UNITED STATES DEPARTMENT OF LABOR
L. B. Schwellenbach, *Secretary*

BUREAU OF LABOR STATISTICS
Ewan Clague, *Commissioner*

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State and Regional Variations in Prospective Labor Supply

Bulletin No. 893

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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington, D. C., March 4, 1947.

The SECRETARY OF LABOR:

I have the honor of transmitting herewith a bulletin presenting the results of a study of State and regional variations in prospective labor supply. The information presented here should prove helpful to labor, business, and government groups concerned with problems of employment, industrial location, marketing, housing, and social security.

The study was prepared by Lester M. Pearlman and Leonard Eskin in the Bureau's Occupational Outlook Division. Sophia C. Mendelsohn and Mary J. Levy assisted in the formulation of the estimating procedures and supervised the statistical operations.

EWAN CLAGUE, *Commissioner.*

Hon. L. B. SCHWELLENBACH,
Secretary of Labor.

Bulletin No. 893 of the

United States Bureau of Labor Statistics

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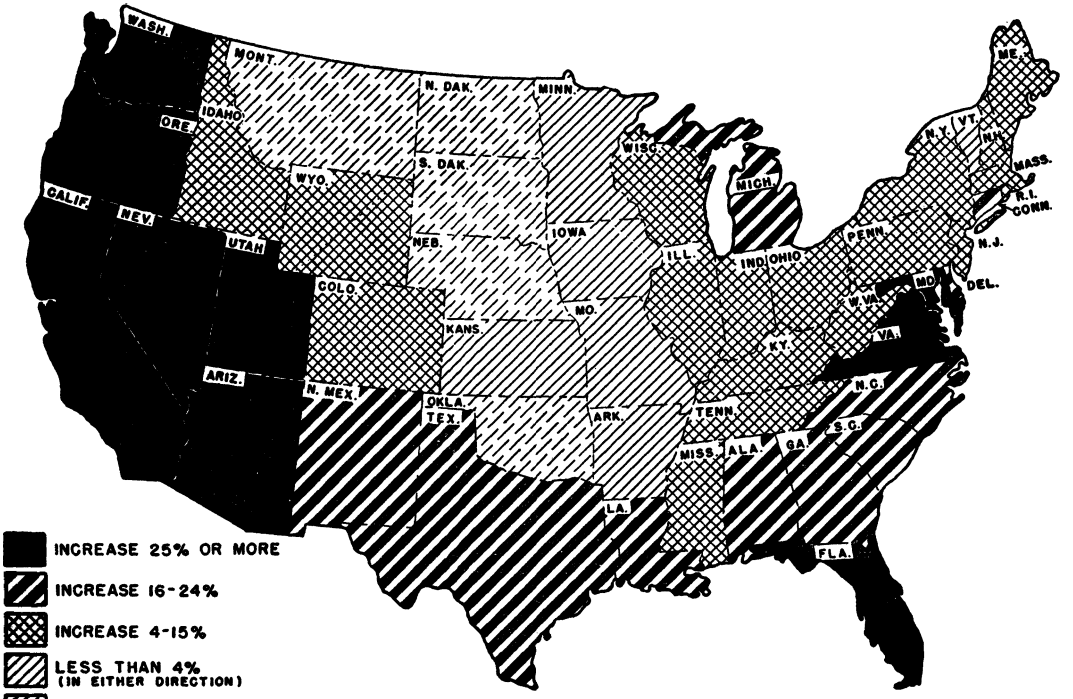


LABOR FORCE INCLUDES ALL PERSONS 14 YEARS OF AGE AND OVER WHO ARE WORKING OR SEEKING WORK.

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

State and Regional Variations in Prospective Labor Supply

LABOR, business, and government groups engaged in labor-market analysis or concerned with problems of maintaining high levels of employment need some quantitative measure of prospective labor supply in their particular States or regions. An estimate of the total number of persons who will be working or seeking work provides a framework for the analysis of a variety of social and economic problems relating to employment, industrial location, marketing, housing, and social security. This report contains basic information on past trends and wartime developments in labor-force growth which will aid in the preparation of such an estimate for each of the 48 States.

The Pacific Coast States and the South are expected to register the largest relative gains in labor force between 1940 and 1950. (See map on opposite page and table 4, p. 20.) On the other hand the Great Plains States stretching from North Dakota to Oklahoma will probably suffer a net loss in working population. Migrants, drawn largely from the South and the Great Plains States, accounted for much of the rapid expansion of labor supply on the Pacific Coast during the war. Most of these migrants are likely to remain in their new locations because their movements followed a well-established long-term trend. The predominantly rural South, despite the fact that it loses many workers through migration to other regions, ranks second to the West Coast in the prospective rate of labor-force growth because of its relatively high birth rate. The industrial Northeast accounts for about half of the Nation's working population, but lags behind the rest of the country in prospective labor-force growth because its birth rates are relatively low and it does not characteristically draw workers from other regions.

Two types of data are presented here for use in estimating the size of each State's labor force in 1950, a year when short-run dislocations of the postwar transition period are expected to be over.

First, the base figure shown is the "normal" labor force in 1950—the work force that would have been expected if peacetime trends in labor-market participation and interstate migration had continued after 1940 and if economic conditions similar to those of 1940 had prevailed. The normal estimates, although not predictions of the actual size of the labor force in each State, provide a basis from which realistic estimates may be made.

Second, data are presented on the wartime changes in the labor force of each State. This material will aid in estimating the extent to which the actual size of the labor force in 1950 may differ from the normal level.

Normal Growth of the Labor Force, 1940 to 1950

NATIONAL CHANGES

A brief examination of normal labor-force projections for the Nation as a whole between 1940 and 1950 shows a number of broad trends in population growth and labor-market participation which operate in all States. In addition, the national trends serve as a background against which State and regional variations can be studied.

TABLE 1.—*"Natural" and "Normal" Labor-Force Growth, by State, 1940 to 1950* [1]

Region, division, and State	Labor force, 1940 [2] (in thousands)	"Natural" labor-force projection, 1950 [3]		"Normal" labor-force projection, 1950 [4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
UNITED STATES	54,778	60,830	11.0	60,830	11.0
NORTH	32,627	35,289	8.2	34,618	6.1
New England	3,757	4,082	8.6	4,062	8.1
Maine	343	384	12.0	373	8.7
New Hampshire	215	234	8.8	242	12.6
Vermont	147	161	9.5	157	6.8
Massachusetts	1,917	2,077	8.3	2,033	6.1
Rhode Island	335	366	9.3	367	9.6
Connecticut	800	860	7.5	890	11.2
Middle Atlantic	12,249	13,233	8.0	13,074	6.7
New York	6,188	6,571	6.2	6,501	5.1
New Jersey	1,928	2,065	7.1	2,098	8.8
Pennsylvania	4,133	4,597	11.2	4,475	8.3
East North Central	11,203	12,086	7.9	12,109	8.1
Ohio	2,865	3,089	7.8	3,071	7.2
Indiana	1,379	1,494	8.3	1,516	9.9
Illinois	3,485	3,697	6.1	3,677	5.5
Michigan	2,202	2,418	9.8	2,495	13.3
Wisconsin	1,272	1,388	9.1	1,350	6.1
West North Central	5,418	5,888	8.7	5,373	−.8
Minnesota	1,142	1,242	8.8	1,218	6.7
Iowa	992	1,069	7.8	1,007	1.5
Missouri	1,579	1,698	7.5	1,599	1.3
North Dakota	244	277	13.5	214	−12.3
South Dakota	248	279	12.5	221	−10.9
Nebraska	519	569	9.6	463	−10.8
Kansas	694	754	8.6	651	−6.2
SOUTH	16,303	19,314	18.5	19,104	17.2
South Atlantic	7,249	8,625	19.0	8,844	22.0
Delaware	119	128	7.6	140	17.6
Maryland	797	879	10.3	948	18.9
District of Columbia	358	380	6.1	413	15.4
Virginia	1,072	1,256	17.2	1,307	21.9
West Virginia	657	791	20.4	767	16.7
North Carolina	1,388	1,736	25.1	1,716	23.6
South Carolina	763	966	26.6	951	24.6
Georgia	1,277	1,577	23.5	1,538	20.4
Florida	818	912	11.5	1,064	30.1
East South Central	4,050	4,833	19.3	4,645	14.7
Kentucky	1,037	1,217	17.4	1,171	12.9
Tennessee	1,114	1,308	17.4	1,266	13.6
Alabama	1,058	1,300	22.9	1,229	16.2
Mississippi	841	1,008	19.9	979	16.4

See footnotes at end of table.

TABLE 1.—*"Natural" and "Normal" Labor-Force Growth, by State, 1940 to 1950* [1]—Continued

Region, division, and State	Labor force, 1940 [2] (in thousands)	"Natural" labor-force projection, 1950 [3]		"Normal" labor-force projection, 1950 [4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
SOUTH—Continued.					
West South Central	5,004	5,856	17.0	5,615	12.2
Arkansas	704	827	17.5	764	8.5
Louisiana	919	1,082	17.7	1,088	18.4
Oklahoma	834	983	17.9	820	−1.7
Texas	2,547	2,964	16.4	2,943	15.5
WEST	5,848	6,227	6.5	7,108	21.5
Mountain	1,580	1,797	13.7	1,856	17.5
Montana	233	250	7.3	240	3.0
Idaho	198	223	12.6	237	19.7
Wyoming	104	115	10.6	119	14.4
Colorado	437	481	10.1	489	11.9
New Mexico	184	229	24.5	243	32.1
Arizona	187	222	18.7	255	36.4
Utah	187	226	20.9	213	13.9
Nevada	50	51	2.0	60	20.0
Pacific	4,268	4,430	3.8	5,252	23.1
Washington	742	765	3.1	843	13.6
Oregon	470	487	3.6	559	18.9
California	3,056	3,178	4.0	3,850	26.0

[1] Data presented in this table cover total labor force including armed forces. All data at April seasonal level. Annual average for total United States is about three-fourths of a million higher.
[2] Data from 1940 census have been revised upward for comparability with current census series. Preliminary, pending release of official revision of United States total by Bureau of the Census. See Appendix A, section 1.
[3] This projection assumes (1) continuation of prewar trends in the percentage of the population that works or seeks work; (2) economic conditions in 1950 similar to those of 1940; and (3) no interstate migration between 1940 and 1950. See Appendix A, section 2.
[4] Assumption (1) and (2) same as above, but interstate migration between 1940 and 1950 assumed to be twice the 1935–40 volume. See Appendix C, section 3.

Estimates of normal labor force for the United States have been constructed by projecting 1920 to 1940 relationships between population and labor force through the decade 1940–50.[1] The decennial increases in the labor force and population from 1920 to 1940 and the normal increase from 1940 to 1950 are shown in the following tabulation:

	Increase (in thousands)		
	1920–30	*1930–40*	*1940–50 (normal)*
Population, 14 years of age and over: Total	14,957	12,002	9,205
Male	7,134	5,466	3,920
Female	7,823	6,536	5,285
Labor force: Total	[1] 7,359	5,895	6,052
Male	[1] 5,110	3,276	2,570
Female	[1] 2,249	2,619	3,482

[1] Since data for 1920 are not available on a "labor force" basis, the 1920–30 change refers to "gainful workers."

[1] Labor-force projections for the United States as a whole appearing in this article represent preliminary revisions by the authors of estimates prepared by the Bureau of the Census and published in Population, Special Reports, Series P–44 No. 12, Bureau of the Census (Washington), June 12, 1944. The revisions are designed to be consistent with current Census estimates which are based on a revised interviewing procedure adopted in July 1945. See Bureau of the Census, Monthly Report on the Labor Force, especially MRLF No. 39, September 20, 1945.

Despite the expected decline in the rate of population growth and an assumed continuation of past trends toward longer schooling and earlier retirement, the projected increment to the labor force during this decade is somewhat larger than the increase during the 1930's.

The long-term trend toward an increasing number of women workers is the major factor supporting the large normal labor-force growth during the current decade. Over the years, it has been possible for a larger proportion of women to work outside the home because of greater mechanization of household and industrial processes, increasing urbanization, decline in the birth rate, and social attitudes more favorable to the employment of women.

On the basis of peacetime expectations, the national labor force in 1950 would number about 60.8 million persons—43.6 million men and 17.2 million women.[2]

STATE AND REGIONAL VARIATIONS

The rate of expansion of the national labor force during the decade 1940–50 represents the net effect of widely varying rates among the States. Differences in the birth rate and interstate migration play the leading roles in causing these variations.

Differential Fertility and "Natural" Labor-Force Growth

In the absence of migration, the South would be expected to have the fastest growing labor force in the Nation between 1940 and 1950. This is attributable to the high birth rates which prevail in the predominantly rural Southern States. Rural areas throughout the country have significantly higher fertility rates than urban areas. Regional differences in the "natural" rate of labor-force growth [3] are as follows:

	Natural growth in the labor force, 1940–50 (percent)
United States	11
North	8
South	18
West	6

In the broad region called the South,[4] the labor force of only two States, Delaware and Maryland (which are not typical of the other Southern States), would be expected to grow at a slower rate between 1940 and 1950 than the 11-percent natural increase anticipated for the Nation as a whole (table 1, column 3). The labor force in North Carolina, South Carolina, Georgia, and Alabama would be

[2] All data presented in this article cover total labor force including the armed forces. Projections are made at April seasonal level (the time of year when the decennial census is usually taken). On an annual average basis, the United States total labor force would be about three-fourths of a million higher

[3] The "natural" rate of labor-force growth is here defined as the projected rate of growth, assuming no interstate migration.

[4] Regional classifications used in this article are the same as those used by the Bureau of the Census. See tables for States included in each region

expected to grow more than twice as fast as the national labor force. In 24 out of 32 States in the North and West, the natural rate of labor-force growth would fall below the corresponding rate for the Nation. The lowest rates of labor-force growth in the country would prevail in the geographic division embracing the trio of Pacific Coast States—California, Oregon, and Washington.

In every State the natural rate of increase in the labor force is very much greater for women than for men. This reflects the increasing participation of women workers as well as the declining proportion of boys and older men in the labor force. In the absence of interstate migration, the number of male workers in the Pacific Coast States, Nevada, and the District of Columbia would be expected to decline between 1940 and 1950, but these decreases would be more than offset by gains in the number of women workers. (See Appendix B, tables 1 and 2.)

Replacement rates.—Thus far natural labor-force growth has been dealt with only in terms of *net* changes between 1940 and 1950. But these net changes result from differences between the number of persons who enter the labor market and the number who leave. The accessions to and separations from the labor force are analyzed in this section, not only to indicate their magnitude, but also to highlight State differences in the competitive position of new entrants to the labor market. The analysis is confined to male workers because the movements of women in and out of the labor market are complicated by changes in marital and family status.

Areas of relatively high birth rates and comparatively young population will have more new workers entering the labor force and fewer older workers leaving than areas where the population is relatively old. In the South, for example, some 3,895,000 young men (exclusive of in-migrants) would be expected to enter the labor force between 1940 and 1950, whereas only 2,321,000 would leave because of death or retirement.[5] (See table 2, columns 1 and 2.) This means an average of 168 accessions for every 100 separations—a *replacement rate* of 168. In other words, if there were no migration into or out of the South, every 100 men leaving that region's labor force between 1940 and 1950 would be replaced by 168 new male workers. This rate is much higher than the rates for the North (118) or the West (107). Replacement rates for individual States tend to cluster about the regional average (see chart 1), but there are some exceptions, such as New Mexico, Arizona, and Utah, where replacement rates more nearly resemble those of the South than those of the West. On the other hand, the pattern of labor-market accessions and separations in Delaware, Maryland, District of Columbia, and Florida is more like the North than like the South.

[5] Figures exclude accessions and separations of seasonal or intermittent workers.

The differences in the relation between labor-market accessions and separations are reflected in the composition of the labor force at any one time. If there were no interstate migration between 1940 and 1950, 28 percent of the South's male labor force in 1950 would have less than 10 years' labor-market experience as compared with 24 percent in the North and 23 percent in the West. In South Carolina, one out of every three men in the 1950 labor force would be a new worker added after 1940; in California the corresponding figure would be only one out of every five.

TABLE 2.—*"Natural" and "Normal" Accessions, Separations, and Replacement Rates for the Male Labor Force, by State, 1940 to 1950*

Region, division, and State	"Natural"[1]			"Normal"[2]		
	Accessions (in thousands)	Separations (in thousands)	Replacement rate (accessions per 100 separations)	Accessions[3] (in thousands)	Separations[3] (in thousands)	Replacement rate (accessions per 100 separations)
	(1)	(2)	(3)	(4)	(5)	(6)
UNITED STATES	10,974	8,404	131	10,974	8,404	131
NORTH	6,033	5,102	118	6,250	5,818	107
New England	664	566	117	740	653	113
Maine	72	57	126	84	75	112
New Hampshire	39	35	111	56	48	117
Vermont	30	25	120	39	36	108
Massachusetts	332	287	116	379	362	105
Rhode Island	58	47	123	74	62	119
Connecticut	133	115	116	186	148	126
Middle Atlantic	2,150	1,819	118	2,332	2,126	110
New York	983	911	108	1,158	1,151	101
New Jersey	321	277	116	430	364	118
Pennsylvania	846	631	134	913	780	117
East North Central	2,109	1,797	117	2,470	2,143	115
Ohio	547	471	116	664	602	110
Indiana	277	234	118	368	307	120
Illinois	588	541	109	764	735	104
Michigan	436	339	129	577	424	136
Wisconsin	261	212	123	293	271	108
West North Central	1,110	920	121	1,138	1,326	86
Minnesota	227	188	121	278	254	109
Iowa	207	175	118	243	256	95
Missouri	296	259	114	369	404	91
North Dakota	61	43	142	54	83	65
South Dakota	59	42	140	56	84	67
Nebraska	113	90	126	113	169	67
Kansas	147	123	120	171	222	77
SOUTH	3,895	2,321	168	4,219	2,781	152
South Atlantic	1,654	988	167	2,021	1,178	172
Delaware	21	18	117	36	25	144
Maryland	145	114	127	236	154	153
District of Columbia	40	43	93	115	101	114
Virginia	248	151	164	355	211	168
West Virginia	186	100	186	210	142	148
North Carolina	364	172	212	408	224	182
South Carolina	201	94	214	226	129	175
Georgia	298	167	178	356	242	147
Florida	151	129	117	305	176	173

See footnotes at end of table.

TABLE 2.—*"Natural" and "Normal" Accessions, Separations, and Replacement Rates for the Male Labor Force, by State, 1940 to 1950*—Continued

Region, division, and State	"Natural"[1]			"Normal"[2]		
	Accessions (in thousands)	Separations (in thousands)	Replacement rate (accessions per 100 separations)	Accessions[3] (in thousands)	Separations[3] (in thousands)	Replacement rate (accessions per 100 separations)
	(1)	(2)	(3)	(4)	(5)	(6)
SOUTH—Continued.						
East South Central	1,034	595	174	1,096	789	139
Kentucky	271	159	170	305	226	135
Tennessee	271	162	167	316	238	133
Alabama	282	148	191	298	214	139
Mississippi	210	126	167	234	168	139
West South Central	1,207	738	164	1,306	1,018	128
Arkansas	189	114	166	219	192	114
Louisiana	220	133	165	272	177	154
Oklahoma	217	131	166	226	267	85
Texas	581	360	161	712	505	141
WEST	1,046	981	107	1,830	1,130	162
Mountain	371	256	144	580	418	139
Montana	47	41	115	71	72	99
Idaho	48	34	141	87	61	143
Wyoming	22	16	138	46	36	128
Colorado	91	73	125	151	128	118
New Mexico	54	26	208	91	52	175
Arizona	46	28	164	99	56	177
Utah	55	29	190	64	48	133
Nevada	8	9	89	27	21	129
Pacific	675	725	93	1,393	855	163
Washington	126	137	92	247	194	127
Oregon	79	83	95	178	128	139
California	470	505	93	1,063	628	169

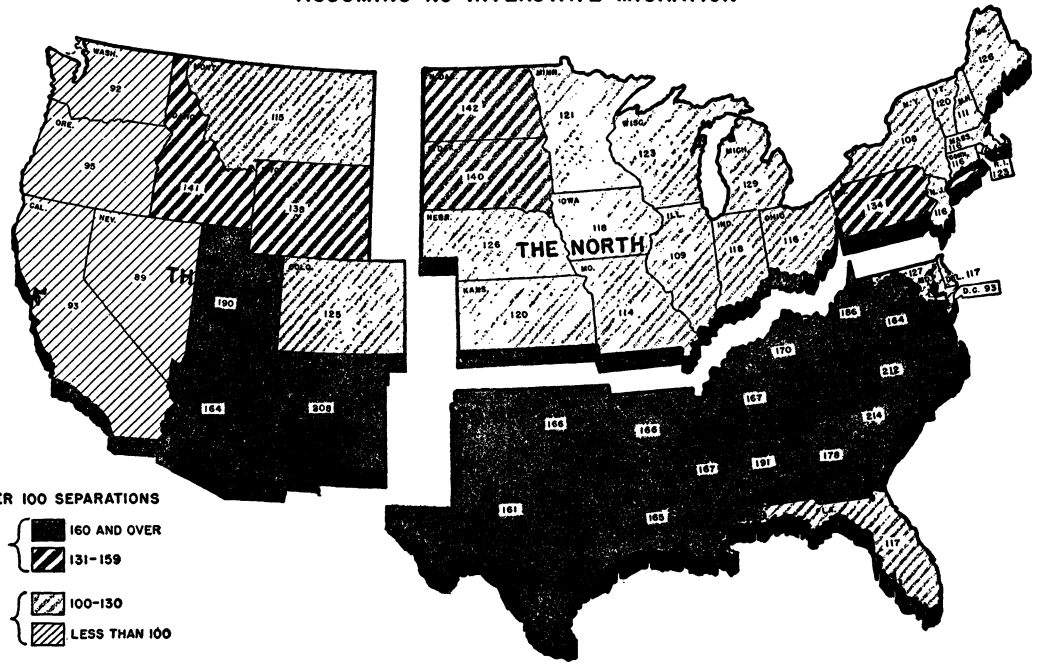
[1] Assumes no interstate migration between 1940 and 1950. See Appendix A, section 6.
[2] Assumes interstate migration between 1940 and 1950 to be twice the 1935–40 volume. See Appendix A, section 7.
[3] United States, regional, and divisional totals are less than the sum of their components because they exclude accessions and separations due to migration between States within the United States, region, or division.

State variations in replacement rates should not be interpreted without reference to variations in economic opportunity. A State with a rapidly expanding economy may easily absorb 200 replacements for every 100 persons leaving the labor force, whereas a less fortunate State might have difficulty providing employment opportunity for say 110 replacements. Given *equal* employment opportunity for two States, however, jobs would be harder to find in the one with the higher replacement rate because on the average more workers would be competing for each job opening. The difficulty of finding jobs would be greatly accentuated in a State with both a relatively high replacement rate and relatively low employment opportunity.

Actually, the areas with the highest replacement rates and the greatest rates of natural labor-force growth tend to be the ones where economic opportunity is below par. This disparity between labor

CHART 1

NATURAL REPLACEMENT RATES FOR THE MALE LABOR FORCE
1940-1950
ASSUMING NO INTERSTATE MIGRATION



ACCESSIONS PER 100 SEPARATIONS

GREATER THAN U.S. AVERAGE
- 160 AND OVER
- 131-159

LESS THAN U.S. AVERAGE
- 100-130
- LESS THAN 100

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supply and economic opportunity has resulted in a consistent pattern of internal migration. The South and Great Plains characteristically have been losers in the give and take of population between regions. The West, on the other hand, has been able to draw large numbers of people from other regions of the country, while losing few. The effect of large-scale migration on State variations in labor-force growth is shown in the next section.

Internal Migration and "Normal" Labor-Force Growth

Because of the extreme importance of population movements to the supply of labor in a given State, the estimates of "normal" labor-force growth include an assumption with respect to interstate migration. For this purpose, the rate of interstate migration between 1935 and 1940 was projected through the decade 1940–50. The "normal" labor force for each State, therefore, consists of a projection of migration movements as well as trends in labor-market participation. In the procedure employed no attempt was made to estimate the *actual magnitude* of migration. But the prewar population movements do reflect a migration *pattern* that prevailed during the war and is likely to carry over into the postwar period.[6]

Since these normal labor force estimates by State assume a prewar migration pattern, there is also implicit the assumption that the prewar distribution of employment opportunity will not shift radically. In view of the past stability in the geographic distribution of economic resources and opportunity, both in years of war and peace,[7] there is a strong likelihood that this distribution will not change significantly in the next 5 years.

Estimates of normal labor-force growth and replacement rates between 1940 and 1950 by State and region including allowance for interstate migration are shown in tables 1 and 2. The introduction of the prewar migration pattern exerts great influence on the State and regional rates of labor-force growth as a comparison of these rates with those computed on a no-migration basis readily indicates (see chart 2).

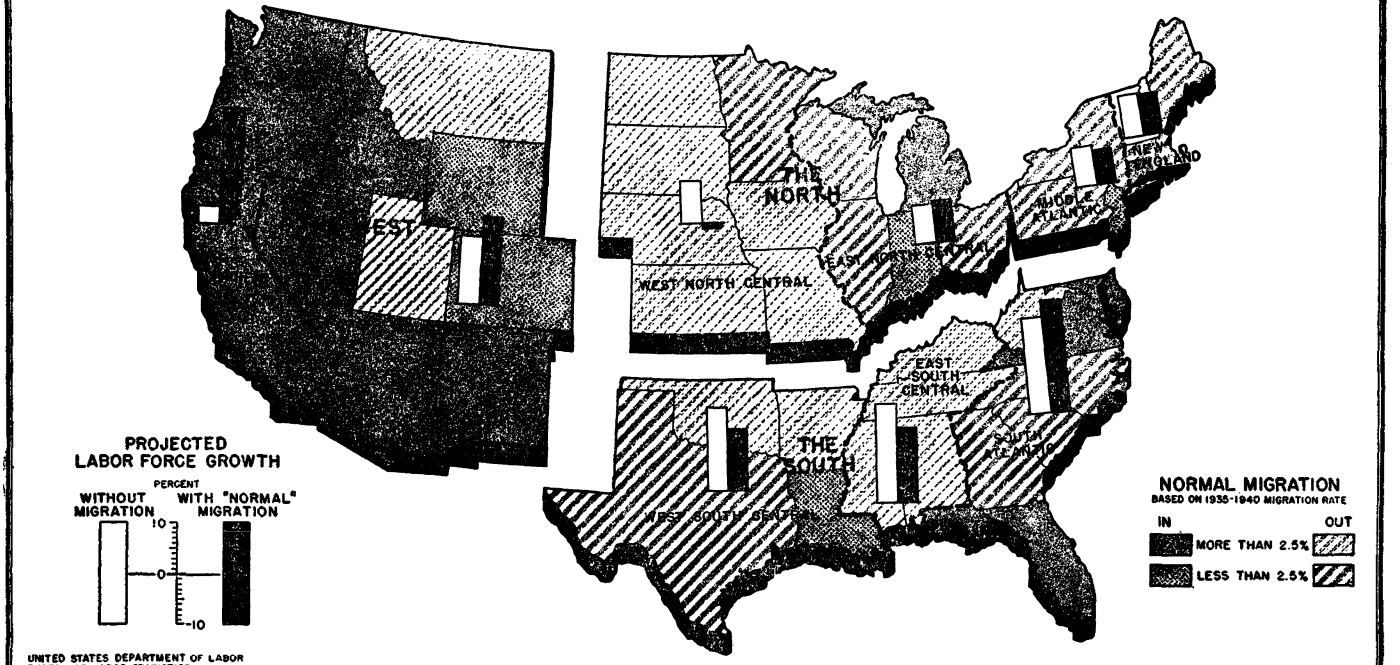
[6] See Demographic Aspects of World War II: Migration. Paper delivered before the American Sociological Society (Cleveland, Ohio, March 1, 1946), by Henry S. Shryock, Jr., and Hope Tisdale Eldridge. It should be reemphasized at this point that the so-called normal labor-force projections assume economic conditions similar to those of 1940. Their main function is to serve as a base upon which more realistic projections can be made and not to estimate the size of the labor force under ideal economic conditions. This is especially true with regard to the migration assumption. The 1935–40 experience was chosen simply because (1) it reflected a general pattern that has prevailed in the past and is likely to continue in the future, (2) the time reference is close to the 1940 conditions to which the "normal" projections apply, and (3) there are more data available on the characteristics of migrants during the 1935–40 period than during any other period.

[7] On this subject see National Resources Committee, Structure of the American Economy, Philadelphia, 1939; Is Industry Decentralizing? by Daniel Creamer, Philadelphia, 1935; Growth of American Manufacturing Areas, by Glenn E. McLaughlin, Philadelphia, 1935; Regional Distortions Resulting from the War, in Survey of Current Business, October 1943.

CHART 8

EFFECT OF MIGRATION ON NORMAL LABOR FORCE GROWTH
1940–1950

SOUTH AND GREAT PLAINS, WHERE NATURAL GROWTH OF LABOR FORCE
OUTSTRIPS OPPORTUNITIES FOR EMPLOYMENT, SUPPLY LABOR TO EXPANDING WEST COAST



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Although the West has the slowest rate of natural increase in working population, the great inflow of migrants causes this region to have the fastest growing labor force in the Nation. California's rate of labor-force growth increases from 4 percent to 26 percent when allowance is made for migrant workers. The South, which had the highest rate of natural labor-force growth, runs second to the West when the migration factor is taken into account.

Perhaps the most striking effect of migration on labor-force growth is shown in the Great Plains States where the labor force will actually decline between 1940 and 1950, if the exodus of workers equals or exceeds the prewar rate. And the heavy migration from this region during World War II [8] leaves little doubt that by the end of this decade there will be in fact fewer workers in the area from North Dakota to Oklahoma than there were in 1940. Wartime migration, although creating some new local problems of overcrowding and expansion of populations beyond the peacetime capacities of local economies to support them, was in general a movement from areas of low or declining opportunity to more favorably situated places.

However, there is typically not enough migration from areas of low economic opportunity to drain off the surplus labor supply. Many workers are reluctant to leave familiar surroundings and family ties. The uncertainty and fear attending migration are reinforced by its cost. This is particularly significant, for it is precisely those who should move who usually lack the means to do so. Added to these factors is the general ignorance as to where employment opportunities lie. The war stimulated migration not only because new job opportunities arose but also because they were dramatized and publicized to an unusual degree.

There has been a noteworthy trend toward the development of industry in areas of surplus labor supply. During recent decades, for example, industrialization of the South has been proceeding more rapidly than in the country as a whole. Nevertheless, it appears that the resulting shift in the distribution of employment opportunity has been relatively small. Internal migration will have to continue if all workers are to be afforded useful employment opportunities. [9]

Factors Determining Deviation of Labor Force from Normal, 1950

The 1950 labor force in a given State may differ from a normal based on projection of prewar trends for two principal reasons: (1) the proportion of the population that works or seeks work may

[8] See Bureau of the Census, Population, Special Reports, Series P–46, No. 3 (Washington), February 12, 1946. Migration data for the war and prewar periods are presented in Appendix B, table 3.

[9] See Internal Migration and Full Employment, in Journal of the American Statistical Association, September 1945.

differ from that yielded by the normal projections; and (2) the actual volume of interstate migration may deviate from the assumed volume. National labor-force growth will be affected primarily by only the first of these factors; State labor-force growth will be influenced by both factors, but principally by the second.

TABLE 3.—*Estimated Deviation of Labor Force From "Normal," by State, April 1945* [1]

[In thousands]

Region, division, and State	Estimated actual labor force [2]	"Normal" labor force projection [3]	Deviation of estimated labor force from "normal"		
			Total	Caused by "abnormal" migration [4]	Caused by participation of "extra" workers
	(1)	(2)	(3)	(4)	(5)
UNITED STATES	65,986	58,000	[5] 7,986	0	7,986
NORTH	38,619	33,781	4,838	60	4,778
New England	4,386	3,926	460	58	402
Maine	398	358	40	−11	51
New Hampshire	229	227	2	−10	12
Vermont	147	151	−4	−14	10
Massachusetts	2,225	1,985	240	34	206
Rhode Island	387	354	33	13	20
Connecticut	1,000	851	149	46	103
Middle Atlantic	14,069	12,737	1,332	−84	1,416
New York	6,920	6,378	542	−154	696
New Jersey	2,339	2,028	311	70	241
Pennsylvania	4,810	4,331	479	0	479
East North Central	13,883	11,705	2,178	258	1,920
Ohio	3,689	2,983	706	124	582
Indiana	1,776	1,452	324	29	295
Illinois	4,200	3,600	600	40	560
Michigan	2,747	2,356	391	98	293
Wisconsin	1,471	1,314	157	−33	190
West North Central	6,281	5,413	868	−172	1,040
Minnesota	1,308	1,184	124	−86	210
Iowa	1,103	1,002	101	−66	167
Missouri	1,865	1,589	276	−8	284
North Dakota	254	231	23	−19	42
South Dakota	257	236	21	−17	38
Nebraska	602	496	106	0	106
Kansas	892	675	217	24	193
SOUTH	19,660	17,730	1,930	−440	2,370
South Atlantic	8,868	8,067	801	−54	855
Delaware	144	130	14	3	11
Maryland	1,087	874	213	82	131
District of Columbia	510	387	123	77	46
Virginia	1,399	1,191	208	52	156
West Virginia	800	712	88	−58	146
North Carolina	1,574	1,553	21	−121	142
South Carolina	884	859	25	−62	87
Georgia	1,465	1,423	42	−44	86
Florida	1,005	938	67	17	50
East South Central	4,705	4,350	355	−225	580
Kentucky	1,162	1,103	59	−109	168
Tennessee	1,349	1,191	158	−12	170
Alabama	1,302	1,143	159	−21	180
Mississippi	892	913	−21	−83	62

See footnotes at end of table.

TABLE 3.—*Estimated Deviation of Labor Force From "Normal," by State, April 1945* [1]—Continued

[In thousands]

Region, division, and State	Estimated actual labor force [2]	"Normal" labor force projection [3]	Deviation of estimated labor force from "normal"		
			Total	Caused by "abnormal" migration [4]	Caused by participation of "extra" workers
	(1)	(2)	(3)	(4)	(5)
SOUTH—Continued.					
West South Central	6,087	5,313	774	−161	935
Arkansas	826	733	93	−82	175
Louisiana	1,054	1,003	51	−11	62
Oklahoma	944	830	114	−71	185
Texas	3,263	2,747	516	3	513
WEST	7,707	6,489	1,218	380	838
Mountain	1,848	1,719	129	−57	186
Montana	247	237	10	−31	41
Idaho	217	217	0	−30	30
Wyoming	118	112	6	−6	12
Colorado	493	463	30	−15	45
New Mexico	202	213	−11	−29	18
Arizona	259	221	38	23	15
Utah	245	201	44	23	21
Nevada	67	55	12	8	4
Pacific	5,859	4,770	1,089	437	652
Washington	1,028	796	232	78	154
Oregon	624	515	109	33	76
California	4,207	3,459	748	326	422

[1] Data presented in this table cover total labor force including armed forces.
[2] Includes members of armed forces in States from which they were inducted. Preliminary, pending release of Bureau of the Census official estimate of United States total on basis comparable with current census series. See Appendix A, section 4.
[3] Assumes interstate migration between 1940 and 1945 to be equal to the 1935–40 volume. See Appendix A, section 3.
[4] Estimate includes only migrants who would be in labor force on basis of prewar patterns of labor-market participation. Any migrants who were in the labor force in April 1945 but who would not have been workers under normal peacetime conditions are counted in column 5. See Appendix A, section 5.
[5] Revised slightly from United States total of 8.1 million published in Monthly Labor Review for November 1946.

Analysis of the differential impact of the war on the labor force of each State gives insight into the probable postwar deviation of the actual labor force from normal. The wartime expansion of the Nation's labor force to a level approximately 8 million above peacetime expectations was distributed very unevenly among the States. The extent to which these State variations in wartime excess of labor force over normal were caused by differences in degree of recruitment of new workers and by "abnormal" migration is shown in table 3. The two factors may supplement one another or offset each other. For example, the fact that California's wartime labor force exceeded normal by approximately 750,000 workers resulted from the larger than usual inflow of migrants as well as from the more complete utilization of its prewar labor supply. In contrast, out-migration of large numbers of North Carolina's working population offset the "extra" workers drawn into its labor force, so that very little increase over normal took place.

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The degree to which wartime change in the labor force of a given State came about through migration rather than through more extensive utilization of the resident labor supply will play a major role in determining the future size of the State's labor force. In general, the effects of migration are likely to be more lasting than the effects of drawing extra workers into the labor force from the resident population.

EXTRA WORKERS

Some indication of the extent to which extra workers will remain in the labor market may be obtained by examining the picture for the Nation as a whole. During the war, some 8 million persons who ordinarily would have been housewives, students, retired men, or others not in search of gainful employment were drawn into the Nation's labor force.[10] These included about 4 million youths of school and college age, ½ million young women aged 20–34; 2 million women over the age of 35; and 1½ million men over 25.

Two-thirds of the wartime excess labor force caused by the premature entrance of school- and college-age youths into civilian jobs or the armed forces has already disappeared. Further reductions in the number of young workers are expected within the next few years as the prewar trend toward staying in school longer is resumed. With favorable employment opportunities, however, the teen-age labor force may be expected to continue somewhat higher than a projection of prewar trends would indicate, because a greater number of students will probably take advantage of opportunities for part-time and summer work.

About 1½ million young women aged 20–34 years quit working during the first year of peace, chiefly because their husbands returned from the armed forces or they married returning veterans. The number of young women workers is now actually below the level expected from prewar trends because of the unusually large numbers of marriages and births since 1940. Continuation of a generally high rate of economic activity would keep the number of young women workers below the level anticipated by the normal projections because young women with family responsibilities would not have to work or seek work to the same extent as in 1940.

Among men over 25 years old and women over 35, the wartime expansion in the labor force was a response to a full-employment situation as well as to the Nation's war needs. Jobs were available to those who had previously been considered virtually unemployable and others who had previously preferred retirement or homemaking were

[10] For more complete discussions of the characteristics of extra wartime workers and the factors affecting their continued labor-market participation, see Sources of Wartime Labor Supply in the United States in Monthly Labor Review, August 1944; "Extra" Workers in the Postwar Labor Force, in Monthly Labor Review, November 1945; and The Labor Force in the First Year of Peace, in Monthly Labor Review, November 1946.

brought into the labor market by the availability of attractive work at good pay. As long as employment opportunities remain substantially better than those of 1940, the number of workers in the middle and upper age groups is likely to exceed the level indicated by a projection of prewar trends, though not to the same extent as during the war.

When the surplus of middle-aged and older workers is balanced against the deficit of young women workers, however, it is likely that the national labor force will not exceed normal by more than 1½ million, or 2 to 3 percent, in 1950. Thus, in most States, the carry-over from the more complete utilization of labor supply during the war will probably be relatively small. In some States, however—especially those with a large proportion of older men and middle-aged women in the labor force—failure to take account of the extra workers remaining may result in a fairly significant understatement of the available labor supply.

INTERSTATE MIGRATION

The extent to which the rate of interstate population movement between 1940 and 1950 will differ from the 1935–40 rate assumed in the normal estimates presented here is far less predictable than the extent to which wartime extra workers will remain in the labor market. Although the *pattern* of wartime migration was very similar to that which had prevailed for some time before the war, the *volume* of 1940–45 civilian migration alone was considerably greater than that of total migration for the 5 prewar years used to compute the "normal" estimates.

The effect of this relatively heavy civilian migration in causing the labor force of each State to deviate from the assumed normal in 1945 is shown in table 3. The deviations from normal arising from migration are much more likely to persist through 1950 than are the deviations caused by the participation of extra workers during the war. Of course, there will be State variations in the extent to which gains and losses through "abnormal" migration are retained. Under certain circumstances the gains and losses may be not merely retained but increased. Whether deviations from normal because of migration are increased, retained, or decreased between 1945 and 1950 will depend on the net result of several opposing forces.

The pent-up migration plans of servicemen have been a major force exerting an upward pressure on the volume of postwar migration. The estimates of actual labor force in April 1945 (table 3) include armed forces in their State of origin, and there may have been considerable migration of ex-servicemen following demobilization. According to an Army survey in the summer of 1944, 1 out of every 10 servicemen did not intend to return to the State in which he lived be-

fore the war.[11] The survey further indicated that the migration of demobilized servicemen would be expected to follow the pattern of prewar and wartime movements of civilians.

If employment is maintained at the current high levels, migration will be further stimulated. There is typically more net interstate population movement in good times than in bad. The existence of opportunity elsewhere generally creates a stronger impetus for migration than the lack of opportunity at home. And in times of depression, the relative security of even a bare subsistence on a farm may be more attractive than the insecurity of going jobless in the city. Moreover, during depression periods there is considerable movement from cities back to farms which is against the prevailing direction of migration. This tends to hold down the net interchange of population between States. In view of the large volume of unemployment that existed during the period 1935–40, the volume of migration during that period (used as a basis for the "normal" estimates) is probably below par for more prosperous times.

On the other hand, migration between 1945 and 1950 may be slowed down by virtue of the large-scale movement during the first half of the decade. The capacity of certain areas to absorb in-migrants may be glutted, at least temporarily, by the tremendous inflows of population during the war. In addition, overexpansion of population in relation to postwar opportunities may cause some reverse migration. The occurrence of a severe depression would also retard the characteristic flow of population from farm to industrial areas.

On balance, if conditions of high employment prevail, the volume of migration between 1945 and 1950 will probably equal or exceed the volume assumed in the "normal" estimates. Even if the rate of migration were to fall below the "normal" rate, during the second half of the decade, the decline would probably not nearly offset the unusually large flow of migrants between 1940 and 1945. In either case, therefore, the volume of migration for the entire decade, 1940–50, would exceed that based on the prewar experience; allowance for this factor should be made when adjusting the "normal" labor-force estimates for 1950.

State Estimates of the Labor Force, 1950

As indicated in the introductory paragraphs of this article, the State estimates of normal labor-force growth and wartime deviations from normal will aid in evaluating the prospective labor supply in each State. The insight which this material provides, however, should be supplemented by other information that is available on the work force of the individual States.

[11] See Postwar Migration Plans of Army Enlisted Men, in The Annals of the American Academy of Political and Social Science, March 1945.

Table 4 presents three separate estimates of the 1950 labor force in each State, based on the data presented in tables 1 and 3, but computed on the basis of varying assumptions as to future interstate migration movements. (See p. 20.)

In order to demonstrate the manner in which the data presented in tables 1 and 3 can be used to appraise the wartime experience and postwar prospects of the labor force in individual States, two States with substantially different labor-market characteristics have been selected for more detailed analysis. Assumption B, table 4, is used for purposes of illustration, but it is not necessarily the most reasonable assumption for the particular States involved.

IOWA

In 1940, approximately 992,000 Iowans were working or seeking work. Wartime pressures brought the labor force (including armed forces personnel from the State) to a total of 1,103,000 in April 1945—an 11-percent rise. Nevertheless, by 1950, the work force is expected to number less than 970,000—actually below the 1940 level.

The wartime expansion in Iowa's working population represented the net effect of several opposing forces. The main reason for the rise in the labor force was the increased participation of housewives, students, retired persons, and others normally not working. Approximately 167,000 of these "extra" wartime workers entered in response to unusual labor demands. This number was supplemented by about 42,000 entries that would have been expected from natural population growth and continuation of prewar trends in the percentage of the population that works or seeks work. The total inflow of 209,000 into the labor market during the war was partially offset by a net migration from the State of 98,000 civilian workers who might otherwise have participated in Iowa's war effort. The end result was an increase of 111,000 in the labor force between 1940 and 1945.

There is reason to believe, however, that the effect of the wartime out-migration will be more lasting than that of the wartime accessions. Many who left the State during the war are unlikely to return, unless a severe depression should strike the areas to which they moved. Iowa, being a farm State, has customarily exported labor to the expanding industrial areas. Moreover, mechanization of farm processes has made it possible to plant and harvest larger crops with fewer workers. Between 1935 and 1940, the number of persons moving out of Iowa exceeded those moving in by 61,000, and between 1940 and 1945 the State sustained a net loss of an additional 228,000 civilians (including the 98,000 workers mentioned above). These figures do not include any members of the armed forces, originally from Iowa, who may have decided to settle in other States after their discharge. Iowa is likely to continue to lose population to other States, though to a lesser extent than during the war.

Most of the extra workers drawn into the labor force from the resident population of the State are likely to drop out by 1950. In the Nation as a whole, two-thirds of 8 million extra wartime workers quit the labor force during the first year of peace. It is likely that by 1950 those remaining will make up not more than 15 to 20 percent of the wartime total.

Normally, the labor force in Iowa would be expected to grow from the 1940 level of 992,000 to a total of 1,007,000 by 1950. It seems likely, however, in view of the considerations noted above, that the work force in 1950 will be approximately 970,000.

The tabulation which follows summarizes the derivation of the statistics used in the analysis of labor-force developments in Iowa.

	Number (in thousands)	*Source*
1940 labor force	992	Table 1.
1945 labor force	1,103	Table 3.
(1) normal labor force	1,002	Table 3.
(2) deviation from normal	101	Table 3.
(a) caused by participation of "extra" workers	167	Table 3.
(b) caused by "abnormal" migration	−66	Table 3.
1950 labor force	966	1+2 (below).
(1) normal labor force	1,007	Table 1.
(2) deviation from normal	−41	a+b (below).
(a) caused by participation of "extra" workers	25	Assumed to be 15 percent of 1945 extra workers (2a above).
(b) caused by "abnormal" migration	−66	Assumed same as in 1945[1] (see 2b above).

[1] It is assumed that the net number of workers who move out of Iowa between 1945 and 1950 will be the same as would be expected on the basis of the 1935-40 experience.

WASHINGTON

In response to high wartime demands for labor, the working population of the State of Washington increased by 286,000 between 1940 and 1945 to a total of 1,028,000 (including armed forces personnel from the State). By 1950, the labor force is expected to number roughly 950,000, which is considerably above the 1940 level of 742,000, though short of the wartime peak.

Several factors combined to cause the wartime expansion in Washington's work force. Increased participation of housewives, students, retired persons, and others normally not working accounted for approximately 154,000 of the additional workers. In-migration of workers from other States resulted in a net gain of another 119,000.

The remaining increment of about 13,000 workers is the gain that normally would have been expected from natural population growth and continuation of prewar trends in the percentage of the population that works or seeks work.

It is likely that the great majority of the workers who moved to Washington during the war will remain in the State. Washington has typically been an importer of labor. Between 1935 and 1940, the number of persons moving into the State exceeded those moving out by 80,000. This movement was accelerated between 1940 and 1945 as the State gained an additional 273,000 civilians (including the 119,000 workers mentioned above) through in-migration. These figures do not include any members of the armed forces from other States who may have decided to settle in Washington after their discharge.

Judging from the national experience and prospects, added participation of workers normally outside the labor force will not account for more than 2 or 3 percent of the 1950 labor force in Washington.

On the basis of prewar trends, the labor force in Washington would have been expected to increase from 742,000 in 1940 to 843,000 in 1950. It seems likely, however, in view of the increase during the war that the 1950 labor force will be approximately 950,000.

The following tabulation outlines the derivation of the statistical material used in describing past and prospective labor-force changes in Washington.

	Number (in thousands)	*Source*
1940 labor force	742	Table 1.
1945 labor force	1,028	Table 3.
(1) normal labor force	796	Table 3.
(2) deviation from normal	232	Table 3.
(a) caused by participation of "extra" workers	154	Table 3.
(b) caused by "abnormal" migration	78	Table 3.
1950 labor force	944	1+2 (below).
(1) normal labor force	843	Table 1.
(2) deviation from normal	101	a+b (below).
(a) caused by participation of "extra" workers	23	Assumed to be 15 percent of 1945 extra workers (2a above).
(b) caused by "abnormal" migration	78	Assumed same as in 1945[1] (see 2b above).

[1] It is assumed that the net number of workers who move into Washington between 1945 and 1950 will be the same as would be expected on the basis of the 1935–40 experience.

TABLE 4.—*Estimated Labor Force, 1940 and 1945, and Projections, 1950, Under Three Assumptions as to Volume of Interstate Migration* [1]

[In thousands]

Region, division, and State	Estimated labor force		Projected labor force, 1950 [4]		
	1940 [2]	1945 [3]	Assumption A	Assumption B	Assumption C
	(1)	(2)	(3)	(4)	(5)
UNITED STATES	54,778	65,986	62,028	62,028	62,028
NORTH	32,627	38,619	35,732	35,395	35,455
New England	3,757	4,386	4,190	4,181	4,239
Maine	343	398	375	370	359
New Hampshire	215	229	230	234	224
Vermont	147	147	146	145	131
Massachusetts	1,917	2,225	2,120	2,098	2,132
Rhode Island	335	387	383	383	396
Connecticut	800	1,000	936	951	997
Middle Atlantic	12,249	14,069	13,281	13,202	13,118
New York	6,188	6,920	6,486	6,451	6,297
New Jersey	1,928	2,339	2,197	2,204	2,274
Pennsylvania	4,133	4,810	4,608	4,547	4,547
East North Central	11,203	13,383	12,644	12,655	12,913
Ohio	2,865	3,689	3,292	3,282	3,406
Indiana	1,379	1,776	1,578	1,589	1,618
Illinois	3,485	4,200	3,810	3,801	3,841
Michigan	2,202	2,747	2,599	2,637	2,735
Wisconsin	1,272	1,471	1,365	1,346	1,313
West North Central	5,418	6,281	5,617	5,357	5,185
Minnesota	1,142	1,308	1,176	1,164	1,078
Iowa	992	1,103	996	966	900
Missouri	1,579	1,865	1,633	1,634	1,626
North Dakota	244	254	232	201	182
South Dakota	248	257	238	209	192
Nebraska	519	602	536	479	479
Kansas	694	892	756	704	728
SOUTH	16,303	19,660	19,125	19,019	18,579
South Atlantic	7,249	8,868	8,810	8,918	8,864
Delaware	119	144	139	145	148
Maryland	797	1,087	1,016	1,050	1,132
District of Columbia	358	510	481	497	574
Virginia	1,072	1,399	1,356	1,382	1,434
West Virginia	657	800	743	781	673
North Carolina	1,388	1,574	1,626	1,616	1,495
South Carolina	768	884	910	902	840
Georgia	1,277	1,465	1,526	1,507	1,463
Florida	818	1,005	1,013	1,088	1,105
East South Central	4,050	4,705	4,600	4,507	4,282
Kentucky	1,037	1,162	1,111	1,087	978
Tennessee	1,114	1,349	1,300	1,280	1,208
Alabama	1,058	1,302	1,270	1,235	1,214
Mississippi	841	892	919	905	822
West South Central	5,004	6,087	5,715	5,594	5,433
Arkansas	704	826	739	708	626
Louisiana	919	1,054	1,083	1,086	1,075
Oklahoma	834	944	859	777	706
Texas	2,547	3,263	3,034	3,023	3,026

See footnotes at end of table.

TABLE 4.—*Estimated Labor Force, 1940 and 1945, and Projections, 1950, Under Three Assumptions as to Volume of Interstate Migration* [1]—Continued

[In thousands]

Region, division, and State	Estimated labor force		Projected labor force, 1950 [4]		
	1940 [2]	1945 [3]	Assumption A	Assumption B	Assumption C
	(1)	(2)	(3)	(4)	(5)
WEST	5,848	7,707	7,171	7,614	7,994
Mountain	1,580	1,848	1,796	1,827	1,770
Montana	233	247	220	215	184
Idaho	198	217	204	211	181
Wyoming	104	118	113	115	109
Colorado	437	493	477	481	466
New Mexico	184	202	209	217	188
Arizona	187	259	263	280	303
Utah	187	245	245	239	262
Nevada	50	67	65	69	77
Pacific	4,268	5,859	5,375	5,787	6,224
Washington	742	1,028	905	944	1,022
Oregon	470	624	566	603	636
California	3,056	4,207	3,904	4,240	4,566

[1] Data presented in this table cover total labor force including armed forces. All data at April seasonal level. Annual average for total United States is about three-fourths of a million higher.

[2] From table 1, column (1).

[3] From table 3, column (1).

[4] All three projections assume that the 1950 labor force of each State will include some "extra" workers who would not be in the labor force on the basis of the prewar patterns of labor-market participation assumed in the "natural" and "normal" projections (table 1). Participation of "extra" workers in each State is assumed to be 15 percent of the wartime extra-worker total (table 3, column 5). All three projections take account of net civilian interstate migration between 1940 and 1945. None of the projections make allowance for migration from foreign countries between 1940 and 1950. Assumptions with respect to interstate migration between 1945 and 1950 are as follows (see Appendix A, section 8):

Assumption A. Whatever new interstate migration takes place between 1945 and 1950 will be offset by return of wartime migrants to their prewar States of residence so that interstate migration in the last half of this decade will have no net effect on the size of the labor force in each State.

Assumption B. The net number of workers who move between States during the period 1945–50 will be the same as would be expected on the basis of 1935–40 experience.

Assumption C. Net interstate migration of all workers between 1945 and 1950 will be equal to the net interstate migration of civilian workers between 1940 and 1945. Migration of workers on this scale during the second half of the decade could come about with a considerably smaller total population movement than occurred during the first half because wartime civilian migrants included large numbers of servicemen's dependents and a relatively small proportion of men of working age.

Appendix A.—Technical Notes on Estimating Procedures

The State labor-force estimates presented in this bulletin are consistent with current national totals from the Bureau of the Census Monthly Report on the Labor Force (MRLF) which are based on a revised interviewing procedure adopted in July 1945. The effects on the Census series resulting from the introduction of the new interviewing techniques are described in Bureau of the Census MRLF No. 39, September 20, 1945. National totals for April 1940 and April 1945 appearing in this bulletin are preliminary pending release of official revisions for these dates by the Bureau of the Census.

The methods used in deriving the estimates presented in tables 1 to 4 and in Appendix B, tables 1 and 2, are outlined below.

1. Labor Force, 1940. (Table 1 and Appendix B, tables 1 and 2.)

State labor force estimates for 1940 were based on the Sixteenth Census of the United States, 1940, Population, Vol. III, The Labor Force. These data by age and sex were adjusted to preliminary national labor-force figures for 1940 designed to be consistent with the revised MRLF series.

2. "Natural" Labor Force, 1950. (Table 1 and Appendix B, tables 1 and 2.)

a. 1940 State population figures by age and sex (and color for the South) were obtained from the Sixteenth Census of the United States, 1940, Population, Vol. II, Characteristics of the Population, Part 1, United States Summary, table 26; and Vol. IV, Characteristics by Age, Parts 2 to 4, table 1.

b. To obtain a 1950 population aged 14 years and over classified by age and sex (and color for the South), the 1940 population 4 years and over was aged by 10 years. Survival rates, based on Census life tables for 1939–41, were used to decrease the population by the number of deaths expected between 1940 and 1950.

c. 1940 State worker rates by age and sex (and color for the South) [1] were then applied to the corresponding 1950 population groups to obtain a 1950 labor force, unadjusted for trend.

[1] 1940 worker rates, i. e., the proportion of labor force to population in given groups, were obtained from the Sixteenth Census of the United States, 1940, Population, Vol. III, The Labor Force.

d. Finally, these projected labor-force figures by State were adjusted to national "normal" labor-force estimates, by age and sex, for 1950 to take account of long-term trends in worker rates. The estimates of "normal" labor force were those of the Bureau of the Census [2] adjusted to be consistent with the current Census Monthly Report on the Labor Force series.

3. "NORMAL" LABOR FORCE, 1945 AND 1950. (Tables 1 and 3 and Appendix B, tables 1 and 2.)

a. For 1950, the base population figures by age and sex (and color for the South), assuming no migration, are those obtained in section 2*b*. The corresponding population figures for 1945 were derived in a similar manner by aging the 1940 population 9 years of age and over by 5 years.

b. Shifts through migration were accounted for by using the 1935–40 volume of net interstate migration by age and sex (and color for the South) for the 1940–45 period.[3] For the 10-year period 1940 to 1950, the figures were doubled.[4] Total populations by age and sex for the years 1945 and 1950, assuming migration, were obtained by adding the volume of assumed migration 1940–45 and 1940–50 to the survived populations in 1945 and 1950, respectively. While the procedure employed does not attempt to estimate the *actual magnitude* of migration changes during the current decade, it is consistent with the migration *pattern* that prevailed during the war and is likely to carry over into the postwar period. An analysis of wartime and prewar migration patterns by Shryock and Eldridge of the Bureau of the Census shows a close similarity between the war and prewar periods.[5] The correlation coefficients between annual average net interstate migration for the period 1940–45 and the corresponding annual averages for three earlier periods for which data are available are as follows:

1940–45 correlated with—	*Coefficient*
1935–40	.92
1930–40	.79
1920–30	.81

[2] Bureau of the Census, Population, Special Reports, Series P–44, No. 12, Normal Growth of the Labor Force in the United States: 1940 to 1950, by John D. Durand and Loring Wood.

[3] Migration data obtained from Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Age of Migrants.

[4] This procedure is conceptually not the best that could be devised, inasmuch as the age composition of migrants who moved during a 5-year period would be expected to differ from that of migrants who moved during a 10-year period. Because of the approximate nature of the entire migration assumption, however, it was felt that the use of a more intricate and time-consuming method, which would have in turn involved additional assumptions as to the timing of migration over the 10-year period, would not be justified.

[5] Demographic Aspects of World War II: Migration. Paper delivered before the American Sociological Society (Cleveland, Ohio, Mar. 1, 1946).

c. The 1945 and 1950 normal labor forces, unadjusted for trend, were computed by applying 1940 State worker rates to the population estimates computed in section 2*b*.

d. The labor-force figures for each year were then adjusted to national normal labor-force totals by age and sex (see section 2*d*) for the corresponding years in order to adjust for trend.

4. Estimated Actual Labor Force, April 1945. (Table 3.)

An actual labor force for April 1945 by State was estimated by distributing preliminary estimates of the United States total (on the revised MRLF series basis) in the following manner:

a. MRLF nonagricultural wage and salary workers (except domestics).—Census State totals in 1940 were moved by the percentage change in the Bureau of Labor Statistics State estimates of nonagricultural employees for April 1940 to April 1945. The 1945 State distribution thereby derived was used to distribute the MRLF national total.

b. Nonagricultural self-employed, proprietors, domestic servants, and unpaid family workers.—The most recent distribution of this group by State is found in the 1940 census. In order to take account of subsequent changes it was assumed that the distribution would shift between 1940 and 1945 by only half as much as did the distribution of employees in nonagricultural establishments. The State distribution obtained was applied to the MRLF national figure.

c. Agricultural employment.—MRLF agricultural employment figures for family labor (self-employed plus unpaid family workers) and hired workers (wage and salary workers) in April 1945 were separately distributed by major geographic divisions. This was done by moving the 1940 census components for each geographic division by the rate of change in the corresponding Bureau of Agricultural Economics (BAE) components between 1940 and 1945 and applying the distribution obtained to April 1945 MRLF totals. Each division's family labor was, in turn, broken into State figures by the distribution of farms in 1945.[6] The two variables, when correlated from 1940 data, showed a very high relationship (.98887). Hired labor was distributed by State according to BAE State employment figures for hired labor in April 1942.

d. Unemployment.—MRLF unemployment figure for April 1945 was distributed by State according to the distribution of continued claims for unemployment compensation in April 1945.[7]

[6] Bureau of the Census, Preliminary Compilation of Number of Farms and Acres in Farms in the United States, by Counties: 1945 Census of Agriculture (November 30, 1945).

[7] Social Security Board, Bureau of Employment Security, Employment Security Activities, Vol. 1, No. 5, May 1945.

e. Armed forces.—State figures for the armed forces in April 1945 were obtained by distributing the total for that month according to the distribution of inductions and enlistments from each State for the period April 1940 to July 1945 as shown in Bureau of the Census, Population, Special Reports, Series P–46, No. 3.

f. Total actual labor-force estimates for the States were derived by summing *a* through *e*.

5. Deviation of Actual from "Normal" Labor Force Caused by Abnormal Migration, 1945. (Table 3.)

The difference between each State's normal labor force (section 3*d*) and actual labor force (section 4*f*) for April 1945 was divided into two parts: That due to extra participation of persons who normally would not work or seek work and that due to actual migration being greater or less than the assumed "normal" migration.

a. The deviation from normal attributable to migration was derived as follows:

(1) Estimated net interstate migration of the civilian population between 1940 and 1945 was adapted from Bureau of the Census, Population, Special Reports, Series P–46, No. 3. (See Appendix B, table 3.)

(2) An over-all "normal" worker rate for civilian migrants between 1940 and 1945 was computed as follows: The 1945 "normal" age- and sex-specific worker rates were applied to the age and sex distribution of all civilian interstate migrants for the period December 1941 to March 1945 [8] to obtain an estimate of civilian migrants who would normally be in the labor force.[9] The ratio of this figure to the total number of civilian migrants for the period gave an over-all normal worker rate for migrants.

(3) This over-all normal worker rate for civilian migrants was applied to the net civilian migration estimate for each State ((1) above) to obtain an estimate of the net number of civilian migrants to or from each State, 1940–45, who would normally be in the labor force.

(4) The net number of migrant workers included in the 1945 normal labor-force estimate for each State (i. e., computed on the basis of 1935–40 migration—see section 2) was subtracted from the figure for each State derived in step (3) to obtain the deviation of actual labor force from normal caused by "abnormal" migration between 1940 and 1945.

[8] Bureau of the Census, Population, Special Reports, Series P–S, No. 5.

[9] Data from the 1940 Census of Population indicate that interstate migrants (1935–40) had the same worker rates age for age as nonmigrants. The worker rate for all interstate migrants 14 years of age and over exceeded that for the corresponding group of nonmigrants, but this was entirely attributable to differences in the age composition of the two groups.

b. The estimated deviation from normal due to participation of extra workers in each State was derived by subtracting the deviation due to migration from the total deviation.

6. "Natural" Accessions to and Separations from the Male Labor Force, 1940–50. (Table 2.)

The two basic sets of figures used in estimating accessions and separations were the 1940 male labor force by age and the "natural" 1950 male labor force by age for each State. (See sections 1 and 2*d*.)

a. Accessions.—All of the workers aged 14 to 23 in 1950, too young to have been counted in the labor force of 1940, were counted as accessions to the labor force between 1940 and 1950. Part of the 24- to 34-year-old labor force in 1950 was in the 1940 labor force as the 14- to 24-year-old group; the rest are new additions during the 10 years. Therefore, new labor-force entrants aged 14 to 34 in 1950 were obtained by subtracting the number of workers aged 14 to 24 in 1940 (adjusted for mortality between 1940 and 1950) from the labor force aged 14 to 34 in 1950. No allowance was made for new workers over 35 years of age in 1950, but their number is not significant.

b. Separations.—Separations from the labor force during the 10-year period are the sum of the expected deaths and retirements. They are computed in three parts:

(1) The major part of the separations occurs among workers who were 35 years and older in 1940. This is estimated as the difference between the 1950 labor force 45 years and over and the 1940 workers who were 35 years and over.

(2) For the group 14 to 24 in 1940, the estimated number of deaths is counted as total separations since there are very few retirements from the labor force among the young men in this group.

(3) There remains the group aged 25 to 34 in 1940. This is a very stable group so far as labor-market participation is concerned. Very few men enter the labor market after age 25 and very few are separated before age 44 except in case of death. Total separations were estimated by subtracting the estimated labor force aged 35 to 44 in 1950 from the labor force aged 25 to 34 in 1940. This procedure understates the number of separations by a small amount equal to the number of accessions after age 25. Thus in a few States the net separations were smaller than the expected number of deaths. In such cases the expected number of deaths were considered to be the total separations and the excess of deaths over net separations was added to accessions.

The sum of groups (1) to (3) comprises the total number of separations for each State.

c. Replacement rates.—The replacement rate is the number of accessions per 100 separations.

7. "Normal" Accessions to and Separations from the Male Labor Force, 1940–50. (Table 2.)

Accessions were considered to be composed of the 1940–50 in-migrants in a State's labor force as of 1950 plus the new entrants during the decade from the nonmigrant population; separations, the sum of the 1940–50 out-migrants who were in the State's 1940 labor force plus separations from the 1940 nonmigrant labor force during the decade.[10]

a. Migrants.—As previously indicated (section 3*b*) the number of interstate migrants in each age and sex group between 1940 and 1950 was assumed to be twice the corresponding number between 1935 and 1940.

b. In-migrant labor force, 1950.—The in-migrant male population by age for each State in 1950 was multiplied by age-specific worker rates to derive the in-migrant male labor force of each State as of 1950. These workers would be accessions to the State's labor force during the 10-year period.

c. Out-migrant labor force.—The number of 1940–50 out-migrants from each State who had been in the 1940 labor force was estimated by applying the 1940 age-specific worker rates to the out-migrant population. Since the out-migrants were distributed by their 1950 ages, worker rates for age groups 10 years younger were applied in order to estimate how many were in the 1940 labor force. For example, the 1940 worker rate for men aged 35 to 44 was applied to the group of out-migrants aged 45 to 54 as of 1950.

d. Nonmigrant labor force.—The 1940 out-migrant workers, by age (computed in 7*c* above), were subtracted from the corresponding age groups of the State's 1940 labor force to estimate the 1940 nonmigrant labor force.

e. The 1950 nonmigrant labor force was computed by subtracting from the State's projected 1950 labor force by age, assuming no migration (section 2*d*), the number of workers who would be expected to leave the State between 1940 and 1950. The estimate of total out-migrant workers was obtained by applying age-specific worker rates to the 1950 out-migrant population.

These two basic sets of figures on a nonmigrant basis were then used to obtain the accessions and separations from among nonmigrant workers. The same procedures as outlined for computing accessions to and separations from the total male labor force on the assumption

[10] Persons who would both enter and leave a given State's labor force during the decade are not counted either as accessions or separations for that State.

of no migration were applied to these nonmigrant workers of 1940 and 1950.

8. Projected Labor Force, 1950. (Table 4.)

a. All three projections assume that the 1950 labor force of each State will include some "extra" workers who would not be in the labor force on the basis of the prewar patterns of labor-market participation assumed in the "natural" and "normal" projections (table 1). Participation of extra workers in each State is assumed to be 15 percent of the wartime extra-worker total (i. e., 15 percent of column (5), table 3).

b. Assumption A.—To the natural labor-force projection for 1950 (table 1, column (2)) was added (1) the allowance for extra workers (section 8*a*), and (2) the net number of civilian migrants between 1940 and 1945 who would normally be in the labor force (section 5*a* (3)).

Thus, it was assumed that migration between 1945 and 1950 would have no net effect on the size of the labor force in each State.

c. Assumption B.—To the normal labor-force projection for 1950 (table 1, column (4)) was added (1) the allowance for extra workers (section 8*a*), and (2) the deviation of labor force from normal caused by abnormal migration between 1940 and 1945 (table 3, column (4)).

Thus the labor-force changes due to abnormal wartime migration were retained and it was assumed that interstate migration of workers between 1945 and 1950 would revert to the 1935–40 volume and pattern assumed in the normal projections.

d. Assumption C.—To the labor force obtained under Assumption B was added an amount equal to the deviation of labor force from normal caused by abnormal migration between 1940 and 1945 (table 3, column (4)). Thus, it was assumed that interstate migration of workers between 1945 and 1950 would be the same as between 1940 and 1945 (i. e., would exceed normal by the same amount as the 1940–45 volume).

Appendix B

TABLE 1.—*"Natural" and "Normal" Growth of the Male Labor Force, by State, 1940 to 1950* [1]

Region, division, and State	Labor force, 1940 [2] (in thousands)	"Natural" labor-force projection, 1950 [3]		"Normal" labor-force projection, 1950 [4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
UNITED STATES	41,036	43,606	6.3	43,606	6.3
NORTH	24,222	25,153	3.8	24,654	1.8
New England	2,618	2,716	3.7	2,705	3.3
Maine	253	268	5.9	262	3.6
New Hampshire	153	157	2.6	161	5.2
Vermont	113	118	4.4	116	2.7
Massachusetts	1,314	1,359	3.4	1,331	1.3
Rhode Island	226	237	4.9	238	5.3
Connecticut	559	577	3.2	597	6.8
Middle Atlantic	8,822	9,153	3.8	9,028	2.3
New York	4,365	4,437	1.6	4,372	.2
New Jersey	1,371	1,415	3.2	1,437	4.8
Pennsylvania	3,086	3,301	7.0	3,219	4.3
East North Central	8,540	8,852	3.7	8,867	3.8
Ohio	2,183	2,259	3.5	2,245	2.8
Indiana	1,079	1,122	4.0	1,140	5.7
Illinois	2,571	2,618	1.8	2,600	1.1
Michigan	1,713	1,810	5.7	1,866	8.9
Wisconsin	994	1,043	4.9	1,016	2.2
West North Central	4,242	4,432	4.5	4,054	−4.4
Minnesota	885	924	4.4	909	2.7
Iowa	792	824	4.0	779	−1.6
Missouri	1,200	1,237	3.1	1,165	−2.9
North Dakota	202	220	8.9	173	−14.4
South Dakota	201	218	8.5	173	−13.9
Nebraska	411	434	5.6	355	−13.6
Kansas	551	575	4.4	500	−9.3
SOUTH	12,323	13,897	12.8	13,761	11.7
South Atlantic	5,284	5,950	12.6	6,127	16.0
Delaware	87	90	3.4	98	12.6
Maryland	583	614	5.3	665	14.1
District of Columbia	217	214	−1.4	231	6.5
Virginia	817	914	11.9	961	17.6
West Virginia	539	625	16.0	607	12.6
North Carolina	1,015	1,207	18.9	1,199	18.1
South Carolina	533	640	20.1	630	18.2
Georgia	918	1,049	14.3	1,032	12.4
Florida	575	597	3.8	704	22.4
East South Central	3,132	3,571	14.0	3,439	9.8
Kentucky	846	958	13.2	925	9.3
Tennessee	855	964	12.7	933	9.1
Alabama	800	934	16.8	884	10.5
Mississippi	631	715	13.3	697	10.5
West South Central	3,907	4,376	12.0	4,195	7.4
Arkansas	580	655	12.9	607	4.7
Louisiana	694	781	12.5	789	13.7
Oklahoma	666	752	12.9	625	−6.2
Texas	1,967	2,188	11.2	2,174	10.5

See footnotes at end of table.

TABLE 1.—*"Natural" and "Normal" Growth of the Male Labor Force, by State, 1940 to 1950* [1]—Continued

Region, division, and State	Labor force, 1940 [2] (in thousands)	"Natural" labor-force projection, 1950 [3]		"Normal" labor-force projection, 1950 [4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
WEST	4,491	4,556	1.4	5,191	15.6
Mountain	1,270	1,385	9.1	1,432	12.8
Montana	191	197	3.1	190	−.5
Idaho	166	180	8.4	192	15.7
Wyoming	86	92	7.0	96	11.6
Colorado	338	356	5.3	361	6.8
New Mexico	150	178	18.7	189	26.0
Arizona	147	165	12.2	190	29.3
Utah	151	177	17.2	167	10.6
Nevada	41	40	−2.4	47	14.6
Pacific	3,221	3,171	−1.6	3,759	16.7
Washington	583	572	−1.9	636	9.1
Oregon	365	361	−1.1	415	13.7
California	2,273	2,238	−1.5	2,708	19.1

[1] Data presented in this table cover total labor force including armed forces. All data at April seasonal level. Annual average for total United States is about 400,000 higher.

[2] Data from 1940 census have been revised upward for comparability with current census series. Preliminary pending release of official revision of United States total by Bureau of the Census. See Appendix A, section 1.

[3] This projection assumes (1) continuation of prewar trends in the percentage of the population that works or seeks work; (2) economic conditions in 1950 similar to those of 1940; (3) no interstate migration between 1940 and 1950. See Appendix A, section 2.

[4] Assumptions (1) and (2) same as above; (3) interstate migration between 1940 and 1950 assumed to be twice the 1935–40 volume. See Appendix A, section 3.

TABLE 2.—*"Natural" and "Normal" Growth of the Female Labor Force, by State, 1940 to 1950* [1]

Region, division, and State	Labor force, 1940 [2] (in thousands)	"Natural" labor-force projection, 1950 [3]		"Normal" labor-force projection, 1950 [4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
UNITED STATES	13,742	17,224	25.3	17,224	25.3
NORTH	8,405	10,136	20.6	9,964	18.5
New England	1,139	1,366	19.9	1,357	19.1
Maine	90	116	28.9	111	23.3
New Hampshire	62	77	24.2	81	30.6
Vermont	34	43	26.5	41	20.6
Massachusetts	603	718	19.1	702	16.4
Rhode Island	109	129	18.3	129	18.3
Connecticut	241	283	17.4	293	21.6
Middle Atlantic	3,427	4,080	19.1	4,046	18.1
New York	1,823	2,134	17.1	2,129	16.8
New Jersey	557	650	16.7	661	18.7
Pennsylvania	1,047	1,296	23.8	1,256	20.0
East North Central	2,663	3,234	21.4	3,242	21.7
Ohio	682	830	21.7	826	21.1
Indiana	300	372	24.0	376	25.3
Illinois	914	1,079	18.1	1,077	17.8
Michigan	489	608	24.3	629	28.6
Wisconsin	278	345	24.1	334	20.1
West North Central	1,176	1,456	23.8	1,319	12.2
Minnesota	257	318	23.7	309	20.2
Iowa	200	245	22.5	228	14.0
Missouri	379	461	21.6	434	14.5
North Dakota	42	57	35.7	41	−2.4
South Dakota	47	61	29.8	48	2.1
Nebraska	108	135	25.0	108	.0
Kansas	143	179	25.2	151	5.6
SOUTH	3,980	5,417	36.1	5,343	34.2
South Atlantic	1,965	2,675	36.1	2,717	38.3
Delaware	32	38	18.8	42	31.2
Maryland	214	265	23.8	283	32.2
District of Columbia	141	166	17.7	182	29.1
Virginia	255	342	34.1	346	35.7
West Virginia	118	166	40.7	160	35.6
North Carolina	373	529	41.8	517	38.6
South Carolina	230	326	41.7	321	39.6
Georgia	359	528	47.1	506	40.9
Florida	243	315	29.6	360	48.1
East South Central	918	1,262	37.5	1,206	31.4
Kentucky	191	259	35.6	246	28.8
Tennessee	259	344	32.8	333	28.6
Alabama	258	366	41.9	345	33.7
Mississippi	210	293	39.5	282	34.3
West South Central	1,097	1,480	34.9	1,420	29.4
Arkansas	124	172	38.7	157	26.6
Louisiana	225	301	33.8	299	32.9
Oklahoma	168	231	37.5	195	16.1
Texas	580	776	33.8	769	32.6

See footnotes at end of table.

TABLE 2.—*"Natural" and "Normal" Growth of the Female Labor Force, by State, 1940 to 1950*[1]—Continued

Region, division, and State	Labor force, 1940[2] (in thousands)	"Natural" labor-force projection, 1950[3]		"Normal" labor-force projection, 1950[4]	
		Number (in thousands)	Percent change from 1940	Number (in thousands)	Percent change from 1940
	(1)	(2)	(3)	(4)	(5)
WEST	1,357	1,671	23.1	1,917	41.3
Mountain	310	412	32.9	424	36.8
Montana	42	53	26.2	50	19.0
Idaho	32	43	34.4	45	40.6
Wyoming	18	23	27.8	23	27.8
Colorado	99	125	26.3	128	29.3
New Mexico	34	51	50.0	54	58.8
Arizona	40	57	42.5	65	62.5
Utah	36	49	36.1	46	27.8
Nevada	9	11	22.2	13	44.4
Pacific	1,047	1,259	20.2	1,493	42.6
Washington	159	193	21.4	207	30.2
Oregon	105	126	20.0	144	37.1
California	783	940	20.1	1,142	45.8

[1] All data at April seasonal level. Annual average for total United States is about 300,000 higher.

[2] Data from 1940 census have been revised upward for comparability with current census series. Preliminary pending release of official revision of United States total by Bureau of the Census. See Appendix A, section 1.

[3] This projection assumes (1) continuation of prewar trends in the percentage of the population that works or seeks work; (2) economic conditions in 1950 similar to those of 1940; (3) no interstate migration between 1940 and 1950. See Appendix A, section 2.

[4] Assumptions (1) and (2) same as above; (3) interstate migration between 1940 and 1950 assumed to be twice the 1935–40 volume. See Appendix A, section 3.

TABLE 3.—*Net Interstate Migration, 1935–40 Compared With 1940–45*

Region, division, and State	Net interstate migration (in thousands)		Region, division, and State	Net interstate migration (in thousands)	
	1935–40 (total)	1940–45 (civilian)		1935–40 (total)	1940–45 (civilian)
UNITED STATES	0	0	SOUTH—Continued		
NORTH	−615	−641	South Atlantic—Continued		
New England	−16	110	District of Columbia	22	220
Maine	−9	−39	Virginia	44	181
New Hampshire	6	−15	West Virginia	−27	−163
Vermont	−6	−39	North Carolina	−15	−307
Massachusetts	−32	27	South Carolina	−16	−162
Rhode Island	(1)	33	Georgia	−33	−149
Connecticut	25	143	Florida	147	219
Middle Atlantic	−131	−383	East South Central	−195	−751
New York	−56	−442	Kentucky	−55	−308
New Jersey	29	202	Tennessee	−39	−79
Pennsylvania	−104	−143	Alabama	−73	−134
East North Central	41	632	Mississippi	−28	−230
Ohio	−10	271	West South Central	−270	−657
Indiana	26	94	Arkansas	−75	−265
Illinois	−19	69	Louisiana	9	−19
Michigan	76	320	Oklahoma	−184	−356
Wisconsin	−32	−122	Texas	−20	−17
West North Central	−509	−1,000	WEST	887	1,915
Minnesota	−18	−230	Mountain	65	−69
Iowa	−61	−228	Montana	−11	−84
Missouri	−85	−136	Idaho	16	−54
North Dakota	−66	−120	Wyoming	3	−10
South Dakota	−61	−107	Colorado	9	−26
Nebraska	−107	−115	New Mexico	14	−53
Kansas	−111	−64	Arizona	38	91
SOUTH	−272	−1,274	Utah	−12	38
South Atlantic	193	134	Nevada	8	29
Delaware	10	21	Pacific	822	1,984
Maryland	61	274	Washington	80	273
			Oregon	77	160
			California	665	1,551

[1] Less than 500.

Sources: 1935–40—Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935–1940, Color and Sex of Migrants; 1940–45—Bureau of the Census, Population, Special Reports, Series P–46, No. 3 (adjusted to exclude immigrants from other countries).