7 per cent.

It seems reasonable to assume that the response variation for the Eastern Health District study population should be much smaller than that found in the 1937 Philadelphia study. The latter covered a random sample of the Philadelphia population at a time when 20 per cent of the population over 16 years of age were unemployed, and it included both white and nonwhite men and women. The present study considers only returns for white males who have been living in the Eastern Health District from 1939 to 1947. The correlation between remaining in the District and remaining on the job is probably high; and variations in description should decrease when, by virtue of long years in the same job, the family has become thoroughly acquainted with the wage earner's work. While it is not possible to estimate the amount of reduction in the response variation, the use of a stable, employed, white male population should bring it below the 22 per cent for occupation and 17 per cent for industry found in the Philadelphia study. The stability determined for the Eastern Health District group will be under-estimated by the response variation which is erroneously interpreted as job change.

#### SOURCE OF DATA AND METHOD OF STUDY

The history of the Eastern Health District, the purpose and the nature of the census surveys have been described in "Family Studies in the Eastern Health District I, II and IV." (8, 9, 10). The 1947 census, like the 1939, was planned and supervised by the Department of Biostatistics of the School of Hygiene and Public Health of the Johns Hopkins University. The information was collected on a household basis, the members of a given household being listed on one schedule. Each individual was described in terms of his age, race, sex, marital status, employment status, occupation and industry. The enumerators in both surveys were public health nurses of the Baltimore City Health Department and college students. After the enumeration had been completed, each name returned in 1947 was looked up in a name file which included all the

people recorded on the 1922, 1933, 1936, and 1939 schedules. Where the person was identified by name, age, sex, and residence as the same individual who had been enumerated previously, his 1939 schedule number was entered against his name on the 1947 census schedule. About 50 per cent of the population of Wards 6 and 7 were matched. The present study is limited to the matched population of Wards 6 and 7, the area which made up the original Eastern Health District.

This study compares the employment status, occupation, and industry reported in 1939 and 1947 for each white male who was fourteen years of age or older in 1939, and of course, identified in 1947. Age reported in 1939 was accepted and used throughout the study to avoid the difficulties that would arise when the 1939 and 1947 reported ages did not correspond exactly. The employment status was coded according to the categories established in the instructions to the Eastern Health District enumerators. The population studied was classified by occupation and industry within each employment status group. The "Alphabetical Index of Occupations and Industries: 1948" was used to code industry and occupation. The 1947 schedule and the 1939 schedule for the same individual were coded at the same time. This practice permitted the coder to verify the identification, and, in case of vague entries for occupation or industry, to use the information on both schedules to make the best possible classification. The 1940 Baltimore City Directory, the Maryland State Department of Labor and Industry's List of Industries and Manufacturers in Maryland, 1948, and the 1948 Telephone Directory were also used to clarify the entries. At times, there was no alternative but an arbitrary decision, reached with a knowledge of the Baltimore industrial picture, and used consistently throughout the coding.

#### PARTICULARS OF THE IDENTIFIED POPULATION

A study of a population which has survived in the same area over a period of eight years automatically selects a group by factors which tend to make it stable. Luykx (10) has



analyzed the population common to the Eastern Health District censuses of 1933, 1936, and 1939 to show the relationship between permanence of residence and age, marital status, economic status, home ownership, and family size. The 1947 survivors of the 1939 population exhibit some of the same characteristics found in his study. The proportions of the white male population identified varied with age. While 45 per cent of the total were still in the District in 1947, in the age groups, 35-44 and 45-54, over 50 per cent remained in the District. Married men were more likely to stay in the District than single or widowed men. For all age groups, 50 per cent of the men married in 1939 were identified, while 39 per cent of those who had been single at that time remained in the District.

The census records have not been checked for deaths occurring in Baltimore. Increasing proportions of each age group after age 14 will be lost for possible identification because of death. By applying the resident death rates of Baltimore white males for the average of the years 1939, 1940, and 1941 to the age groups over 35, the numbers expected to survive from 1939 to 1947 were determined. The proportions of the expected survivors identified were, for the age groups 35-44, 45-54, 55-64, and 65-74, 58 per cent, 68 per cent, 70 per cent, and 80 per cent, respectively.

The employment status of the identified men for 1939 is shown in Table 2. The percentage in each class is about the same as the proportions reported for the Eastern Health District population in the 1940 Federal Census (11). The greatest difference appears in the groups "unable to work" and "other and not reported," which include the disabled and the retired. These groups consist of older people among whom most of the deaths occur and would not be expected to be identified in the same proportions as the groups of middle-aged men. The District picture is consistent with the Baltimore City distribution, shown in the same table. Neither the differences between the City and the District, nor the District and the identified population are large enough to be important.

EMPLOYMENT STATUS	BALTIMORE 1940 <sup>1</sup>		EASTERN HEALTH DISTRICT 1940 <sup>1</sup>		1939 EASTERN HEALTH DISTRICT POPULATION IDENTIFIED IN 1947	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
WHITE MALES, 14 YEARS OLD AND OVER	276,120	100.0	18,792	100.0	7,569	100.0
Employed, Except on Emergency Work	203,815	73.8	13,873	73.8	5,996	79.2
Employed on Public Emergency Work	2,959	1.1	237	1.3	107	1.4
Seeking Work	16,196	5.9	1,232	6.5	571	7.5
Engaged in Household work	1,453	0.5	101	0.5	2	0.0
In School	21,563	7.8	1,592	8.5	629	8.3
Unable to Work	14,716	5.3	1,198	6.4	261	3.6
Other and Not Reported	13,143	4.8	558	3.0		
In Institutions	2,275	0.8	1	0.0	3	0.0

<sup>1</sup> SOURCE: SIXTEENTH CENSUS OF THE UNITED STATES. POPULATION VOL. III. THE LABOR FORCE.

Table 2. Employment status of white males, 14 years old and over, Baltimore, 1940; the Eastern Health District, 1940; and the 1939 Eastern Health District population identified in 1947.

The major analyses of the number of people remaining in an occupation and in an industry are based on the census returns for the group of identified white males who were employed in both the 1939 and 1947 censuses. Their experiences are studied within the major occupation groups designated by the Census classification. The distribution of their occupations in 1939, compared with the Eastern Health District and the City of Baltimore in 1940, is shown in Table 3. The percentage in any occupation group in the District and in the study population do not differ by more than 3 per cent. The Eastern Health District differs from the City in having a greater proportion of manual workers, skilled, semi-skilled, and laborers,

MAJOR OCCUPATION GROUP	BALTIMORE, 1940 <sup>1</sup>		EASTERN HEALTH DISTRICT, 1940 <sup>1</sup>		1939 EASTERN HEALTH DISTRICT POPULATION IDENTIFIED IN 1947 <sup>2</sup>	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
EMPLOYED WHITE MALES, EXCEPT ON EMERGENCY WORK	203,815	100.0	13,873	100.0	5,414	100.0
V. Professional and Semiprofessional Workers	14,097	6.9	661	4.7	167	3.1
0. Farmers and Farm Managers	94	0.1	—	0	2	0.0
1. Proprietors, Managers and Officials	24,262	11.9	971	7.0	400	7.4
2. Clerical, Sales, and Kindred Workers	44,884	22.0	2,353	17.0	878	16.3
3. Craftsmen, Foremen, and Kindred Workers	45,918	22.5	3,747	27.0	1,619	29.9
4. Operatives and Kindred Workers	43,660	21.4	3,853	27.8	1,545	28.6
5. Domestic Service Workers	156	0.1	8	0.1	7	0.1
6. Protective Service Workers	6,383	3.1	1,079	7.8	203	3.7
7. Service Workers, Except Domestic and Protective	6,870	3.4				
8. Farm Laborers and Foremen	183	0.1	—	0	2	0.0
9. Laborers, Except Farm and Mine	15,617	7.7	1,140	8.2	355	6.6
Occupation Not Reported	1,691	0.8	61	0.4	39	0.7

<sup>1</sup> SOURCE: SIXTEENTH CENSUS OF THE UNITED STATES. POPULATION VOL. III. THE LABOR FORCE.

<sup>2</sup> Employed in both 1939 and 1947 censuses.

Table 3. Distribution by major occupation groups of employed white males (except on emergency work) in Baltimore, 1940; the Eastern Health District, 1940; and in the 1939 Eastern Health District population identified in 1947.

and smaller proportions of professional people, proprietors, and clerical and sales people.<sup>2</sup> The highest proportion of survivors in the District population is found in the skilled worker group and the lowest in the professional class, which confirms Luykx' (10) findings. In the characteristics, age, marital status, employment status, and major occupation groups as reported in 1939, the men who remained in the Eastern Health District from 1939 to 1947 are not essentially different from the population from which they came.

<sup>2</sup> For the text of the present paper, the terms "skilled" and "semi-skilled" workers refer respectively to the major occupation groups, "craftsmen, foremen and kindred workers" and "operatives and kindred workers."

## THE TIME PERIOD STUDIED

In comparing data obtained for the same population in 1939 and in 1947, any change found between the two years is made up of three factors. The first is the effect of the aging of the population. A man 25 years of age in 1939 is 33 in 1947; he may have changed his occupation by advancing in his trade or business. A 65 year old man may have had to take lighter work in order to remain employed. The second change measured is the effect of labor conditions in the two years selected; and the third is the actual variation in occupational stability (including response variation) that takes place regardless of age and the labor market. Ideally, the study should isolate the third part of the total change; in practice, it cannot be separated from the other two. At best, it can be established that the change introduced by the unusual conditions of 1939 and 1947 is not important.

Over the time period, 1910–1940, Edwards (7) observed that the proportion of the labor force in the professional, clerical, and semi-skilled groups was increasing, while that part composed of proprietors, skilled and unskilled workers was decreasing. The war years complicated, and may even have temporarily reversed this trend. At first glance, it may seem impossible to study stability in occupations from 1939 to 1947. But these dates actually span the period of upheaval. The year 1939 saw the beginning of war production, the sharp rise in the number of persons in the labor force, which reached its peak in 1945, and which, by 1947, had contracted to more normal proportions through the discharge of most of the armed forces, the withdrawal of school-age men, and men of retirement age (12). The diversity of industries in Baltimore favored stability. Plants could convert to war production and reconvert to peace-time products without displacing personnel. It was easily possible for a tailor or a steel worker to remain in the same occupation and industry filling Army orders in 1943 and civilian needs in 1947.

Comparisons of the occupation distribution for both cen-

suses show the similarity of the composition of the labor force in the two years studied. The only consistent difference in all age groups was a decline in the percentage of laborers in 1947 as compared with 1939. Changes found in occupations for individuals should therefore be principally a combination of shifts because of age and personal choice, without perceptible time influence.

ANALYSIS

STABILITY IN A JOB BY AGE

In order to analyze the change in occupation and in industry that occurred from 1939 to 1947 without the additional variable of the differences between "present" and "usual" occupation, only the 5,414 men who were employed in both 1939 and 1947 were studied for measures of stability. Since occupation was not stated for 145 of these, there were 5,269 individuals available for detailed study. The coded returns for 1939 and 1947 were compared mechanically in four ways: (1) the number for whom the occupation and industry coded

Table 4. Comparison by age group of classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for the identified white males employed at both census dates.

AGE IN 1939	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947		SAME OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947		DIFFERENT OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947		DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947		TOTAL	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
ALL AGES <sup>1</sup>	2,212	42.0	538	10.2	926	17.6	1,593	30.2	5,269	100.0
15-24	92	12.7	66	9.1	106	14.6	461	63.6	725	100.0
25-34	454	32.6	144	10.3	281	20.2	513	36.9	1,392	100.0
35-44	696	49.0	163	11.5	262	18.5	298	21.0	1,419	100.0
45-54	690	55.6	114	9.2	208	16.7	230	18.5	1,242	100.0
55-64	238	56.9	44	10.5	61	14.6	75	18.0	418	100.0
65 yrs. and Over	33	55.0	5	8.3	7	11.7	15	25.0	60	100.0
Age Unknown	9	—	2	—	1	—	1	—	13	—

<sup>1</sup> Excludes 145 men whose occupations were reported unknown in either 1939 or 1947.

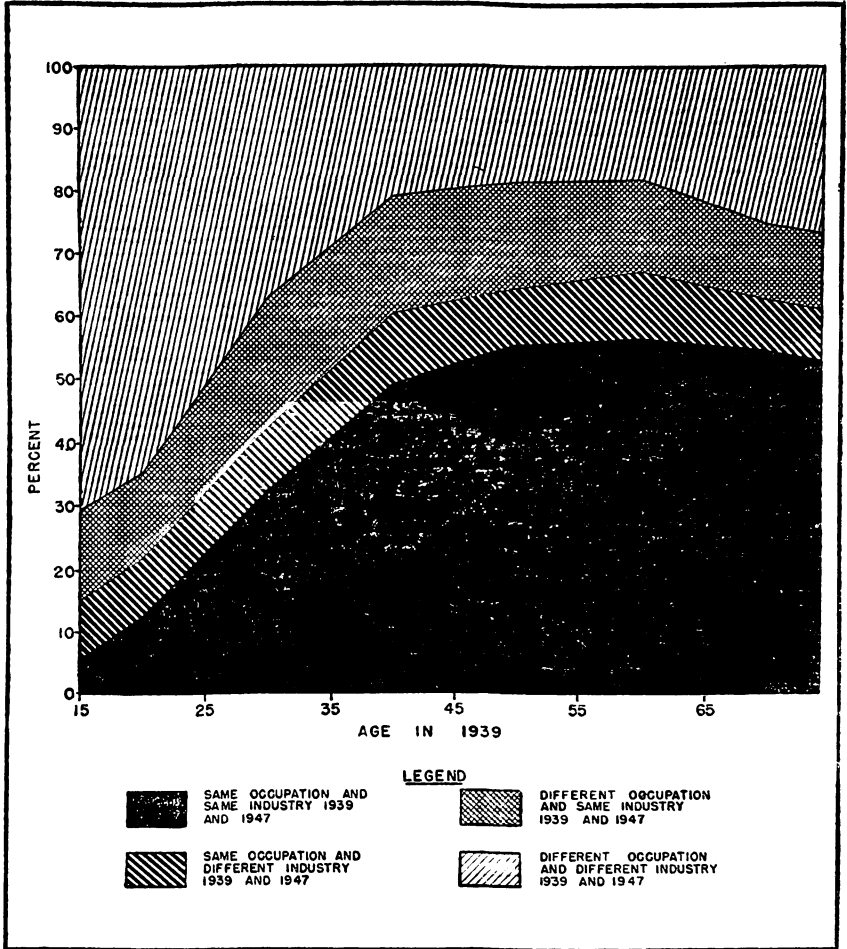


Fig. 1. Job stability by age. Percentage distribution by age in 1939 of identified white males, employed at both censuses, reported in same or different classified occupation and industry, Eastern Health District censuses, 1939 and 1947.

exactly alike in both years were counted, (2) the number for whom the occupation code was the same, but the industry code was different, (3) the number for whom the occupation code was different but the industry code was the same, and (4), the number for whom both occupation and industry codes had changed.

These four types of change are presented in Table 4 by the 1939 age of the men studied and shown graphically in Fig-

ure 1. The stable group who remained in the same occupation and industry in both censuses rises very rapidly with age, reaching a steady proportion of 55 per cent after age 45. Adding the percentage who remain in the same occupation, but not in the same industry, results in an approximate 10 per cent increase at every age. For all ages, occupation attachment thus becomes 52 per cent as compared with 42 per cent found remaining in the same occupation and the same industry. Industrial attachment is even greater, the average for all ages being 60 per cent. Changes in occupation within the same industry may represent promotions. The proportion making this type of change decreases steadily with age from a maximum of 20 per cent at age 25-34 years to 12 per cent over 65 years of age.

#### STABILITY IN A JOB

The four types of change in job were then tabulated for each classified occupation.<sup>3</sup> The frequency in many of the classified occupations is small. The character of the job changes cannot be observed easily for these classes until the results are summarized by major occupation groups. This has been done in Table 5 and in Figure 2. For some occupations, however, the stability in either occupation or industry is so marked as to be impressive in spite of the small frequency. The classes in which there were more than 10 men in 1939, and which had a stability of at least 70 per cent in either occupation or industry are listed in Table 6.

These major groups in Table 5 are distinguished by the first digit of the occupation code; the first three classes have each been subdivided once, following the practice of the Bureau of the Census in publishing occupation data. The two divisions of the proprietor, manager, and official class are: first, the proprietors, managers, and officials of wholesale and retail businesses, and second, all other people who fall into this major

<sup>3</sup> Appendix Table 1 presents these changes for each classified occupation in which there were 5 or more workers in 1939 who were identified in 1947. The detailed tabulations for all occupations are available in the files of the Department of Biostatistics of the School of Hygiene and Public Health.

occupation group. The professional class has been split simply into professional and semi-professional; the clerks and kindred workers divided into the clerical occupations and the salesmen.

Since age is correlated with stability, the age distribution in each occupation will influence the stability in that occupation. An examination of the ages of people in the occupation groups that are used in Table 5 showed that the clerks, salespeople, semi-skilled workers, and laborers are the younger occupation groups. The data in this table indicate that these are also groups of low stability; but each group shows changes characteristic of the kinds of occupations in it.

Professional people are the group of highest stability. Seventy-two per cent of those in the professions in 1939 were in

Table 5. Comparison by major occupation group in 1939 of the classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for the identified white males employed at both census dates.

MAJOR OCCUPATION GROUP IN 1939	CENSUS CODE NUMBER	SAME OCC. AND SAME IND. IN 1939 & 1947		SAME OCC. AND DIFF. IND. IN 1939 & 1947		DIFF. OCC. AND SAME IND. IN 1939 & 1947		DIFF. OCC. AND DIFF. IND. IN 1939 & 1947		TOTAL	
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
<b>ALL OCCUPATIONS<sup>1</sup></b>		2,212	42.0	538	10.2	926	17.6	1,593	30.2	5,269	100.0
Professional Workers	V00-V52	79	71.8	8	7.3	5	4.5	18	16.4	110	100.0
Semiprofessional Workers	V60-V94	28	50.9	7	12.7	8	14.6	12	21.8	55	100.0
Proprietors, Wholesale and Retail	156:60-79	177	67.6	28	10.7	10	3.8	47	17.9	262	100.0
All Other Prop., Managers and Off.	1-ex. abve	71	53.0	5	3.7	28	20.9	30	22.4	134	100.0
Clerical and Kindred Workers	200-266	167	32.4	55	10.7	136	26.3	158	30.6	516	100.0
Salesmen	270-298	114	33.0	13	3.8	63	18.3	155	44.9	345	100.0
Craftsmen, Foremen and Kindred Wkrs.	3-	767	48.0	244	15.3	242	15.2	344	21.5	1,597	100.0
Operatives and Kindred Workers	4-	522	34.6	133	8.8	293	19.4	562	37.2	1,510	100.0
Protective Service Workers	6-	132	66.3	8	4.0	21	10.6	38	19.1	199	100.0
Service Wkrs. Ex. Prot. and Dom.	7-	97	50.3	6	3.1	21	10.9	69	35.7	193	100.0
Laborers, Ex. Farm and Mine	9-	57	16.9	31	9.2	98	29.1	151	44.8	337	100.0

<sup>1</sup> Includes 11 farmers, farm laborers, and workers in domestic service.



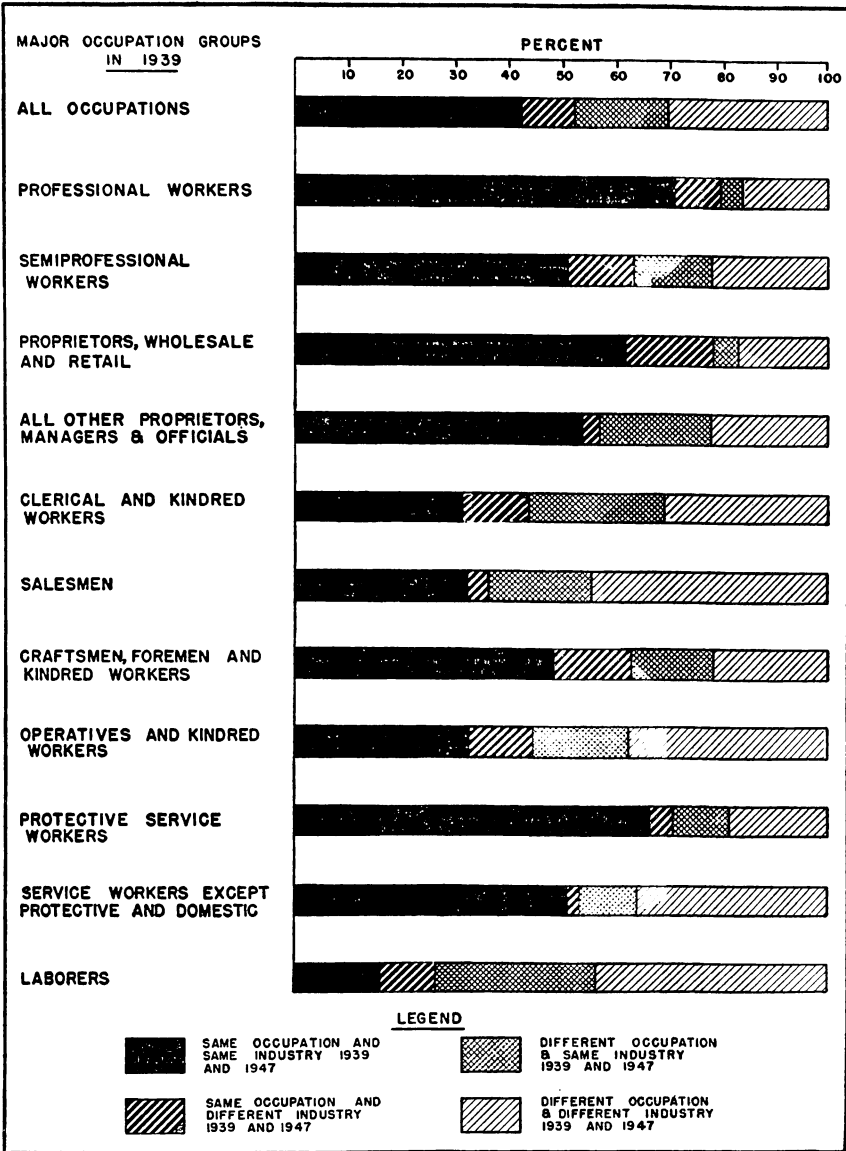


Fig. 2. Job stability by major occupation group. Percentage distribution by major occupation group in 1939 of identified white males, employed at both censuses, reported in same or different classified occupation and industry, Eastern Health District censuses, 1939 and 1947.

the same job in 1947. This percentage is increased to 79 when those people who continue to follow the same profession but in another industry are included. The semiprofessional people,

Table 6. Occupation classes<sup>1</sup> in which 70 per cent or over of the 1939 number in that class remained in either the same occupation or the same industry in 1947.

OCCUPATION CLASS		OCCUPATION STABILITY	INDUSTRY STABILITY
Number	Title	Per Cent	Per Cent
V08	Clergymen	90.9	90.9
V26	Lawyers and Judges	100.0	84.6
V30	Pharmacists	100.0	94.4
V32	Physicians and Surgeons	100.0	100.0
V70	Technicians and Assistants, Laboratory	80.0	75.0
130	Officers, Pilots, Pursers, Eng., Ship	62.5	75.0
156	<i>Proprietors, Managers, and Officials:</i>		
156:60	Wholesale Trade	71.5	50.0
156:61	Food Stores, Exc. Dairy Products	82.9	78.3
156:65	Apparel and Acc. Stores, Exc. Shoes	72.7	81.8
156:71	Eating and Drinking Places	72.7	65.9
156:V9	Construction	53.3	86.6
222	Mail Carriers	90.9	100.0
300	Bakers	61.9	73.0
304	Boilermakers	72.7	81.8
306	Brickmasons, Stonemasons and Tile Setters	81.8	77.3
318	Inspectors (n.e.c.)	47.4	73.7
340	Painters, Construction and Maintenance	77.3	63.2
342	Paperhangers	61.5	71.8
344	Pattern and Model Makers, Exc. Paper	72.7	72.7
348	Plumbers and Gas and Steam Fitters	77.7	61.1
354	Shoemakers and Repairers (not in factory)	78.1	78.1
360	Tailors	74.8	73.2
364	Upholsterers	71.4	71.4
392	Pressmen and Plate Printers, Printing	64.0	84.0
444	Furnacemen, Smeltermen and Pourers	33.3	71.4
450	Linemen and Servicemen, Tel. and Tel., Power	77.8	88.9
456	Motormen, Streetcar	73.7	84.2
496	<i>Operatives and Kindred Workers</i>		
496:06	Apparel and Accessories	59.3	71.7
496:31	Nonferrous Metal Primary Products	41.7	83.4
496:4V	Ship and Boat Bldg. and Repairing	53.4	73.4
496:V9	Construction	64.7	76.4
600	Firemen, Fire Department	80.6	84.8
604	Policemen and Detectives, Government	79.7	83.1
700	Barbers, Beauticians, and Manicurists	92.7	90.9

<sup>1</sup> More than ten people in the 1939 class.

although less stable than the professional, are above the average for all occupations. Examining individual occupations and the changes for these two groups, it was found that doctors, lawyers, clergymen, dentists, pharmacists, and funeral directors showed almost no change in job. Artists in 1939, however, are, in 1947, artists, sign painters, and draftsmen; chemists become chemists and laboratory technicians; draftsmen—draftsmen, engineers, and even a shipyard laborer.

The proprietors of wholesale and retail stores are second highest in stability, 68 per cent remaining in the same occupation and industry. The stability of managers and officials who form the remainder of the group, 1, is about equal to the proprietor group in attachment to an industry, but shows less attachment to an occupation. For example, the proprietors of retail food stores, and of eating and drinking places remained in the same occupation to the extent of 83 and 73 per cent, respectively, while 87 per cent of the proprietors, managers, and officials in the construction business remained in the same industry but only 53 per cent stayed in the same occupation.

Manual workers—the skilled, semi-skilled, and laborers, form the great bulk of the Eastern Health District population. The percentage of each of the three groups remaining in the same job varies directly with the skill required. Forty-eight per cent of the skilled workers, 35 per cent of the semi-skilled, and 17 per cent of the laborers were reported in the same job in both censuses. The proportion of skilled workers remaining in the same industry is about the same as the proportion remaining in the same occupation (63 per cent). For the semi-skilled and laborers, industrial attachment exceeds occupation attachment. Fifty-four per cent of the semi-skilled and 46 per cent of the laborers are found in the same industry, while 43 per cent and 26 per cent respectively remain in the same occupation.

Many of the individual occupations in the skilled and semi-skilled groups are very stable as shown in Table 6. Some of the occupations in these groups may appear to be less stable

in this study than they are in fact because of poor description on the part of the respondent. For example, there are 20 tailors in the clothing manufacturing industry in 1939 who are reported as semi-skilled workers in 1947; and 32 semi-skilled workers in the same industry in 1939 who become tailors in 1947. If these changes are artificial, the total stability in this trade is increased considerably.

Movement within a small orbit of occupations may also be characteristic of certain skills. In the printing trades there is an exchange between 1939 and 1947 returns for compositors, pressmen, press feeders, and lithographers. All trades show an interchange of the skilled trade itself with foremen in that trade, and with mechanics and repairmen in the same industry.

The occupation, *496: Operatives and Kindred Workers, Not Elsewhere Classified* contains 860 of the 1,510 semi-skilled workers in the Eastern Health District. Distinctions within the group can only be made by industry. A man who was coded to *496:06*, a semi-skilled worker in the garment industry in 1939, and *496:17* in 1947, a semi-skilled worker in a chemical industry is recorded as remaining in the same occupation but in a different industry because his occupation classification is the same. Actually, the distribution of the 1939 class, *496*, into the four types of change (same occupation-same industry, same occupation-different industry, etc.), is almost exactly the same as the proportions of the entire semi-skilled group exhibiting these types of change; so that this class does not add an artificial element of stability to the occupation picture as a whole. The distributions of the *496* group in those industry categories in which more than 5 workers were identified in 1939 are listed in Appendix Table 1. The garment industry, printing, the steel and iron industries, auto and aircraft manufacture, meat packing, and beverage products, shipbuilding, construction and laundries each show a sufficient number and stability in the *496* class to lead one to think that these occupations represent distinct skills, obscured by being coded into a miscellaneous class.

The clerical workers behave much like the semi-skilled workers in showing a greater stability within an industry than within an occupation, 59 per cent versus 43 per cent. Fewer salesmen than clerks remain in either the same occupation or the same industry, and again, the industrial attachment reported, 51 per cent, exceeded the occupational affiliation of 37 per cent. The individual occupations in this group illustrate an interesting pattern of job movement. Shipping and receiving clerks, and salesmen for manufacturers and wholesale businesses show an affinity for the industry, remaining either in a selling occupation, or in manual labor in the same industry; while salesmen for retail stores, and clerks in stores are more likely to become proprietors. Insurance agents, bookkeepers, and office workers remain in "white collar" occupations.

The protective service workers rank close to the proprietors of wholesale and retail businesses in job stability. The two dominating occupations in this group are firemen and policemen, of whom about 80 per cent remain in their occupation. Guards and the members of the Armed Forces (the latter arbitrarily placed in this group) reduce the stability of the class as a whole.

Service workers show only 50 per cent remaining in the same occupation and industry from 1939 to 1947. This average is derived, however, from a very high stability for barbers; a moderate stability for bartenders; a low figure for hospital attendants, elevator operators, and waiters; and a zero stability for ushers.

#### STABILITY OF A JOB VIEWED RETROSPECTIVELY

Ordinarily, in the analysis of the experience of the present population, whether it be for morbidity or for mortality, interest centers upon the answer to the question, "How long has a person been in his present occupation?" rather than "Will he be in his present occupation some years hence?" Approaching these same data by grouping them by 1947 major occupation groups (Table 7), gives slightly different results

from those obtained by looking forward from 1939. Of course, the number who remained in exactly the same occupation and the same industry must be the same as in the previous analysis. But the total number of people within an occupation group will change, increasing where it is an occupation class into which people advance with age, and decreasing where it includes the less skilled jobs. The percentage within any group who have been in exactly the same occupation and industry in both censuses falls off in the augmented groups, and rises in the diminished groups. The rank order of stability in a job (both occupation and industry the same) is still led by the professional group, 62 per cent of whom had been in that work in 1939, followed by the service workers, the proprietors of

Table 7. Comparison by major occupation group in 1947 of the classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for the identified white males employed at both census dates.

MAJOR OCCUPATION GROUP IN 1947	CENSUS CODE NUMBER	SAME OCC. AND SAME IND. IN 1939 & 1947		SAME OCC. AND DIFF. IND. IN 1939 & 1947		DIFF. OCC. AND SAME IND. IN 1939 & 1947		DIFF. OCC. AND DIFF. IND. IN 1939 & 1947		TOTAL	
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
		ALL OCCUPATIONS <sup>1</sup>		2,212	42.0	538	10.2	926	17.6	1,593	30.2
Professional Workers	V00-V52	79	61.7	8	6.3	10	7.8	31	24.2	128	100.0
Semiprofessional Workers	V60-V94	23	39.4	7	9.9	15	21.1	21	29.6	71	100.0
Proprietors, Wholesale and Retail	156:60-79	177	51.1	26	7.5	48	13.9	95	27.5	346	100.0
All Other Prop., Managers and Off.	1—ex. above	71	33.0	7	3.3	66	30.7	71	33.0	215	100.0
Clerical and Kindred Workers	200-266	167	33.1	55	10.9	119	23.6	163	32.4	504	100.0
Salesmen	270-298	114	44.2	13	5.0	41	15.9	90	34.9	258	100.0
Craftsmen, Foremen and Kindred Wkrs.	3—	767	40.8	244	13.0	383	20.4	485	25.8	1,879	100.0
Operatives and Kindred Workers	4—	522	42.9	133	10.9	199	16.4	363	29.8	1,217	100.0
Protective Service Workers	6—	132	48.0	8	2.9	15	5.5	120	43.6	275	100.0
Service Wkrs. Ex. Prot. and Dom.	7—	97	53.9	6	3.3	6	3.3	71	39.5	180	100.0
Laborers, Ex. Farm and Mine	9—	57	30.1	31	16.4	23	12.2	78	41.3	189	100.0

<sup>1</sup> Includes 7 farmers, farm laborers, and workers in domestic service.

wholesale and retail businesses, the protective service, salesmen, semi-skilled workers, skilled workers, semi-professional, clerical, all other proprietors, managers, and officials, and laborers, who remain last. The percentages that had been in the same industry when viewed from 1947 instead of from 1939, decreased for all groups except the salesmen and semi-skilled workers.

#### STABILITY IN THE INDUSTRIAL CATEGORIES

The major occupation groups have become accepted through familiarity in the literature. The use of the major industrial groups, while having a longer history in the Federal Census, has not been so common. Tabulating the industry groups of the Eastern Health District employed white males, it is found that 2,278 of the total 5,400 were engaged in manufacturing and 1,006 in wholesale and retail trade. These two industry groups account for more than 60 per cent of the study population. Such concentration defeats the purpose of using the twelve industrial groups in the same way that the major occupation groups were used for analysis.

Turning to the detailed industrial classes, it is found that about half of the 116 groups reported in 1939 contain most of the study population.<sup>4</sup> This limited variety is reflected in the consistently higher number of people appearing in the same industry in both censuses, 60 per cent as against 52 per cent in the same occupation. The individual industrial classes show less variation in stability from class to class than did the different occupations. The most stable group is railroad operation, which kept 90 per cent of the 135 persons recorded in it in 1939. The Gas and Electric Company was second with 83 per cent and the Baltimore Transit Company a close third with 79 per cent. Seventy-five per cent of the 1939 telephone company and telegraph company employees were with those companies in the second census.

<sup>4</sup> Appendix Table 1 presents the comparison of the classified occupation and industry for 1939 and 1947 censuses for each industry category in which there were 5 or more workers in 1939 who were identified in 1947.

Government, which falls into four industry classes, Postal Service, National Defense, Federal Government, not elsewhere classified, and State and local government, n.e.c., does not show a high stability as a whole. The Postal Service is an exception with 92 per cent of its 1939 employees reported there in both 1939 and 1947. The other government categories are subject to classification problems that make it difficult to obtain an accurate count of the number of people in government service. The Census code classifies the functions of Government that are also functions of private industry into specific non-government industrial classes. Road construction, water supply, street cleaning, munitions production are common government functions in Baltimore but none of these code to the government classes. Street cleaner—city, and laborer—city, fall into two different industrial groups as do ammunition loader: chemical shell production, and ammunition loader: Army.

The Federal Census brings together all Government workers by an additional item on the census schedule, class of worker, which is coded along with every occupation and industry return. This item has four divisions: Government worker, working on own account, working for private employer, non-paid family worker. Unfortunately, this question was not included in the Eastern Health District census. Useful groupings of government workers and of self-employed people who code to a skilled trade rather than to "proprietor" for an occupation are lost to this study. But in this locality, where such functions as street cleaning and water supply are carried on only by the City of Baltimore, this class can be recombined with government. Eleven of the 64 workers in this group in 1939 were returned with "City" as the industry in 1947. When they are added to the 34 returned in "street cleaning and water supply" the stability for this group becomes 70 per cent. This number is almost the same as the 76 per cent found for other City and State functions. For workers who are sometimes designated Coast Guard and sometimes shipyard, or the ar-



senal—Army interchange, there is no way of separating them from private industry employees in those classes.

The use of general terms in describing industry makes further precise industry class analysis difficult. For example, the Bethlehem Steel Company is one of Baltimore's largest employers. It operates two shipyards in the Baltimore area and a steel mill, which is located at Sparrow's Point, along with one of the shipyards. The census return frequently reads "Bethlehem," or "Sparrow's Point" for industry. Since the steel mill is the larger plant, these two returns were arbitrarily coded to 29: *Blast Furnaces, Steel Works, and Rolling Mills*, unless the occupation could only take place in a shipyard.

In 1939, 333 men were recorded in steel production, and 82 as shipyard workers. In 1947, 189 of the first group were still in steel production, while 45 were in a shipyard. In the second group, 49 per cent remained in a shipyard, and 17 per cent were reported in steel production. If the two classes are combined for both census dates, 69 per cent remain in either the steel or shipyard category.

The two other iron and steel processing classes, *Tin Can and Tinware Manufacture*, and *Miscellaneous Iron and Steel Industries* are frequently difficult to distinguish from steel production. The stability in these two groups is 50 per cent and 34 per cent respectively, and is increased by 9 and 15 per cent when shifts to steel production are included.

Aircraft production, printing, construction, wholesale and retail trade combined, and clothing manufacture are large Baltimore industries. The 1939 population reported in these classes were again reported in them in 1947 to the extent of 58, 73, 69, and 72 per cent, in the same order. Retail trade as a whole was more stable than wholesale business. The latter kept 46 per cent of its 1939 people, and lost 15 per cent to retail business. Sixty-six per cent of the retail food store workers and 64 per cent of the restaurant workers remained in the same business, while an additional 10 per cent of each group moved to wholesale or other retail trade. Twenty-one per cent of the

clothing store (or custom tailor shop) workers were reported in the garment manufacturing industry in 1947, and 59 per cent in the original retail class; while 6 per cent of the garment manufacturing employees of 1939 were working in retail clothing stores in 1947. The large interchange between the manufacturing, wholesale, and retail areas of the same business suggest that a combination of these three might be a more workable classification device than trying to distinguish them. A similar situation exists in the exchange between auto manufacturing, filling stations, auto repair services, and retail auto accessory stores. The numbers in these groups are small, but the overlapping is evident. As a whole, the size and stability of the industry classes, when local conditions are used as a guide to their selection and combination, make them useful study units.

STABILITY IN THE MAJOR OCCUPATION GROUPS FROM  
1939 TO 1947; AND FROM 1947 TO 1939

The preceding section discusses shifts in the detailed occupation and industry classes. Since the major occupation groups are widely used as a characteristic for demographic studies, it is of interest to see how many men remained in the same group, even though their specific occupation changed. For those workers who moved into another group, the association between group changes is important. The correlation tables (Appendix Table 2) which show the distribution of workers by major occupation groups in 1939 and 1947, present these facts for each age interval.

The diagonal frequencies of each table represent those whose occupations were coded in the same major occupation group at both censuses. When each diagonal frequency is divided by the marginal total for 1939 the quotient is the proportion of workers in a given major occupation group in 1939 who remained in the same group in 1947. If divided by the marginal total for 1947, the quotient is the proportion of the 1947 group who had been in the same major occupation group in 1939.

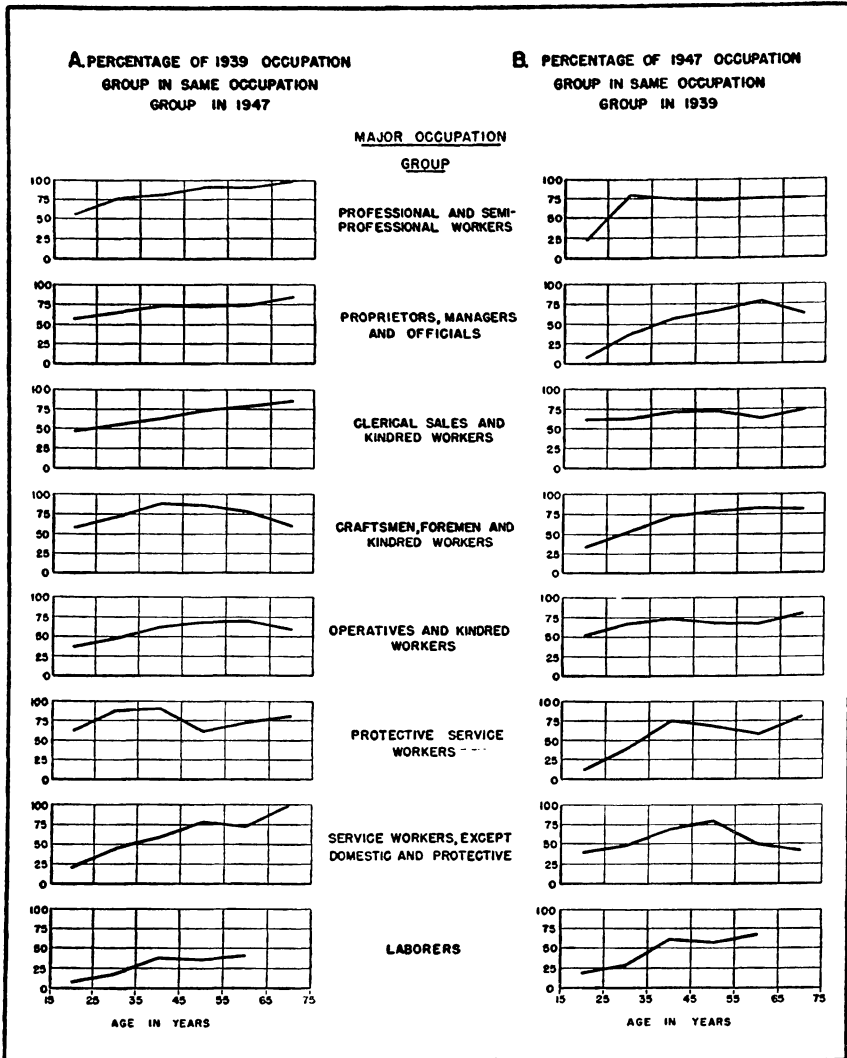


Fig. 3. Percentage of each age-specific major occupation group of identified white males, employed at both censuses, reported in same major occupation group at succeeding and prior census, Eastern Health District censuses, 1939 and 1947.

These proportions for each age-specific occupation group have been presented graphically in Figure 3.

From Figure 3, it can be seen that for the first two age groups 1939-based indices of stability are not at all similar to the 1947-based figures. However, the amount of movement

decreases rapidly in the age groups over 35, and the contrast between the forward and retrospective viewpoints diminishes. The general increase of stability with age is reflected in both parts A and B of Figure 3, so that after age 45 only the laborers and service workers show a stability of less than 60 per cent, viewed from either direction.

STABILITY IN OCCUPATION GROUP COMPARED WITH  
STABILITY IN SPECIFIC OCCUPATION

It is obvious that the number of people found in the same occupation group at both census dates will always be as great as or greater than the number found in the same occupation. Part of the movement between the 175 occupations reported in the Eastern Health District must be from one to another occupation both of which code into the same major group. It might be anticipated that the difference between stability in an occupation and stability in an occupation group would be the function of the number of occupation classes that are combined to make each major group. The data presented in Figure 4 show, rather, that the differences are a function of the nature of the jobs included in the group. The greatest increase in percentage remaining in the same occupation group as compared with the percentage remaining in the same occupation is in the clerical and sales group, where the movement within the group itself accounts for a 20 per cent difference in stability. Attachment to the 1939 skilled worker group is increased by an additional 15 per cent, semi-skilled by 11 per cent, the professional, protective service and other service workers by roughly 5 per cent. The laborer and proprietor groups are not changed at all. If the comparison is studied in retrospect, as is done in part B of Figure 4, the increases are of the same order of magnitude for the 1947 groups.

The amount of occupation shift that takes place within the same major occupation group decreases with age. Table 8 shows that the greatest gain made by using occupation group as a measure of stability instead of occupation is in the age

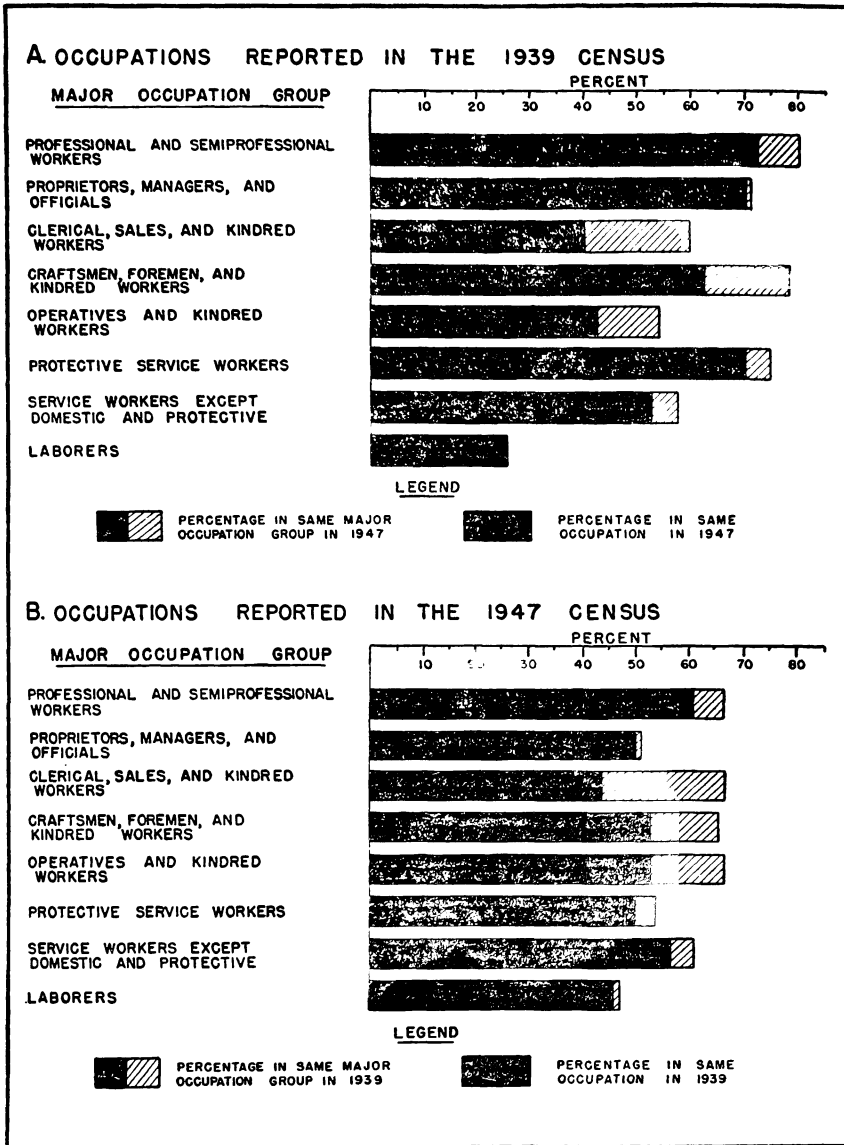


Fig. 4. Percentage for each specified major occupation group of identified white males, employed at both censuses, reported in same major occupation group and in same occupation at succeeding and prior census, Eastern Health District censuses, 1939 and 1947.

group, 15-24. The gain decreased from 17.9 per cent for this group to 14.1 in the next age interval, and reaches a minimum of 6.0 in the ages 55-64. The large difference at the young

AGE IN 1939 YEARS	PERCENTAGE IN SAME OCCUPA- TION IN BOTH CENSUSES	PERCENTAGE IN SAME MAJOR OCCUPATION GROUP IN BOTH CENSUSES	DIFFERENCE
ALL AGES	52.2	63.8	11.6
15-24	21.8	39.7	17.9
25-34	42.9	57.0	14.1
35-44	60.5	70.6	10.1
45-54	64.8	73.7	8.9
55-64	67.4	73.7	6.3
65 and Over	63.3	71.7	8.4

Table 8. Comparison, by age, of percentages reported in the same occupation and in the same major occupation group in the Eastern Health District Censuses of 1939 and 1947 of the identified white males employed at both census dates.

ages is probably the resultant effect of the concentration of young people in those occupations which showed large exchanges within their major groups.

#### MOVEMENTS BETWEEN GROUPS

Appendix Table 2 has also been used as the basis of the analysis of movements between occupation groups at each age. The numbers in the several sections of the table are small and it must be kept in mind that they describe the experience of survivors of the 1939 Eastern Health District population only. For each row of the appendix tables, the percentage remaining in the same occupation group and the percentage moving into each of the other groups were computed, with the total 1939 group as a base. Table 9 presents the percentages remaining in each group for each age (these have already been shown in Section A of Figure 3), the occupation groups which account for the three largest shifts, with the percentage in each; and the residual left unaccounted for, thus bringing the total for each box to 100 per cent.

The table shows the variation in stability with age and occupation group and the type of movement characteristic of each age-specific occupation group. In the professional and

semi-professional group the movement into other occupation groups is too small for analysis. The proprietors, managers, and officials group does not contain a sizable frequency until age 25-34, when it has already reached a stability of 66 per

Table 9. Percentage of each major occupation group in 1939 reported in specified major occupation groups in 1947 by age for the identified white males employed at both census dates.

MAJOR OCCUPATION GROUP IN 1939	MAJOR OCCUPATION GROUP IN 1947	AGE IN 1939						Total
		15-24	25-34	35-44	45-54	55-64	65 and Over	
V. Professional and Semi-professional	V—	(57.2)	77.7	83.3	92.3	(90.0)	(100.0)	80.6
	2—	(14.3)	5.3	8.3	0	( 0)	( 0)	5.5
	3—	(14.3)	9.2	2.8	0	( 0)	( 0)	6.1
	4—	(7.1)	3.9	0	3.8	( 0)	( 0)	3.0
	All Others	(7.1)	3.9	5.6	3.9	(10.0)	( 0)	4.8
1. Proprietors, Managers, and Officials	1—	(57.1)	65.7	74.8	73.7	74.1	( 83.3)	72.5
	2—	(14.3)	11.4	6.5	5.4	7.0	( 0)	7.1
	3—	(14.3)	7.1	10.6	11.6	15.5	( 0)	10.8
	4—	( 0)	10.0	4.1	5.4	1.7	( 0)	5.3
	All Others	(14.3)	5.8	4.0	3.9	1.7	( 16.7)	4.3
2. Clerical, Sales and Kindred Workers	2—	46.4	55.0	63.8	74.5	79.0	( 85.7)	60.0
	1—	10.6	14.9	13.5	10.3	7.0	( 14.3)	12.4
	3—	15.4	11.2	9.2	3.4	2.3	( 0)	9.8
	4—	14.4	11.2	7.7	6.2	4.7	( 0)	9.8
	All Others	13.2	7.7	5.8	5.6	7.0	( 0)	8.0
3. Craftsmen, Foremen, and Kindred Workers	3—	58.3	72.2	84.4	82.6	78.9	( 60.9)	78.1
	1—	4.7	2.5	4.0	4.2	3.1	( 8.7)	3.8
	2—	8.7	4.8	1.5	2.5	2.5	( 8.7)	3.3
	4—	18.9	13.2	7.0	7.9	9.9	( 8.7)	9.9
	All Others	9.4	7.3	3.1	2.8	5.6	( 13.0)	4.9
4. Operatives and Kindred Workers	4—	36.0	47.9	61.6	68.7	70.8	( 61.5)	54.6
	1—	7.7	5.5	4.4	2.8	1.3	( 0)	4.8
	2—	10.7	9.6	5.2	3.5	6.3	( 0)	7.2
	3—	29.4	27.5	23.2	18.8	12.7	( 23.1)	24.2
	All Others	16.2	9.5	5.6	6.2	8.9	( 15.4)	9.2
6. Protective Service Workers	6—	(62.5)	82.9	85.1	61.4	(73.7)	( 80.0)	75.9
	2—	( 0)	8.6	1.4	10.5	(10.5)	( 0)	6.0
	3—	(12.5)	0	2.7	8.8	( 0)	( 0)	4.0
	4—	(25.0)	5.7	4.0	12.3	( 5.3)	( 0)	7.5
	All Others	( 0)	2.8	6.8	7.0	(10.5)	( 20.0)	6.6
7. Service Workers, Exc. Dom. and Prot.	7—	22.6	45.0	59.7	78.9	(73.3)	(100.0)	57.5
	1—	12.9	5.0	11.6	5.8	( 0)	( 0)	7.8
	3—	22.6	17.5	7.7	5.8	( 6.7)	( 0)	11.4
	4—	22.6	7.5	3.8	3.8	( 6.7)	( 0)	7.8
	All Others	19.3	25.0	17.2	5.7	(13.3)	( 0)	15.5
9. Laborers, Except Farm and Mine	9—	6.6	17.4	38.1	36.7	41.9	—	26.4
	2—	11.8	4.0	7.1	1.4	6.5	—	6.2
	3—	30.3	45.4	23.8	22.5	9.7	—	23.5
	4—	36.9	21.3	26.2	31.0	16.1	—	27.6
	All Others	14.4	11.9	4.8	8.4	25.8	—	11.3

( ) = Less than 25 in total occupation group.

cent. This figure increases to about 75 per cent in the next three age groups. The largest movement out of the proprietor class is into the craftsmen group, and the second largest into the clerical and sales group. The latter group does not reach a high stability until after age 45. Twelve per cent of this group in 1939 have become proprietors by 1947, while equal but smaller proportions (10 per cent) have gone into skilled and semi-skilled work.

The close association between the skilled, semi-skilled, and laborer groups is brought out by the group changes shown in the table. By 1947, 56 per cent of the 1939 laborers have gone into an occupation in the skilled or semi-skilled class. The proportion moving into skilled occupations is highest at ages 25-34, and declines rapidly with age. The movement of laborers into the semi-skilled occupations does not show this sharp variation with age. About one-quarter of the semi-skilled workers are reported in skilled trades in 1947, the largest movement occurring in the younger ages. The skilled workers, since they are a group of very high stability, can show little change. Most of the recorded movement is into the semi-skilled class, which, as has been mentioned before, may be actual downgrading, or may be response variation.

Both the protective service, and service workers are groups of small frequency. The protective service workers are quite stable at young ages, but show a sharp drop in the age group 45-54. Perhaps this represents early retirement for policemen and firemen, who then take other jobs. The service workers show no close association with any other group; in 1947, the 43 per cent who made a change moved chiefly to the proprietor, skilled, and semi-skilled classes.

These data show that the movements between occupations are not haphazard. The patterns that are revealed in the eight year period suggest that, with further study, it might be possible to form groups of allied occupations that make up lifetime job sequences. Perhaps such combinations of occupations would make more suitable and more homogeneous



units for analysis in mortality or morbidity studies than the present major occupation groups.

THE RETIRED POPULATION

Studies of mortality or disability are concerned particularly with the population over forty-five years of age, the group with the greatest frequency of deaths and disabilities. An analysis of the occupations of the labor force does not satisfy the needs of such studies completely, since the number of retired and disabled people in the population, who are not included in Census labor force statistics, increases very rapidly after age 45. These may be the people at risk, rather than the employed group. The Eastern Health District censuses asked for the usual occupation of all retired, disabled, and unemployed people. While the numbers of returns are small, they present an opportunity to compare these reports with those of the employed people of the same age.

The employment status of the identified white males in 1939 and 1947 is shown in Table 10. Because of the advance in age of the population, the number of retired people increased from 178 to 588 while the disabled rose from 80 to 123. The high demand for labor in 1947 is reflected in the dis-

Table 10. Employment status reported in the Eastern Health District censuses of 1939 and 1947 for the identified white males.

EMPLOYMENT STATUS IN 1939	EMPLOYMENT STATUS IN 1947								
	Total	Emp	Sch	Ret	Un	Dis	H	Ins	Unk
TOTAL	7,569	6,514	114	588	192	123	4	27	7
Employed      Emp	5,996	5,414	22	360	109	62	—	22	7
Work Relief    WR	107	95	—	7	2	3	—	—	—
In School      Sch	629	494	86	3	40	4	2	—	—
Retired        Ret	178	24	—	147	1	6	—	—	—
Unemployed    Un	571	448	6	51	38	24	1	3	—
Disabled       Dis	80	34	—	20	2	23	—	1	—
Housework    H	2	1	—	—	—	—	1	—	—
In Institution    Ins	3	2	—	—	—	—	—	1	—
Unknown       Unk	3	2	—	—	—	1	—	—	—

Table 11. Comparison of classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for identified white males who were employed in 1939, and retired, disabled, or unemployed in 1947: By major occupation group and by age.

MAJOR OCCUPATION GROUP IN 1939	SAME MAJOR OCCUPATION GROUP IN 1947		SAME OCC. AND SAME IND. IN 1939 AND 1947		DIFF. OCC. AND SAME IND. IN 1939 AND 1947		DIFF. OCC. AND DIFF. IND. IN 1939 AND 1947		TOTAL			
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
	<b>ALL OCCUPATIONS<sup>1</sup></b>	288	74.8	213	55.3	49	12.7	47	12.2	76	19.8	385
V. Professional and Semiprofessional Workers	4	(57.1)	3	(42.8)	—	(0)	1	(14.3)	3	(42.9)	7	(100.0)
1. Proprietors, Managers, and Officials	39	75.0	35	67.3	3	5.8	3	5.8	11	21.1	52	100.0
2. Clerical, Sales and Kindred Workers	30	66.7	23	51.1	4	8.9	7	15.6	11	24.4	45	100.0
3. Craftsmen, Foremen and Kindred Workers	119	86.2	75	54.3	33	23.9	11	8.0	19	13.8	138	100.0
4. Operatives and Kindred Workers	33	56.9	27	46.6	3	5.2	12	20.7	16	27.5	58	100.0
6. Protective Service Workers	33	84.6	27	69.2	4	10.3	4	10.3	4	10.2	39	100.0
7. Service Workers Except Protective and Domestic	16	(72.7)	13	(59.1)	1	(4.6)	3	(13.6)	5	(22.7)	22	(100.0)
9. Laborers, Except Farm and Mine	14	(63.6)	10	(45.5)	1	(4.6)	6	(27.2)	5	(22.7)	22	(100.0)
<b>AGE IN 1939:</b>												
45 Years of Age and Over			213	55.3	49	12.7	47	12.2	76	19.8	385	100.0
45-54			57	62.6	6	6.6	8	8.8	20	22.0	91	100.0
55-64			100	53.2	28	14.9	25	13.3	35	18.6	188	100.0
65 and Over			56	52.8	15	14.2	14	13.2	21	19.8	106	100.0

<sup>1</sup> 145 years of age and over in 1939.

<sup>2</sup> Includes 2 men reported as farmers or farm laborers.

<sup>3</sup> Excludes 7 men who did not report an occupation.

( ) = Less than 25 in total occupation group.

appearance of the 1939 work relief classification, the small number of unemployed in 1947, the re-entry into the labor force of some of the men who were retired or disabled in 1939. The small, but obvious interchange between the classes unemployed, disabled, (particularly because of old age) and retired, led to the decision to discuss the retired people in two groups.

The first group is made up of 373 men 45 years of age and over in 1939, who were employed in 1939, and who were retired or disabled in 1947. Twelve persons over 55 in 1939 who were employed in that year but unemployed in 1947 were added, since it was felt that "unemployed" was being used as a substitute for "not voluntarily retired." For the entire group the 1939 return is "present" occupation and industry, while the 1947 return is "usual" occupation and industry.

A smaller group of 248 men over 45 were not working in either census. These men were reported as retired, disabled, or unemployed in 1939 and in 1947. Six men in the 45-54 year age group who were disabled in both censuses, and three of the same age who were unemployed in both censuses were omitted because the six may represent long disabilities, and the three are not old enough to be considered out of the labor force. For the remaining group of 239 men, both 1939 and 1947 returns are "usual occupation."

It will be recalled that 145 of the 5,414 men employed in both censuses were returned with occupation unknown on one of the schedules. In the employed-retired class, 7 of the 392 men had no occupation reported, while in the retired-retired group, 21 of the 239 had no occupation return. The proportion of unknowns in the latter group is significantly different from that found in the group employed in both censuses.

Tabulations similar to those for the persons employed at both censuses were made for the two retired groups, and are shown in Tables 11 and 12. The numbers in each major occupation group were too small to warrant subdivision of any class. Fifty-five per cent of the group working in 1939 reported that they had retired from the same job in 1947. The usual

Table 12. Comparison of classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for identified white males who were not employed at either census date: by major occupation group and by age.<sup>1</sup>

MAJOR OCCUPATION GROUP IN 1939	SAME MAJOR OCCUPATION GROUP IN 1947		SAME OCC. AND DIFF. IND. IN 1939 AND 1947		DIFF. OCC. AND SAME IND. IN 1939 AND 1947		DIFF. OCC. AND DIFF. IND. IN 1939 AND 1947		TOTAL			
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
ALL OCCUPATIONS <sup>2</sup>	149	68.3	114	52.3	32	14.7	23	10.5	49	22.5	218	100.0
V. Professional and Semiprofessional Workers	2	(100.0)	2	(100.0)	—	0	—	0	—	0	2	(100.0)
1. Proprietors, Managers and Officials	15	(68.2)	13	(59.1)	2	(9.1)	2	(9.1)	5	(22.7)	22	(100.0)
2. Clerical, Sales, and Kindred Workers	17	(77.3)	14	(63.6)	2	(9.1)	1	(4.6)	5	(22.7)	22	(100.0)
3. Craftsmen, Foremen, and Kindred Workers	57	79.2	39	54.2	16	22.2	7	9.7	10	13.9	72	100.0
4. Operatives and Kindred Workers	27	56.3	20	41.7	7	14.6	10	20.8	11	22.9	48	100.0
6. Protective Service Workers	21	80.8	19	73.1	2	7.7	1	3.8	4	15.4	26	100.0
7. Service Workers, Except Domestic and Protective	1	(20.0)	—	0	—	0	1	(20.0)	4	(80.0)	5	(100.0)
9. Laborers, Except Farm and Mine	9	(47.4)	6	(31.6)	3	(15.8)	1	(5.2)	9	(47.4)	19	(100.0)
AGE IN 1939 <sup>3</sup>												
45 Years of Age and Over			114	52.3	32	14.7	23	10.5	49	22.5	218	100.0
45-54			14	46.7	4	13.3	2	6.7	10	33.3	30	100.0
55-64			29	46.0	10	15.9	8	12.7	16	25.4	63	100.0
65 and Over			71	56.8	18	14.4	13	10.4	23	18.4	125	100.0

<sup>1</sup> 45 years of age and over in 1939.

<sup>2</sup> Includes 2 men reported as farmers or farm laborers.

<sup>3</sup> Excludes 21 men who did not report an occupation.

( ) = Less than 25 in total occupation group.

occupation and industry of the group not working in either census matched in 52 per cent of the reports. These figures are not different from the average of 56 per cent remaining in the same occupation and industry reported for the employed group at the same age. The numbers remaining in an occupation, and in an industry within each occupation group are also of the same order of magnitude in both the retired groups, and in the employed group. There seems to be no major difference from the experience of the employed men at the same age in the census reports of occupation and industry stability for the retired people, with the exception of the poorer returns among the group retired in both censuses.

#### THE VETERAN POPULATION

There were 1,404 veterans of World War II identified, and working in the Eastern Health District census of 1947. This number is 21.5 per cent of the total employed white male population of 6,517. Almost two-thirds of the veterans were in the age group 15-24 in 1939, and would therefore not be expected to show a high occupation stability. The experience of the 817 veterans who were employed in both 1939 and 1947 is shown in Table 13. When the stability data in this table are compared by age groups with that reported for all employed white males in Table 4, only small differences are found. The stability within each occupation group also parallels that of the entire population of the same age. The interruption in employment, and work experiences in the Armed Forces apparently did not change the veteran's occupation status to any marked degree.

#### SUMMARY AND DISCUSSION

The advantages in social studies of repetitive histories of the same people over a single instantaneous enumeration of an area, have become thoroughly appreciated. Among the Federal agencies, the Bureau of the Census, the Bureau of Agricultural Economics, the Bureau of Labor Statistics, and the Social Security Board have set up different patterns in continuous

Table 13. Comparison by major occupation group in 1939 of the classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for the identified white males employed at both census dates, who were also veterans of World War II.

MAJOR OCCUPATION GROUP IN 1939	SAME OCC. AND SAME IND. IN 1939 AND 1947		SAME OCC. AND DIFF. IND. IN 1939 AND 1947		DIFF. OCC. AND SAME IND. IN 1939 AND 1947		DIFF. OCC. AND DIFF. IND. IN 1939 AND 1947		TOTAL	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
ALL OCCUPATIONS <sup>1</sup>	166	20.3	83	10.2	131	16.0	437	53.5	817	100.0
V. Professional and Semiprofessional Workers	19	73.1	3	11.5	—	0	4	15.4	26	100.0
1. Proprietors, Managers, and Officials	9	(39.1)	4	(17.4)	4	(17.4)	6	(26.1)	23	(100.0)
2. Clerical, Sales, and Kindred Workers	35	15.6	28	12.5	47	21.0	114	50.9	224	100.0
3. Craftsmen, Foremen, and Kindred Workers	53	31.7	22	13.2	27	16.2	65	38.9	167	100.0
4. Operatives and Kindred Workers	39	14.9	22	8.4	30	11.4	171	65.3	262	100.0
6. Protective Service Workers	5	(38.5)	—	0	1	(7.7)	7	(53.8)	13	(100.0)
7. Service Workers, Except Domestic and Protective	4	13.8	—	0	4	13.8	21	72.4	29	100.0
9. Laborers, Except Farm and Mine	2	2.8	4	5.6	18	25.4	47	66.2	71	100.0
AGE IN 1939										
All Ages <sup>2</sup>	166	20.3	83	10.2	131	16.0	437	53.5	817	100.0
15-24	51	10.5	51	10.5	73	15.0	311	64.0	486	100.0
25-34	81	31.0	26	10.0	47	18.0	107	41.0	261	100.0
35-44	28	45.0	5	8.2	11	18.0	17	27.9	61	100.0

<sup>1</sup> Includes 2 men reported as farmers or farm laborers.

<sup>2</sup> Includes 9 men over age 45.

( ) = Less than .25 in total occupation group.

sampling, designed to meet their specific needs. Follow-up studies of a selected population are another means of achieving a description of a population characteristic during a time period, rather than at a moment in time.

The series of Eastern Health District population censuses, begun in 1922, share the merits and deficiencies of all follow-up studies. The five censuses taken since that date provide reports on the same characteristics for each individual as often as he was enumerated, so that the change in the characteristic reported can become the variable studied, instead of the change in the population composition of that characteristic, which is described in the usual area enumerations. The physical limitations of the enumeration procedure make it difficult to obtain subsequent histories of all the people who were in the first census of the Eastern Health District series. No attempt has been made for the census as a whole to follow the people who leave the District, so that available records can link the repeated histories only for people who remain in the study area.

The problem proposed at the outset of the study was "Is an individual's attachment to an occupation or industry of long enough duration to make correlation between any personal characteristic—health, illness, mortality—with occupation and industry possible?" The matched records of the same individuals appearing in several censuses make it possible to answer this question. This study has been confined to the 1939 and 1947 census returns for white males of the Eastern Health District who were over 14 years of age in 1939, and who were identified in 1947. The persons studied are a select group who have remained in the District through a balance of forces that would encourage a family to leave an old neighborhood, and forces that would encourage them to stay in the City during a time of expanding job opportunity, war manpower restrictions, and static housing conditions. It should also be remembered that Baltimore increased in population during the war because of the expansion of industry. It was, therefore, possible for residents of the Eastern Health District both to

change their jobs from peace-time to war-time occupations and still remain in the City.

This study has measured *one* change or *no* change in occupation and industry as indicated by the classification assigned to the 1939 and 1947 census returns of the Eastern Health District. The comparison was made mechanically in four ways. The number of workers who were in the same occupation and the same industry in 1939 and in 1947 was tabulated; likewise, those in the same occupation but in a different industry, in a different occupation but in the same industry, and in both a different occupation and industry. Service in the armed forces, or the possibility of other changes in jobs between those recorded in the censuses have been disregarded. The stability in occupation and industry determined for this group is probably exaggerated, as compared with that expected for the entire 1939 Eastern Health District population, by the method of its selection, and is understated by an amount due to varying descriptions which permit the same job to be coded into two different occupation-industry classes in the two censuses.

The study findings show that three important variables in determining stability in a job are the age of the persons studied, the nature of the job, and the consistency with which a job is commonly described. For men over 35 years of age, 63 per cent remained in the same occupation from 1939 to 1947, and 70 per cent were in the same major occupation group at both census dates and only the laborer group had a stability of less than 60 per cent. The difference between the proportion remaining in the same occupation and the proportion remaining in the same occupation group was fairly large for the clerical and sales workers, for the skilled workers, and for the operatives (semi-skilled), but the difference was negligible for the other major occupation groups.

The direction of the movement between jobs from 1939 to 1947 was not haphazard. The pattern of advancement from unskilled to semi-skilled to skilled labor, from sales clerk to proprietor or manager is clearly visible in the younger age



groups. After age 35, the amount of movement between occupation groups is relatively small. Some types of occupations lead to promotions or changes within the same industry, so that for these classes, study by industry produces more stability than study by occupation. Other industry classes themselves were so stable that they would form excellent units for the analysis of employee characteristics. In Baltimore, the garment industry, printing, the utilities, and government, all retained more than 70 per cent of the men reported in those classes in 1939.

The stability of some of the skilled occupations was obviously reduced by inconsistent returns, or response variation. Where a lack of stability is known to be associated with poor job description, it is possible to combine a cluster of closely associated occupations or industries to obtain a more stable group. In the Eastern Health District returns, it was easy to see that the housewife made no distinction between a tailor and a cutter, or between a clothing manufacturing shop and a custom tailor shop. A practical way to make sound combinations of allied groups at present is to study factors related to occupation and industry within a local area. Knowledge of the area, assistance from the large industrial plants, local directories, Labor Department information, and Social Security Board data can be obtained and used most effectively close to the original source material. The experience of these users of occupation and industry information will assist the research worker in anticipating problems that will arise in returns for jobs; in translating firm names into industries; and particularly in learning which classes of information can be realistically combined.

A second means of improving occupation and industry returns is through the standardization of job vocabulary. If the worker, informant, enumerator, and coder used the same words and understood them to have the same meaning, the response variation and the indefinite returns would no longer be a problem. This is an exceedingly difficult task. With new

occupations arising faster than the public can learn the difference between a machinist and a mechanic, standardized vocabulary does not have a promising future. However, that part of the final error introduced by poor enumeration and inconsistent coding can be cut down. The enumerator, as well as the coder, should be trained to know the discrimination required by the Census code, so that he may elicit a response that can be classified.

Serious thought should also be given in any study related to occupation and industry concerning the kind of classification needed. The minute classes of the present code may not always be necessary for the purpose of the study. Perhaps several different "intermediate" and "abridged" lists, besides the two designed by the Bureau of the Census could be formulated. A general mortality study might require combinations of industries or occupations that have similar health hazards. An economic study might need groupings of jobs of the same income. An age of retirement study might group similar types of industries. Most homogeneous groupings would reduce the instability found in a single class of the code. Only the use of the unselected data for the whole population need involve the maximum job shift and response variation.

For the immediate future, it is important to know how far one can extrapolate to larger populations from the Eastern Health District data. The Philadelphia study was made for a representative sample of that City's population. The stability was determined in direct reply to the question, "How long have you been in your present job?" The answers (Table 1) are not in the same units as the measures in this study, but the Philadelphia data show the same type of variation in length of service with age, occupation, and industry that was found in the present study. The median number of years in a job increased steadily with age, while this study found that stability leveled off after age 45. These are not contradictory observations. It is likely that whatever turnover takes place year after year involves the same people, so that while the

average number of years in a job increases with age, the number of people remaining in the same job does not change.

The other reports cited also point to a fairly stable occupational pattern. While it would be of great value to know the stability in an occupation and industry for the United States population, the present study provides a rough estimate for those occupations and industries that contain a sizable part of the Eastern Health District population. Its findings indicate that for appropriately selected age groups, occupation sequences, and related industry clusters, mortality or morbidity studies are eminently feasible.

#### REFERENCES

1. Davidson, Percy E., and Anderson, H. Dewey: OCCUPATIONAL MOBILITY IN AN AMERICAN COMMUNITY. California, Stanford University Press, 1937.
2. Bell, Margaret W., and Palmer, Gladys L.: EMPLOYMENT AND UNEMPLOYMENT IN PHILADELPHIA IN 1936 AND 1937. PART II: MAY, 1937. Works Progress Administration, National Research Project and the Industrial Research Department. Philadelphia, Pennsylvania, University of Pennsylvania, REPORT No. P-3, PART II, October, 1938.
3. Dublin, Louis I., and Vane, Robert J.: Shifting of Occupations Among Wage Earners as Determined by Occupational History of Industrial Policyholders. *Monthly Labor Review*, April, 1924, pp. 34-42.
4. Department of Biostatistics, School of Hygiene and Public Health. The Johns Hopkins University: The Reliability of Statements of Occupation for the Compilation of Occupational Mortality Statistics. Unpublished paper. Baltimore, Md. June, 1949.
5. United States Bureau of the Census: Alphabetical Index of Occupations and Industries, 1948. Unpublished, Washington 25, D. C.
6. Whelpton, P. K., and Hollander, E.: A Standard Occupational and Industrial Classification of Workers: *Social Forces*, 18, No. 4, May, 1940.
7. Edwards, Alba M.: Comparative Occupation Statistics for the United States, 1870 to 1940. Sixteenth Census of the United States. United States Bureau of the Census Government Printing Office, Washington 25, D. C., 1943.
8. Reed, L. J., Fales, W. T., and Badger, G. F.: Family Studies in the Eastern Health District. I. General Characteristics of the Population. *American Journal of Hygiene*, 37, No. 1, January, 1943, pp. 37-52.
9. Densen, Paul M.: Family Studies in the Eastern Health District. II. The Accuracy of Statements of Age on Census Records. *American Journal of Hygiene*, 32, No. 1, Sec. A, July, 1940, pp. 1-38.
10. Luykx, H. M. C.: Family Studies in the Eastern Health District. IV. Permanence of Residence with Respect to Various Family Characteristics. *Human Biology*, 19, No. 3, September, 1947.
11. United States Bureau of the Census: SIXTEENTH CENSUS OF THE UNITED STATES: 1940. POPULATION VOL. III. THE LABOR FORCE. Government Printing Office, Washington, 25, D. C., 1943.
12. Durand, John D.: THE LABOR FORCE IN THE UNITED STATES. 1890-1960. New York, Social Science Research Council, 1948.

Appendix Table 1. Comparison of classified occupation and industry reported in the Eastern Health District censuses of 1939 and 1947 for identified white males who were employed at both census dates.

CODE NUMBER	OCCUPATION IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<b>ALL OCCUPATIONS</b>	<b>5,269</b>	<b>2,212</b>	<b>538</b>	<b>926</b>	<b>1,593</b>
	<i>Professional Workers</i>					
	Total	110	79	8	5	18
V00	Artists and Art Teachers	5	1	—	—	4
V06	Chemists, Assayers, and Metallurgists	7	1	1	1	4
V08	Clergymen	11	10	—	—	1
V12	Dentists	10	10	—	—	—
V26	Lawyers and Judges	13	11	2	—	—
V28	Musicians and Music Teachers	8	4	1	—	3
V30	Pharmacists	18	17	1	—	—
V32	Physicians and Surgeons	18	18	—	—	—
	Other Professional Workers	20	7	3	4	6
	<i>Semiprofessional Workers</i>					
	Total	55	28	7	8	12
V62	Draftsmen	14	5	2	2	5
V64	Funeral Directors and Embalmers	7	7	—	—	—
V70	Technicians and Assistants, Laboratories	20	13	3	2	2
	Other Semiprofessional Workers	14	3	2	4	5
	<i>Proprietors, Managers, and Officials</i>					
	Total	396	248	33	38	77
104, 108	Inspectors, Government	9	5	—	3	1
130	Officers, Pilots, Purser and Engineers, Ship	16	10	—	2	4
	Other Classified Officials	21	12	—	4	5
156:60-79	Proprietors, Managers, and Officials, Wholesale and Retail Trade	262	177	28	10	47
156: Exc. 60-79	Proprietors, Managers and Officials. (n.e.c.)	88	44	5	19	20
	<i>Clerical and Kindred Workers</i>					
	Total	516	167	55	136	158
200	Agents (n.e.c.)	5	4	—	1	—
210	Bookkeepers, Accountants and Cashiers	45	11	9	11	14
222	Mail Carriers	22	20	—	2	—
224	Messengers, Errand and Office Boys	19	—	—	5	14
226	Shipping and Receiving Clerks	68	16	8	16	28
236	Stenographers, Typists and Secretaries	21	4	1	9	7

CODE NUMBER	OCCUPATION IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Clerical and Kindred Workers</i> (Continued)					
240	Telegraph Operators	6	3	—	2	1
252	Collectors, Bill and Account	14	5	—	4	5
258	Telegraph Messengers	5	—	—	—	5
	Other Classified Clerical Workers	7	1	—	4	2
266	Clerical and Kindred Workers (n.e.c.)	304	103	37	82	82
	<i>Salesmen</i>					
	Total	345	114	13	63	155
272	Hucksters and Peddlers	66	37	1	9	19
274	Insurance Agents and Brokers	25	13	—	4	8
278	Traveling Salesmen and Sales Agents	67	19	3	13	32
284	Newsboys	22	6	1	1	14
290	"Clerks" in Stores	29	6	—	10	13
	Other Classified Salesmen	8	3	—	1	4
298	Salesmen (n.e.c.)	128	30	8	25	65
	<i>Craftsmen, Foremen and Kindred Workers</i>					
	Total	1,597	767	244	242	344
300	Bakers	63	39	—	7	17
302	Blacksmiths, Forgemen and Hammermen	13	5	2	3	3
304	Boilermakers	11	7	1	2	1
306	Brickmasons, Stonemasons and Tile Setters	22	13	5	4	—
308	Carpenters	113	55	21	13	24
310	Compositors and Typesetters	93	53	9	12	19
314	Electricians	51	20	10	12	9
316	Foremen (n.e.c.)	107	50	8	22	27
318	Inspectors (n.e.c.)	19	9	—	5	5
326	Machinists	140	51	40	27	22
327	Millwrights	10	3	—	6	1
328	Tool Makers, and Die Makers and Setters	19	7	3	4	5
332	Mechanics and Repairmen, Automobile	40	10	9	4	17
336	Mechanics and Repairmen (n.e.c.)	85	31	9	19	26
340	Painters, Construction and Maintenance	106	63	19	4	20
342	Paperhangers	39	24	—	4	11
344	Pattern and Model Makers, Except Paper	11	6	2	2	1
348	Plumbers, and Gas and Steam- fitters	90	49	21	6	14
354	Shoemakers and Repairers	32	25	—	—	7
356	Stationary Engineers	40	13	10	6	11

CODE NUMBER	OCCUPATION IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Craftsmen, Foremen and Kindred Workers (Continued)</i>					
358	Cranemen, Hoistmen and Construction Machinery Operators	30	14	4	4	8
360	Tailors	179	106	28	25	20
362	Tinsmiths, Coppersmiths and Sheet Metal Workers	62	13	21	11	17
364	Upholsterers	35	19	6	6	4
366	Cabinetmakers	24	6	8	2	8
388	Photoengravers and Lithographers	18	11	—	1	6
392	Pressmen and Plate Printers, Printing	25	15	1	6	3
394	Rollers and Roll Hands, Metal	15	2	1	5	7
398	Structural and Ornamental Metal Workers	19	3	2	3	11
	Other Classified Craftsmen	86	45	4	17	20
	<i>Operatives and Kindred Workers Total</i>	1,510	522	133	293	562
	<i>Classified Operators, sub-total</i>	650	232	54	101	263
400-414	Apprentices	18	—	—	4	14
416	Attendants, Filling Station, Parking Lot, Garage and Airport	17	2	—	4	11
420	Chauffeurs and Drivers, Bus, Taxi, Truck and Tractor	243	82	31	26	104
432	Deliverymen	110	42	7	8	53
436	Buffers and Polishers, Metal	10	2	—	5	3
442	Firemen, Except Locomotive and Fire Department	15	4	—	2	9
444	Furnacemen, Smeltermen and Pourers	21	7	—	8	6
448	Laundry Operatives, Except Private Family	13	1	1	—	11
450	Linemen and Servicemen, Telegraph, Telephone and Power	27	20	1	4	2
452	Meat Cutters, Except Slaughter and Packing House	30	12	2	6	10
456	Motormen, Street Railway	19	14	—	2	3
458	Painters, Except Construction and Maintenance	28	7	3	6	12
460	Sailors and Deck Hands, Except U. S. Navy	10	2	—	2	6
464	Welders and Flame-Cutters	31	9	5	6	11
	Other Classified Operatives	58	23	4	18	8
496:	<i>Operatives and Kindred Workers (n.e.c.), sub-total</i>	860	290	79	192	299
V9	Construction	17	10	1	3	3

CODE NUMBER	OCCUPATION IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Operatives and Kindred Workers (n.e.c.)</i> (Continued)					
496:	<b>Manufacturing: Durable Goods</b>					
1V	Furniture and Store Fixtures	17	5	2	3	7
29	Blast Furnaces, Steel Works and Rolling Mills	75	21	9	19	26
3V	Tin Cans and Other Tinware	34	6	6	9	13
30	Miscellaneous Iron and Steel Products	46	5	8	8	25
31	Nonferrous Metal Primary Products	12	5	—	5	2
35	Electrical Machinery and Equipment	17	3	1	8	5
37	Miscellaneous Machinery	23	6	1	5	11
38	Aircraft and Parts	35	6	3	14	12
39	Automobiles and Automobile Equipment	21	6	1	6	8
4V	Ship and Boat Building and Repairing	15	7	1	4	3
	Other Manufacturing and Durable Goods	34	15	3	6	10
	<b>Manufacturing: Nondurable Goods</b>					
XV	Bakery Products	13	2	—	6	5
X0	Beverage Industry	34	12	2	9	11
X5	Meat Products	54	24	2	5	23
X6	Miscellaneous Food Industries	16	6	—	2	8
06	Apparel and Accessories	162	84	12	32	34
12	Paperboard Containers and Boxes	13	4	—	1	8
14	Painting, Publishing and Allied Industries	35	15	4	8	8
21	Footwear Industries, Except Rubber	14	5	1	—	8
	Other Manufacturing, Nondurable Goods	45	12	8	9	16
44	Not Specified Manufacturing	8	1	4	—	3
	Transportation, Communication and Other Public Utilities	30	10	—	9	11
60-79	Wholesale and Retail Trade	49	7	7	13	22
88	Laundering, Cleaning Services	19	7	3	2	7
	All Other Industry	22	6	—	6	10
	<i>Protective Service Workers</i>					
	<b>Total</b>	199	132	8	21	38
600	Firemen, Fire Department	72	58	—	3	11
602	Guards, Watchmen and Doorkeepers	50	19	8	13	10
604	Policemen and Detectives, Government	59	47	—	2	10

CODE NUMBER	OCCUPATION IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Protective Service Workers</i> (Continued)					
	All Other Protective Service Workers	18	8	—	3	7
	<i>Service Workers, except Domestic and Protective</i>					
	Total	193	97	6	21	69
700	Barbers	55	50	1	—	4
710	Bartenders	34	18	—	4	12
740	Janitors and Sextons	25	9	4	3	9
770	Servants, Except Private Family	11	1	—	2	8
780	Waiters and Waitresses	12	3	—	4	5
790	Attendants, Hospital and Other Institutions	19	5	—	1	13
	All Other Service Workers	37	11	1	7	18
	<i>Laborers</i>					
	Total	337	57	31	98	151
988	Laborers (n.e.c.)	317	48	31	92	146
	All Other Classified Laborers	20	9	—	6	5
	<i>All Other Classified Occupations</i>					
	Total	11	1	—	1	9
	INDUSTRY IN 1939					
	<i>All Industry</i>	5,269	2,212	538	926	1,593
VV	Agriculture	3	—	—	1	2
V5	Sand and Gravel Production	1	1	—	—	—
V9	Construction	405	222	40	56	87
	<i>Manufacturing</i>					
	<i>Durable Goods</i>	1,188	336	173	287	392
1V	Furniture and Store Fixtures	64	22	11	10	21
10	Miscellaneous Wooden Goods	27	13	2	3	9
25	Glass and Glass Products	10	3	3	1	3
29	Blast Furnaces, Steel Works and Rolling Mills	333	110	50	79	94
3V	Tin Cans and Other Tinware	100	25	17	25	33
30	Miscellaneous Iron and Steel Industries	118	17	25	23	53
31	Nonferrous Metal Primary Products	56	24	6	15	11
32	Clocks, Watches, Jewelry and Silverware	11	3	1	3	4
33	Miscellaneous Nonferrous Metal Products	22	5	3	3	11
35	Electrical Machinery and Equipment	43	10	5	17	11
37	Miscellaneous Machinery	87	22	11	23	31
38	Aircraft and Parts	114	25	11	41	37
39	Automobile and Automobile Equipment	55	12	6	17	20
4V	Ship and Boat Building and Repairing	82	23	11	17	31



CODE NUMBER	INDUSTRY IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Manufacturing, Durable Goods (Continued)</i>					
43	Miscellaneous Manufacturing Industries	19	7	2	1	9
	All Other Durable Goods Manufacturing	47	15	9	9	14
	<i>Nondurable Goods</i>	1,069	491	80	197	301
XV	Bakery Products	110	57	2	18	33
X0	Beverage Industries	84	27	8	23	26
X5	Meat Products	81	33	5	9	34
X6	Miscellaneous Food Industries	46	16	2	8	20
06	Apparel and Accessories	330	176	31	62	61
12	Paperboard Containers and Boxes	27	11	—	4	12
14	Printing, Publishing and Allied Industries	209	112	10	40	47
15	Paints, Varnishes and Colors	15	3	3	3	6
17	Miscellaneous Chemical Industries	44	17	6	11	10
18	Petroleum Refining	40	19	2	9	10
21	Footwear Industries, Except Rubber	19	7	1	1	10
	All Other Nondurable Goods Manufacturing	64	13	10	9	32
44	Not Specified Manufacturing Industries	21	—	13	—	8
	<i>Transportation, Communication and Other Public Utilities</i>	581	264	44	127	146
45	Air Transportation	15	1	4	—	10
47	Railroads (Including Railroad Repair Shops)	135	71	5	50	9
49	Street Railways and Bus Lines	58	36	3	10	9
5V	Taxicab Service	45	16	2	4	23
50	Trucking Service	54	17	9	5	23
51	Water Transportation	51	17	3	12	19
52	Warehousing and Storage	15	4	4	1	6
55	Telephone (Wire and Radio)	20	17	—	2	1
56	Telegraph (Wire and Radio)	14	3	—	3	8
58	Electric Light and Power	90	47	3	28	12
6V	Water and Sanitary Services	64	24	10	10	20
	All Other	20	11	1	2	6
	<i>Wholesale and Retail Trade</i>	1,006	397	94	142	373
60	Wholesale Trade	147	41	16	26	64
	<i>Retail Trade</i>	859	356	78	116	309
61	Food Stores, Except Dairy Products	316	156	17	53	90
62	Dairy Products Stores and Milk Retailing	38	14	4	3	17
63	General Merchandise Stores	74	17	10	16	31

CODE NUMBER	INDUSTRY IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Retail Trade</i> (Continued)					
65	Apparel and Accessories Stores. Except Shoes	65	31	12	6	16
67	Furniture and Housefurnishings Stores	31	9	6	3	13
69	Motor Vehicles and Accessories Retailing Stores	14	5	—	1	8
7V	Filling Stations	19	5	1	3	10
70	Drug Stores	24	17	3	—	4
71	Eating and Drinking Places	99	53	3	10	33
72	Hardware and Farm Implement Stores	13	6	1	3	3
73	Lumber and Building Material Retailing	35	5	5	7	18
76	Jewelry Stores	15	6	—	4	5
77	Fuel and Ice Retailing	42	11	4	2	25
78	Miscellaneous Retail Stores	33	9	6	4	14
	All Other Retail Trade	41	12	6	1	22
	<i>Finance, Insurance and Real Estate</i>	97	39	9	19	30
8V	Banking and Other Finance	31	11	3	7	10
80	Insurance	49	22	4	10	13
81	Real Estate	17	6	2	2	7
	<i>Business and Repair Services</i>	106	40	15	13	38
82	Advertising	9	5	—	—	4
83	Business Services, Except Advertising	21	8	4	1	8
84	Automobile Storage, Rental and Repair	44	10	5	8	21
85	Miscellaneous Repair Services and Hand Trades	32	17	6	4	5
	<i>Personal Services</i>	225	124	14	10	77
86	Domestic Service	12	2	2	—	8
87	Hotels and Lodging Places	20	7	2	2	9
88	Laundering, Cleaning and Dyeing Services	84	29	7	8	40
89	Miscellaneous Personal Services	109	86	3	—	20
	<i>Amusement, Recreation and Related Services</i>	37	11	2	8	16
9V	Theaters and Motion Pictures	18	7	1	3	7
90	Miscellaneous Amusement and Recreation	19	4	1	5	9
	<i>Professional and Related Services</i>	176	103	16	14	43
91	Educational Services	35	18	5	4	8
92	Medical and Other Health Services	101	56	8	8	29
93	Legal, Engineering and Msc. Professional Services	16	12	2	—	2

CODE NUMBER	INDUSTRY IN 1939	NUMBER OF WORKERS	SAME OCCUPATION AND SAME INDUSTRY IN 1939 AND 1947	SAME OCCUPATION BUT DIFFERENT INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION BUT SAME INDUSTRY IN 1939 AND 1947	DIFFERENT OCCUPATION AND DIFFERENT INDUSTRY IN 1939 AND 1947
	<i>Professional and Related Services (Continued)</i>					
94	Charitable, Religious and Membership Agencies	24	17	1	2	4
	<i>Government</i>	322	184	20	52	66
95	Postal Service	38	28	—	7	3
96	National Defense	17	4	4	2	7
97	Federal Government (n.e.c.)	53	17	6	15	15
98	State and Local Government (n.e.c.)	214	135	10	28	41
99	Industry not Reported	32	—	18	—	14

Appendix Table 2. Number in each major occupation group in 1939 reported in specified major occupation groups in 1947, by age, for the identified white males employed at both census dates.

MAJOR OCCUPATION GROUPS IN 1939	1939	MAJOR OCCUPATION GROUPS IN 1947									
	Total	V	1	2	3	4	5	6	7	0,8	9
<b>*15 Years of Age and Over<sup>1</sup></b>	5,269	199	561	762	1,879	1,217	5	275	180	2	189
<b>V. Professional and Semiprofessional Workers</b>	165	133	4	9	10	5	—	3	—	—	1
1. Proprietors, Managers, and Officials	396	5	287	28	43	21	—	5	4	1	2
2. Clerical, Sales, and Kindred Workers	861	17	107	517	84	84	—	20	10	—	22
3. Craftsmen, Foremen, and Kindred Workers	1,597	20	61	53	1,248	158	1	28	9	—	19
4. Operatives and Kindred Workers	1,510	13	73	109	366	824	1	49	31	—	44
5. Domestic Service Workers	7	—	1	2	1	2	1	—	—	—	—
6. Protective Service Workers	199	3	3	12	8	15	1	151	3	—	3
7. Service Workers, Exc. Domestic and Protective	192	5	15	11	22	15	—	7	111	—	7
0, 8. Farmers and Farm Laborers	4	—	—	—	1	—	—	—	—	1	2
9. Laborers, Except Farm and Mine	337	3	10	21	96	93	1	12	12	—	89
<b>15 to 24 Years of Age</b>	725	34	59	141	217	188	1	40	18	—	27
<b>V. Professional and Semiprofessional Workers</b>	14	8	—	2	2	1	—	1	—	—	—
1. Proprietors, Managers, and Officials	7	1	4	1	1	—	—	—	—	—	—
2. Clerical, Sales and Kindred Workers	188	7	20	87	29	27	—	10	1	—	7
3. Craftsmen, Foremen, and Kindred Workers	127	6	6	11	74	24	—	4	1	—	1
4. Operatives and Kindred Workers	272	10	21	29	80	98	1	13	7	—	13
5. Domestic Service Workers	2	—	1	—	—	1	—	—	—	—	—
6. Protective Service Workers	8	—	—	—	1	2	—	5	—	—	—
7. Service Workers, Exc. Dom. and Prot.	31	1	4	2	7	7	—	2	7	—	1
9. Laborers, Except Farm and Mine	76	1	3	9	23	28	—	5	2	—	5

\*Includes 13 men of unknown age.

