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CHAPTER 12

THE STABLE LABOR FORCE UNDER RISING INCOME AND HIGH EMPLOYMENT

> "On the whole, it may be asserted that a slow and gradual rise of wages is one of the general laws of democratic communities."
>
> DE TOCQUEVILLE (1833)

LABOR force participation in relation to population as a whole did not change materially during peacetime periods of rising income and high employment in the five countries studied. The most pronounced rise was in Germany; the least, in Great Britain. And there was no association between the rather minor changes in participation and the substantial increases in real income that occurred in the English-speaking countries.[1] Only in Germany were there no significant increases in income per worker over the half century or so ending around 1950.

Total Labor Force in Five Countries in the Last Half Century

For this study, major attention was focused on the periods since 1890 in the United States, 1911 in Great Britain and Canada, 1896 in New Zealand, and 1895 in Germany. And for the United States and Great Britain, the study went as far back as early 1800.

The 1950 census in the United States counted more than 112 million persons aged 14 and older, of whom 60 million were in the labor force. Although both the population and the labor force had increased enormously, the labor force bore almost the same relation to the population 14 and older in 1950 as in 1890 (Appendix Table A-2 and Chart 25). The maximum deviation from the average in any one of the decades was 34, and the average, 14 workers per 1,000 population. The maximum includes variations due to changes in labor force concept, in census practice, and in population composition. Even so, the variations were smaller than the normal seasonal changes in the early postwar period 1946–1948 (Chapter 13).[2]

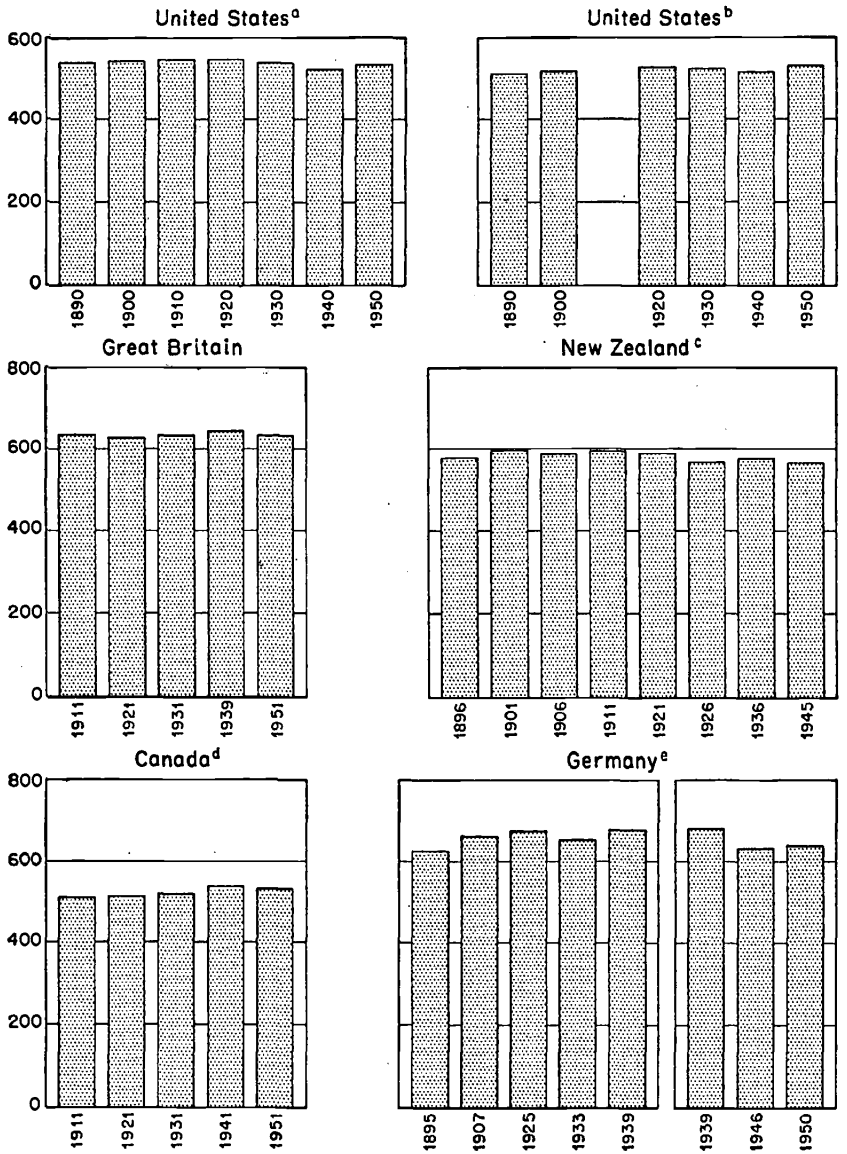
[1] Increases in real income per worker ranged from 38 per cent in Britain during 1911–1951 to 166 per cent in the United States during 1890–1950. Increases in income per capita ranged from 59 per cent in Britain to 210 per cent in the United States during these same periods (Appendix Table D-4).

[2] And they were no greater than the discrepancy in April 1950 between the labor force as enumerated by the regular decennial census and that estimated from the sample survey—both of which were collected or estimated by the same agency, using the same concept and techniques of interviewing. (See the author's discussion on "Statistical Standards and the Census," *American Statistician*, February

CHART 25

Persons 14 and Older in the Labor Force per 1,000 in Same Population Group: 5 Countries, Various Years, 1890–1951

Standardized for age and sex, and for other differences as noted, on basis of United States population in 1940.

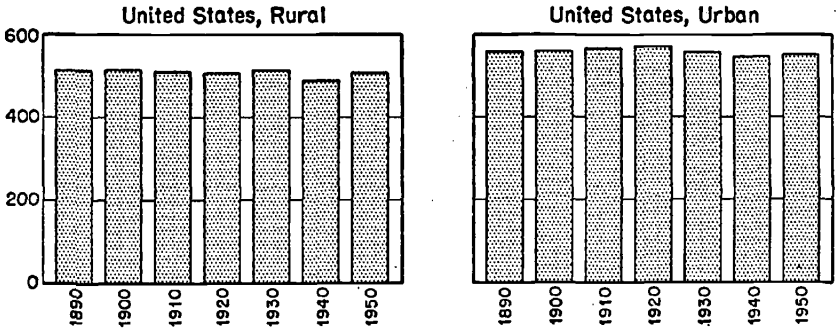


(chart continues on next page)

CHART 25, concluded

Persons 14 and Older in the Labor Force per 1,000 in Same Population Group

Standardized for age and sex



[a] Standardized for rural-urban composition as well as for age and sex.
[b] Standardized for rural-urban composition, color, and native-foreign composition, as well as for age and sex.
[c] Aged 15 and older.
[d] Partially standardized for rural-urban composition on the assumption that the effect of migration to urban areas would be the same in Canada as in the United States (in addition to standardization for age and sex).
[e] For 1895–1939, boundaries after World War I, without the Saar; 1939–1950, Federal Republic of Germany, without Berlin.
Source: Appendix A.

Much of the decade variation is eliminated by adjustment for miscounts and for differences in the season when the census was taken, thus reducing the maximum deviation in any one decade to 21, and putting the average at around 10 workers per 1,000 population of working age (Table 46). Still more of the decade variation was eliminated by standardizing for changes in population composition and residence. Such variations were very small compared with those which took place in income during these years. While variations in the labor force were generally less than 2 per cent of population, or 4 per cent of labor force over the whole period real annual disposable income per worker [3] nearly tripled, in terms of 1929 dollars (Chart 26 and Appendix D and Table D-4). Moreover, it went up in every decade whether computed between census years or between three-year averages.[4]

In the four foreign countries, the changes in participation were not,

1952.) The regular census enumerated the labor force as 534 per 1,000 population aged 14 and older; the estimate was 563—a difference of 29.

[3] Income per capita more than tripled (Appendix Table D-4).

[4] The three-year averages were for each census year and the two preceding years. Actually the changes in income did not differ significantly between the two computations. Real income also went up in every decade, per employed worker and per capita.

TABLE 46

Labor Force Aged 14 and Older per 1,000 of Same Age, 5 Countries, Various Periods, 1890–1951

	Average Number	Deviation from Average in Any One Census: Maximum	Deviation from Average in Any One Census: Average	Net Over-All Change
United States 1890–1950:				
Unadjusted for miscounts and season of census	546	34	14	−1
Adjusted but unstandardized	543	21	10	−6
Adjusted and standardized for age and sex [a]	534	12	5	+9
Adjusted and standardized also for rural-urban residence [b]	538	16	6	−7
Adjusted and standardized also for color and place of birth [c]	521	11	7	+20
Rural [a]	508	21	7	−6
Urban [a]	559	13	6	−6
Large cities (1900–1950) [a]	594	16	7	+4
Native white [a]	521	17	10	+34
Foreign-born white [a]	550	29	14	−38
Colored [a]	626	62	36	−85
Great Britain [a] 1911–51	633	11	4	−1
Canada 1911–51:				
Standardized for age and sex [a]	523	15	10	+21
Also partially standardized for rural-urban residence [e]	524	14	7	+11
New Zealand [a, d] 1896–1951	581	19	11	−18
Germany [a] 1895–1939	657	34	15	+53
Germany [a] 1895–1950	654	31	18	+15

Source: Appendix A. See also Supplementary Appendixes H (seasonal adjustment) and I (miscounts).

[a] Standardized for age and sex on the basis of population of the United States in 1940.

[b] Standardized for age, sex, and rural-urban composition on the basis of population of the United States in 1940.

[c] Standardized for age, sex, rural-urban composition, color, and place of birth on the basis of population of the United States in 1940.

[d] Aged 15 and older.

[e] Partially standardized for rural-urban residence on the assumption that the effect of migration would be the same in Canada as in the United States.

on the whole, greater than in the United States. In Germany the labor force rose by 53 workers for each 1,000 population during 1895–1939, and the maximum deviation at any one census from the average participation over the whole period was 34. In Great Britain labor force participation was almost the same in 1951 as in 1911, and the maximum deviation was 11. Maximum deviations in Canada and New Zealand were much the same as those in the United States (adjusted).

CHART 26

Labor Force Compared with Personal Disposable Income, 5 Countries, Various Years, 1890–1951

Labor force standardized for age and sex, and for other differences as noted, on basis of United States population in 1940. Income expressed in three-year averages.

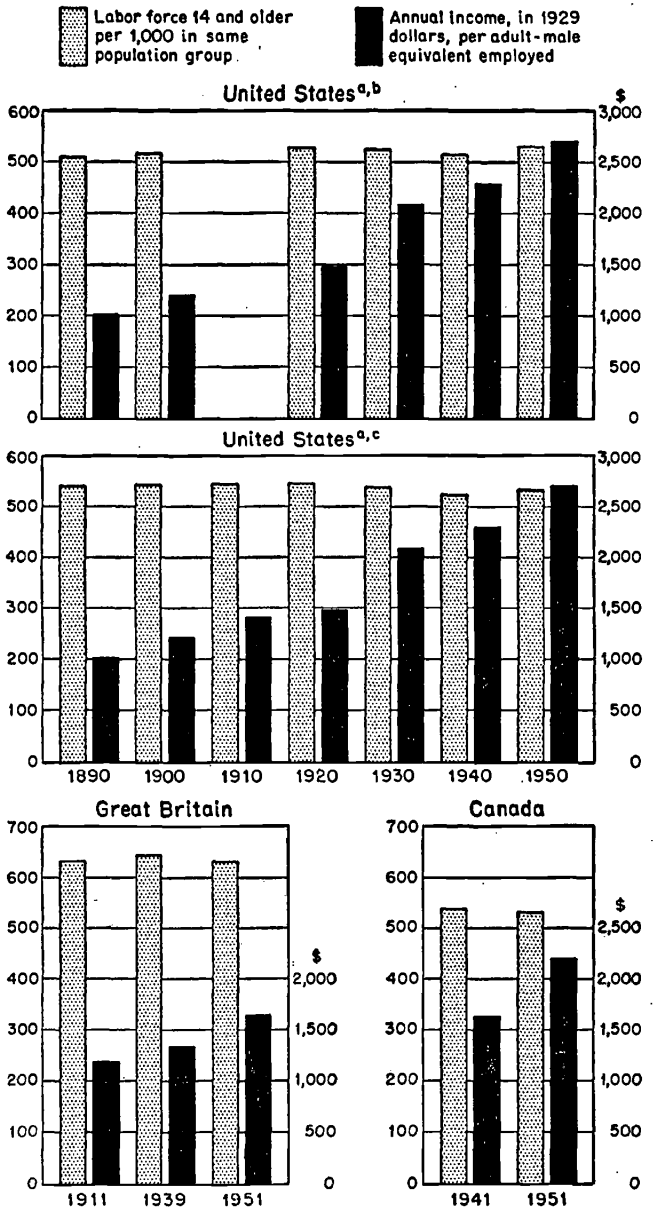
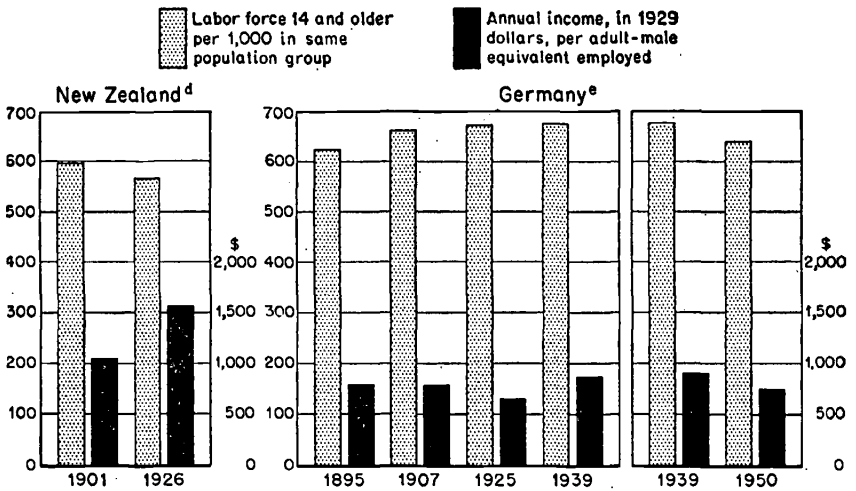


CHART 26, concluded



[a] Income standardized for farm-nonfarm composition (on basis of U.S. population in 1940).
[b] Labor force standardized for rural-urban composition, color, and native-foreign composition, as well as for age and sex.
[c] Labor force standardized for rural-urban composition as well as for age and sex.
[d] Labor force 15 and older.
[e] For 1895–1939, boundaries after World War I, without the Saar; 1939–1950, Federal Republic of Germany, without Berlin.
Source: Appendix A (labor force) and Appendix Table D-4 (income).

The Labor Force in Rural and Urban Areas

In all of the five countries there has been an increase since the turn of the century in the proportion of the population living in urban, as compared to rural areas. Not much change has occurred in Canada and Britain since World War I, or in Western Germany since before World War II, but in the United States and New Zealand the increases have been marked and steady.

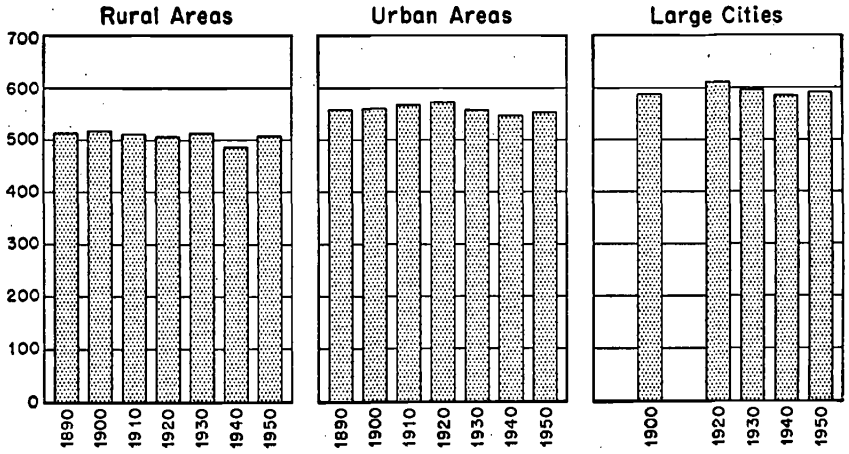
Unfortunately none of the four foreign countries provided data which throw clear light on whether the stability of total labor force participation was duplicated in rural and urban areas separately. (Some information was available for Canada—between 1941 and 1951.) However, data were available to allow a fair test of the stability of the aggregate labor force participation rate in each of these areas in the United States (Chart 27). True, rural and urban participation rates have sometimes moved in opposite directions.[5] But none of these small ebbs

[5] The urban rate was slightly higher in 1920 than in 1910 or in 1930 (572 per 1,000 of same age and type of area, compared with 567 and 557 respectively), while the rural rate was a trifle lower in 1920 (506) than in 1910 (511) or in 1930 (513). Real nonfarm income per worker rose from 1910 to 1920, but real farm income per worker fell substantially. There would seem to have been a real incentive for people to move to the city, especially when jobs were highly paid and abundant, as in early 1920 during the immediate postwar boom; and, since

CHART 27

Labor Force 14 and Older per 1,000 in Same Population Group: Rural and Urban Areas and Large Cities, United States, Census Dates, 1890–1950

Standardized for age and sex on basis of United States population in 1940.



Source: Appendix A.

and flows has modified the conclusion that the labor force participation rate has been remarkably stable in the United States in rural areas, in urban areas, and in large cities (taken as aggregates) as well as in the nation as a whole—in the face of enormous increases in average income.[6]

Stability was less marked in the rural and urban areas of Canada

a large proportion of the migrants were apt to be seeking work, the migration may have produced the slight swell in urban labor force and the slight ebb in the average rural rate. Statistics show that during recessions migration subsides, and during depressions it becomes no more than a trickle. Conversely, during years of high employment, such as 1922–1929, the loss of farm population became very great indeed. (*Historical Statistics of the United States, 1789–1945*, Bureau of the Census, pp. 18, 30.) When city jobs were less plentiful, as in 1930, there was apparently a halt in the normal flow to cities or even in the return to farms; for both the urban and the large-city rates decreased slightly, while the rural rate increased appreciably—although real farm income was no larger in 1930 than in 1920, and real nonfarm income soared. But a really severe depression, such as still persisted in 1940, seems to reduce participation somewhat in both city and country; for when jobs are very scarce everywhere some persons with borderline employability or desire to work may withdraw altogether (Chapter 10), a tendency which does not seem to be observable during a moderate recession such as 1948–1950, or 1953–1954 (Chapter 13).

[6] One cross-comparison may be of interest though it did not produce positive results: individual cities were examined to determine whether the labor force behaved differently when real weekly wages in manufacturing rose steeply than it did when these wages rose gradually. No correlation could be discovered either in absolute or in percentage changes.

between 1941 and 1951, when the rural labor force declined by 23 per 1,000 rural population and the urban labor force rose the same amount in relation to urban population (Table 47)—greater changes than any occurring in the United States between two successive census dates. The diversity of movement may simply have been the result of changes in the rural or urban age composition—lack of age detail by rural and urban areas having made it impossible to standardize for this factor.

TABLE 47

Rural and Urban Labor Force, Canada, 1941 and 1951

Labor Force[a]	*1941*	*1951*	*Change*
Rural			
Both sexes	523	500	−23
Males	856	813	−43
Females	117	128	+11
Urban			
Both sexes	528	551	+23
Males	808	830	+22
Females	261	291	+30

Source: *Census of Canada*, Ottawa, Dominion Bureau of Statistics: *1941*, Vol. VII, Table 11; *1951*, Vol. II, Table 4, and Vol. IV, Table 18.

[a] Per 1,000 rural or urban population 14 and older. Not standardized for age and sex because of lack of data.

But it may also have occurred because Canada's rural labor force in the war year of 1941 was somewhat augmented by substantial numbers of males of draft age who stayed on farms to evade military service, a hypothesis that derives some support from the fact that rural population and the labor force were both greater in 1941 than in 1951 and that the excess of 1941 over 1951 rural population was a trifle greater for males than for females. Certainly no such divergence in movement occurred for females. Female participation rates rose between 1941 and 1951 in both rural and urban areas, the rise having been greater in the latter than in the former areas. Even though participation may have been stable *within* these locales, in Canada as a whole it may have been affected by the migration to the cities. In English-speaking countries, white females are much more apt to work in urban areas—partly because they find light clerical and factory jobs congenial and partly because the higher standard of living calls for gainful employment. Thus any considerable migration might be expected to have *raised* the average participation of Canadian females. In Germany, conversely, where field labor is considered suitable for females, farm women are more apt to work than city women; and their migration to the city would have *lowered* female participation—depending on the number

of women who moved, and the amount by which their participation in rural areas exceeded that in the cities.

A definite assessment of these movements and differences can be made only for Great Britain and the United States. In Britain, migration could not have been important, as a large and relatively unchanging proportion (three-fourths to four-fifths) of the population resided in urban areas throughout the period between 1911 and 1951. In the United States, the urban population grew from one-third of the national population in 1890 to two-thirds in 1950. But the effect of this huge relative shift on the labor force was no more than 4 persons per 1,000 of working age; and its effect on the stability of over-all participation was slight. The effects of migration would seem almost certainly to have been weaker in the other countries, where the shifts in population have been more limited. We shall pursue further the diversity of behavior over time among the various cities.

Various Minority Groups

Minority groups may tend to segregate and thereby perpetuate cultural and social differences that are in turn reflected in labor force behavior, with little relation to differences in income or employment opportunity. The economic differences might in the long run exert some influence on the cultural and social patterns, but it could vary from time to time and from nation to nation, largely for accidental reasons.

The problem was negligible in three of the five countries under study. Britain has had few nonwhites and no large number of aliens in its home islands during the last half century. There have been very few foreigners in Germany except during World War II, when many war prisoners and civilian workers were imported from occupied countries (these minorities were treated separately in Chapter 11 under the behavior of labor force in wartime). New Zealand has had a very homogeneous population (aside from Maoris, who are also not included in most of these figures). Canada, however, has had her French-language population and the United States has had considerable numbers of Negroes and immigrants. How have these social and ethnic groups affected the behavior of the labor force as a whole?

In Canada the number of "British Isles races," French, and "Other" have changed so little in relation to total population, and their differences in labor force participation have been so moderate (Table 48), that changes in racial composition could have exerted little influence on the total participation of the country. Moreover, the participation rates of the three main racial groups have remained quite stable during

1921, 1931, and 1951, the three peacetime censuses for which data were available by racial origin.

In the United States, slackening immigration reduced the foreign-born from a fifth of the entire population in 1890 to a ninth in 1940.[7] Such changes in the proportion of these groups to the population could alter the over-all labor force participation, even if the participation of each ethnic group had remained perfectly stable over time. But the rates of the ethnic groups have not been stable over time. The participation of native whites has been stable, but that of Negroes fell

TABLE 48

Labor Force by Ethnic Groups and Sex per 1,000 Population 10 and Older in Same Category, Canada, 1921, 1931, and 1951

	BOTH SEXES			MALES			FEMALES		
	1921	*1931*	*1951*	*1921*	*1931*	*1951*	*1921*	*1931*	*1951*
British Isles races	488	480	487	794	767	756	167	178	220
French	452	459	474	749	745	739	150	171	212
Other, including Indians	472	516	498	754	793	750	100	148	211
All Classes	476	481	485	775	767	750	153	170	216

Source: *Census of Canada*, Ottawa, Dominion Bureau of Statistics: *1931*, Vol. VII, Table 18; *1951*, Vol. II, Table 4, and Vol. IV, Table 20.

Data for 1911 were not available; 1941 was excluded not only because large numbers of males were in the armed forces but also because they constituted very different percentages for the British Isles races, the French, and "Other."

from 622 in 1890, to 516 in 1950 per 1,000 colored aged 10 and older. And the foreign-born labor force dropped from 536 in 1890, to 492 in 1950 per 1,000 foreign-born aged 10 and older.[8] In both instances these rates tended toward those of native whites (Chart 28). The tendency would indicate that as the propensity of Negroes and the foreign-born to work comes to resemble more closely that of native whites, and the native-born descendants of the foreign-born replace their forebears, much of the diversity in participation between major ethnic groups may disappear before very long.

Despite their characteristic behavior and their changing weight in

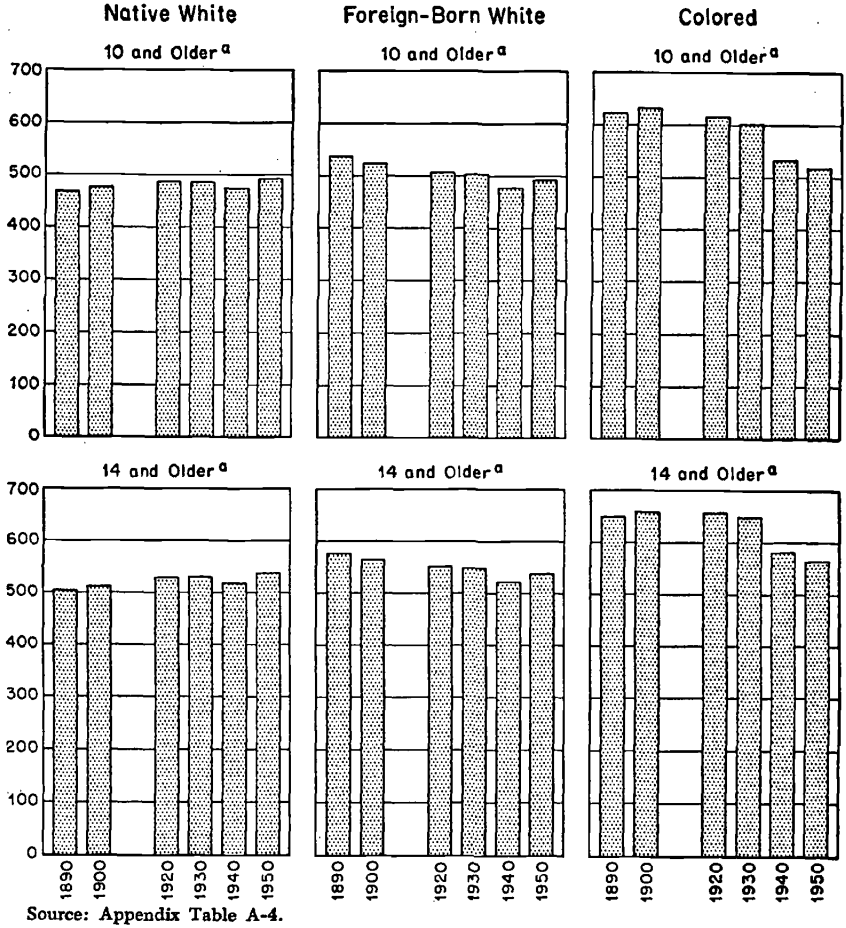
[7] Negroes remained close to a tenth of the population throughout the entire sixty years.

[8] The declining participation of the colored cannot be ascribed to their heavy rural-to-urban migration. On the contrary, had it been possible to standardize the colored for rural-urban residence, the decline would have been considerably greater, for the participation of colored females is much higher in urban areas than in either rural-farm or rural-nonfarm areas. *Census of Population, 1940, The Labor Force* (Sample Statistics), *Employment and Personal Characteristics*, pp. 31–32.

CHART 28

Labor Force of Native White, Foreign-Born White, and Colored Persons: United States, Census Dates, 1890–1950

Persons in the labor force per 1,000 in same population group. Standardized for age and sex (but not for rural-urban composition) on basis of United States population in 1940.



Source: Appendix Table A-4.

the population, the colored and foreign-born groups have not made an impact on the total labor force (Table 49). Their participation rates did not differ greatly from those of native whites, except in the case of nonwhite women aged 25 and older, nonwhite boys aged 14–19, and foreign-born girls aged 14–24. And such differences as occurred were due in large part to dissimilarities in the age structure. For example, since mass immigration ceased some decades ago, foreign-born persons in the United States have been much older, in the average,

TABLE 49

Effect of the Foreign-Born and Negroes on Labor Force, United States, Census Dates, 1890–1950

	1890	*1900*	*1920*	*1930*	*1940*	*1950*
Labor Force [a]						
1. All classes	499	502	500	500	480	495
2. Natives (white & nonwhite)	490	498	499	500	481	495
3. Whites (natives & foreign-born)	483	486	487	489	475	493
4. Native whites	468	476	483	486	474	493
Method No. 1						
5. Effect of foreign-born (line 1 minus line 2)	+9	+4	+1	0	−1	0
6. Effect of colored (line 2 minus line 4)	+22	+22	+16	+14	+7	+2
7. Combined effect (line 1 minus line 4, or line 5 plus line 6)	+31	+26	+17	+14	+8	+2
Method No. 2						
8. Effect of foreign-born (line 3 minus line 4)	+15	+10	+4	+3	+1	0
9. Effect of colored (line 1 minus line 3)	+16	+16	+13	+11	+5	+2
10. Combined effect (line 8 plus line 9)	+31	+26	+17	+14	+6	+2
Discrepancy between Methods						
11. Effect of foreign-born (line 5 minus line 8)	−6	−6	−3	−3	−2	0
12. Effect of colored (line 6 minus line 9)	+6	+6	+3	+3	+2	0

Source: Appendix A.

[a] Labor force aged 10 and older per 1,000 population of same age and color, standardized for age on the basis of population of the United States in 1940.

than natives. After adjustment for age disparities, the total labor force participation of all classes differed from the native white participation only moderately in 1890 and very little in 1950.

Neither the rural nor the urban labor force has been classified by the census according to color and nativity. Hence, while we can standardize according to residence without regard to nativity or color, and can study the participation of native whites without regard to residence, we cannot cross-standardize the native white, nor the colored and foreign-born labor force for rural and urban residence. Our only recourse is to what we call a "partial standardization." This means standardizing the total labor force participation for rural and urban residence, measuring the difference between the standardized and unstandardized, and then adding this difference to the native white labor force (Table 50). This procedure is not as satisfactory as cross-standardization, but it would be seriously inaccurate only if the rural-urban composition were changing very differently in the native white population than in the colored and foreign-born populations. Happily, though the share of Negroes in the population was slightly higher in urban areas, and slightly lower in rural areas in 1950 than in 1890, by and large their rural-urban composition has changed about

TABLE 50

Two Alternative Methods of Partial Standardization of the Labor Force for Rural-Urban Residence, Color, and Nativity, United States, Census Dates, 1890–1950

	1890	*1900*	*1910*	*1920*	*1930*	*1940*	*1950*
Method No. 1: Add Effects of Rural-Urban Residence to Native White Labor Force							
Native whites in labor force per 1,000 population aged 10 and older of same sex, color, and nativity [a]:							
Males	809	805	...	775	768	723	721
Females	127	147	...	190	204	225	265
Both sexes	468	476	...	483	486	474	493
Effect of rural-urban residence, per 1,000 population aged 10 and older of same sex [b]:							
Males	−4	0	−1	0	−1	0	+1
Females	+25	+17	+11	+6	0	0	−7
Both sexes	+10	+8	+5	+4	−1	0	−3
Native whites in labor force, partially standardized for rural-urban residence, per 1,000 population aged 10 and older of same sex:							
Males	805	805	...	775	767	723	722
Females	152	164	...	196	204	225	258
Both sexes	478	484	...	487	485	474	490
Method No. 2: Subtract Effect of Color and Nativity from Labor Force of All Classes Standardized for Rural-Urban Residence							
Persons of all classes in labor force per 1,000 population aged 10 and older of same sex [b]:							
Males	819	814	793	790	771	722	716
Females	187	197	212	215	219	233	260
Both sexes	503	506	503	503	495	478	488
Effect of color and nativity, per 1,000 population aged 10 and older of same sex [c]:							
Males	+18	+12	...	+12	+7	0	−3
Females	+43	+40	...	+23	+20	+12	+6
Both sexes	+31	+26	...	+17	+14	+6	+2
Labor force partially standardized for rural-urban residence, color, and nativity per 1,000 population aged 10 and older of same sex:							
Males	801	802	...	778	764	722	719
Females	144	157	...	192	199	221	254
Both sexes	472	480	...	486	481	472	486

TABLE 50, *continued*

	1890	*1900*	*1910*	*1920*	*1930*	*1940*	*1950*
Discrepancy between Methods 1 and 2, per 1,000 population aged 10 and older of same sex:							
Males	+4	+3	...	−3	+3	+1	+3
Females	+8	+7	...	+4	+5	+4	+4
Both sexes	+6	+4	...	+1	+4	+2	+4

Source: Appendix A.

[a] Appendix Table A-4.
[b] Appendix Table A-2. Effects of rural-urban residence were obtained by subtracting labor force participation standardized for age and sex from labor force participation standardized for age-sex and rural-urban residence.
[c] Tables 29 and 49.

the same as that of native whites. The ratio of foreign-born to native white population fell somewhat more in rural than in urban areas, but did not change enormously. Thus the considerable changes in age-sex, rural-urban, and color-nativity composition of the population have not exerted enough weight to impair the stability of the total labor force participation, even in the United States. In the other countries where these changes have been generally on a smaller scale, it is likely that they would have had less effect. These results tend to confirm broadly the tentative conclusion of a paper written by the author which appeared in 1944 and which was perhaps the earliest comparative analysis of labor force behavior over time: "the propensity to be 'in the labor force' seems one of the most stable elements in the labor market, varying hardly at all except in long, slow trends, requiring years to consummate. It may be that the peacetime propensity is based not upon mere impulse, but upon deeply rooted habits, on the size and composition of families, on institutions of child care, education, and old age dependency, on the concentration of population, and on the structure and geography of industry. The labor force evidently does not expand or shrink under ordinary economic pressures." [9]

The Problem of Measuring Stability

There is, of course, no single criterion of stability or instability. A change meaningless in one situation can be significant in another. By the more obvious standards, few important magnitudes would seem to be as constant from one peacetime year to another as the total labor force participation. Nevertheless, before we are in a position to con-

[9] Clarence D. Long, *The Labor Force in Wartime America,* National Bureau of Economic Research, Occasional Paper 14, 1944, p. 37.

clude that the total labor force has been stable over the past half century, we must seek answers to a number of questions.

According to Durand, an authority on the labor force, this constancy is created partly by certain adjustments and partly by the dominance of males in the labor force.[10]

THE POSSIBILITY THAT THE APPARENT STABILITY IS DUE TO THE AUTHOR'S ADJUSTMENT IN THE CENSUS DATA.

My corrections for census undercount of labor force in 1890 and overcount in 1910 were somewhat larger than those made by Durand, but I made no correction for 1920 beyond a small one to shift the data from a January basis (the month of census enumeration in 1920) to an April basis (the month in which all United States censuses have been enumerated since 1930). Durand made substantial adjustments, which are discussed in Supplementary Appendix H, for both 1920 and 1930. Do the disparities between our adjustments explain how I obtained a comparatively high stability in the United States participation rate? On the contrary. If Durand had combined his male and female rates of participation instead of presenting them separately, he would have found that his total rate, while generally lower than mine as the result of his adjustments, would have been actually more stable (Table 51). My total participation rates have been stable in spite of the adjustments here, not because of them.

Indeed, for any of the nations or areas studied, except war-torn Germany after 1939, the maximum difference between one census and the next in either the standardized or the unstandardized labor force has been 3.4 per cent of the population of working age (Table 52)—smaller than the difference between the summer and the winter labor force in the United States in any normal year,[11] and only a fraction of the difference in unemployment between a good and a bad year. The average change in the labor force from one census to the next was half to two-thirds the maximum. Outside of Germany the average change was typically between 0.8 and 1.4 per cent of those of working age, or 1.4 to 2.4 per cent of the labor force itself.

WAS TOTAL LABOR FORCE PARTICIPATION STABLE BECAUSE OF THE STABILITY OF ADULT-MALE PARTICIPATION?

Actually the labor force participation of adult males has not been highly stable. In all of the five countries participation declined some-

[10] John D. Durand, in a letter to the author, 1950.

[11] The seasonal adjustments in Appendix Table B-1, footnote *a*, indicate a slightly smaller seasonal range than this, but they are based on quarterly averages which iron out some of the seasonal variation found in monthly data.

TABLE 51

Labor Force and Labor Force Changes as Computed by Durand and Long, United States, Census Dates, 1890–1950 (per 1,000 population of working age and same sex) [a]

	1890	1900	1920	1930	1940	1950	Average Change from Previous Decade 1890–1940	Average Change from Previous Decade 1890–1950
Males 10 and older:								
Durand:								
Labor force	755	781	764	744	729	–	–	–
Change from previous decade		+26	−17	−20	−15	–	20	–
Long:								
Labor force	792	795	783	762	722	729	–	–
Change from previous decade		+3	−12	−21	−40	+7	19	17
Females 10 and older:								
Durand:								
Labor force	166	184	206	215	236	–	–	–
Change from previous decade		+18	+22	+9	+21	–	18	–
Long:								
Labor force	170	188	212	220	233	265	–	–
Change from previous decade		+18	+24	+8	+13	+32	+16	+19
Both sexes 10 and older:								
Durand:								
Labor force	469	490	491	483	483	–	–	–
Change from previous decade		+21	+1	−8	0	–	7	–
Long:								
Labor force	490	499	504	495	478	494	–	–
Change from previous decade		+9	+5	−9	−17	+16	10	11

Source: Appendix A. J. D. Durand, *The Labor Force in the United States, 1890–1960*, Social Science Research Council, 1948, p. 208; *Census of Population, 1940*, A. M. Edwards, *Comparative Occupation Statistics for the United States, 1870 to 1940*, p. 93.

[a] Adjusted for miscounts but not standardized; see text of this chapter and Appendix A.

what for every male age group, without exception. In the United States between 1890 and 1950 the fall per 1,000 of corresponding age was 92 for men aged 20–24, 48 for men aged 25–44, and 73 for men aged 45–64. The reductions were roughly four-fifths of the increase for females in the 20–24 age group, one-fourth for ages 25–44, and one-half for ages 45–64. Indeed, when adjusted for miscounts, the total

labor force participation—of persons aged 10 and older or 14 and older, standardized or unstandardized for age-sex, rural-urban composition, or color-nativity—did not change in any decade, or over all the decades between 1890 and 1950, by half so much as the change for the men 25–44.

Moreover, not all female groups showed an increase in participation. For example, in the United States in 1950 there were nearly a half million fewer girls aged 10–19 and women 65 and older in gainful occupations than there would have been had their rates of participa-

TABLE 52

Labor Force Stability: Census-to-Census Changes Measured in Percentages of Population of Working Age, 5 Countries, Various Periods, 1890–1951

	1890–1900	1900–1910	1910–1920	1920–1930	1930–1940	1940–1950	Change during Entire Period: Av.	Max.	Over-All
United States:									
Unstandardized	+0.9	+0.8	−0.3	−0.9	−1.7	+1.6	1.0	1.7	+0.4
Standardized: [a]									
For age and sex	+0.5	0	+0.1	−0.3	−1.8	+1.3	0.7	1.8	−0.2
For age and sex and rural-urban residence	+0.3	−0.3	0	−0.8	−1.7	+1.0	0.7	1.7	−1.5
Native white, standardized for age and sex	+0.8	+1.7		+0.1	−1.2	+2.0	1.2	2.0	+2.4
Native white, standardized for age and sex and rural-urban residence [b]	+0.5	+1.2		−0.4	−1.1	+1.6	1.0	1.6	+1.8

	1911–1921	1921–1931	1931–1939	1931–1951	Change during Entire Period: Av.	Max.	Over-All
Great Britain:							
Unstandardized	−1.8	−0.2	+0.4	−2.4	1.2	2.4	−4.0
Standardized for age and sex [a]	−0.5	+0.4	+1.3	−1.3	0.9	1.3	−0.1

	1911–1921	1921–1931	1931–1941	1941–1951	Change during Entire Period: Av.	Max.	Over-All
Canada:							
Unstandardized	−1.3	+0.5	+1.0	−1.9	1.2	1.9	−1.7
Standardized:							
For age and sex [a]	+0.3	+0.8	+1.7	−0.7	0.9	1.7	+2.1
For age and sex and rural urban residence [c]	+0.1	+0.3	+1.8	−1.1	0.8	1.8	+1.1

TABLE 52, *continued*

	1896–1901	1901–1906	1906–1911	1911–1921	1921–1926	1926–1936	1936–1945	1945–1951	Change during Entire Period: Av.	Max.	Over-All
New Zealand:											
Unstandardized	+0.8	−0.8	+0.2	−2.6	−2.4	0	−3.4	−1.1	1.4	3.4	−9.3
Standardized for age and sex [a]	+1.8	−0.9	+0.7	−0.6	−2.0	+0.8	−1.2	−0.4	1.1	2.0	−1.8

	1895–1907	1907–1925	1925–1933	1933–1939	1939–1946	1946–1950	Change during Entire Period: Av.	Max.	Over-All
Germany:									
Unstandardized	+4.1	0	−2.7	+1.3	−8.7	+1.5	3.1	8.7	−3.5
Standardized for age and sex [a]	+3.8	+1.1	−1.8	+2.2	−5.0	+1.5	2.6	5.0	+1.5

Source: Appendixes A, C, and for German boundary changes, p. 429.

[a] Standardized on the basis of population of the United States in 1940.
[b] Partially standardized for rural-urban residence on the asumption that the effect of rural-urban migration would be the same for native-whites as for all classes.
[c] Partially standardized for rural-urban residence on the assumption that the effect of rural-urban migration would be the same in Canada as in the United States.

tion been the same as in 1890. If the population is standardized for age and sex, and the labor force involved in the increase of participation of women 20–64 is deducted from the labor force involved in the decrease of participation of males and of younger and older females, the net difference is only 223,000, or 1.6 per cent of the gross change between 1890 and 1950 of nearly 14 million workers (Table 53). In the four foreign nations the net change ranged from 3 per cent of gross change in Great Britain to a bit under 30 per cent in Canada.

We now examine the contention that males aged 25–64 have such a stable tendency to be in the labor force that any participation changes on the part of females or of younger and older males would be relatively unimportant. At this point, the position seems to be:

1. The total labor force participation rate is not stable.
2. How could it help being stable?

Actually, men aged 25–64 are less than one-third of the total population of working age, the other two-thirds consisting of teen-age boys and girls, women aged 25–64, and elderly people. For these so-called "marginal groups," the labor force averages 350 per 1,000; and a rise in the average participation of these groups in the United States to British levels, with no change in the rate for males, would raise the total United States participation from 534 to about the level reached in the peak

TABLE 53

Gross Changes in Labor Force of Males and Females Resulting Solely from Variations in Their Rates of Participation, Compared with Net Change, United States, Census Dates, 1890–1950

It is assumed here that no change occurred in the sex and age composition of the population.

	Gross Changes (thousands of persons)		
	Decreases	*Increases*	
Males: [a]			
10–13	929		
14–19	1,403		
20–24	577		
25–44	1,042		
45–64	1,076		
65 & older	1,569		
Females: [a]			
10–13	274		
14–19	154		
20–24		760	
25–44		3,834	
45–64		2,243	
65 & older	36		
	7,060	6,837	
Sum of gross changes:			13,897
Net change:			—223
Net change as per cent of sum of gross changes:			—1.6

Source: Appendix A.

[a] Labor force standardized for sex and age on the basis of population of the United States in 1940.

expansion of World War II.[12] The variations that could take place in total labor force participation are therefore great,[13] and the reason no large variations have occurred under peacetime high employment is not that the labor force is in a "statistical straight-jacket," but that the internal changes have offset each other.

HAS THE LABOR FORCE PARTICIPATION IN THE CENSUS MONTH BEEN TYPICAL OF THE AVERAGE PARTICIPATION FOR THE YEAR?

There is a statistical possibility that the apparent stability was the accidental effect of a shift over the years in the seasonal pattern of

[12] The proportion of males aged 25–64 in the population of Britain was about the same as in the United States. So also was the tendency of this group to be in the labor force.

[13] One has only to look to cities in the United States to see the widely varying

labor force behavior. Has the labor force as enumerated by the five countries [14] in spring, been unduly greater or less compared to the annual averages? Has there been a change in this relationship? Conceivably the 1890 labor force may have been a larger proportion of population in the spring than in the average for the year, and the 1950 labor force a smaller proportion in the spring. If so, a decline in the relationship between spring figures and the annual averages could have disguised, say, a rise in the average over time, thus making it appear falsely that the labor force was comparatively stable. Of course, other situations might also be proposed.

How were any such shifts in seasonal patterns to be tested? One way was to make use of the most detailed material available—monthly information in the United States since 1940, and quarterly and monthly information in Canada since World War II.[15] In both countries the peacetime differences between April or June participation and the annual average were small—nearly always less than 1 per cent of the population 14 and older—and they were, moreover, constant (based on data in Appendix B).

Before 1940 seasonal data were limited to the United States and provided only partial information on the behavior of the labor force. Data on employment in most branches of industry have been estimated by the National Bureau of Economic Research for 1920 and 1921, and by the Bureau of Labor Statistics for the period since 1929. These data show that the level in the spring quarter of the year has been very close to that for the annual average, and that no appreciable trend away from this relationship took place between 1920 and 1954.[16]

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labor force tendencies in this country, even among northeastern cities (Appendix Table A-7A).

[14] The labor force has usually been enumerated in the early or late spring—the only exceptions having been January 1920 in the United States, September 1945 in New Zealand, and September 1950 in Germany. Also in Germany the 1946 census was taken in the fall, but was of little use because the German economy was, obviously, in a chaotic state. In the United States, adjustments were made for the differences in census seasons (Supplementary Appendix G), and for any differences between late spring (June) in 1890 and 1900, and early spring (April) in 1910, 1930, 1940, and 1950. There was no basis on which to make adjustments in New Zealand in 1945 nor in Germany in 1950, but these exceptions offered no serious problem.

[15] War years must be eliminated from the comparison, since changes during World War II and the Korean conflict would naturally produce abnormal differences.

[16] 1920–1921: Willford I. King, in "Changes in Employment in the Principal Industrial Fields, January 1, 1920 to March 31, 1922" (*Business Cycles and Unemployment*, National Bureau of Economic Research, 1923, pp. 82, 88), says, "Records were secured from employers who hire about one-tenth of all the employees in the United States. However, the proportion differs in different industries." 1929–1930: *Survey of Current Business*, Dept. of Commerce, March 1941, p. 17. 1953–1954: *Survey of Current Business*, March 1954, p. S-11;

Before 1920, seasonal information on unemployment was at hand only for trade unions, going back to 1897–98. These trade union data behave in the expected random fashion, but indicate no change in trend of the seasonal pattern of idleness.[17] However, the unemployment behavior of trade union members—largely in the printing, clothing, metals, and construction industries—would scarcely be significant for seasonal changes in labor force participation. Most of the members are males whose unemployment rates would change almost entirely because of variations in employment, whereas labor force participation varies largely because women and young people move in and out at different times of the year, such as during the Christmas and Easter seasons, and during the summer months.

Data on employment before 1920 were for manufacturing and could give no clue to the seasonal behavior in agriculture, services, trade, or of self-employment. They do, however, indicate what happened in one of the major segments of industry, and show that during 1900–1919, and for selected dates since, second-quarter employment remained close to the average for the year.[18]

It would of course have been more satisfactory to have had monthly data on participation during the census year, rather than that for only one month (or week) in the spring. Nevertheless the scanty material suggests that the average labor force participation over the year may have been very close to the spring figures, and that any differences may have stayed rather constant in direction and relative size. The conclusions as to the behavior of labor force participation over time, therefore, might not have been substantially different even if complete data had been available for the period studied.

Monthly Labor Review, Bureau of Labor Statistics, March 1955, p. 349; *Trends in Employment in Agriculture, 1909–1936*, Works Progress Administration National Research Project, p. 153; *Farm Labor*, Dept. of Agriculture, Jan. 12, 1955, p. 8.

[17] The fact that these data exclude employers, self-employed persons, unpaid family workers, domestic servants, and the unemployed allows the possibility that counter variations in seasonal participation could have occurred among these uncovered groups. *Report on the Relations and Conditions of Capital and Labor Employed in Manufactures and General Business*, United States Industrial Commission, 1900, Vol. VII, p. 30; Ernest S. Bradford, *Industrial Unemployment*, Bureau of Labor Statistics, Bull. 310, pp. 10, 47, 49.

[18] The dates chosen were years of relatively level employment. *Census of Manufactures: 1900*, pp. 20–55; *1919*, pp. 404–405; *1923*, pp. 1136–1137; *1947*, p. 81. E. S. Bradford, *Industrial Unemployment*, BLS, Bull. 310, p. 35; *Survey of Current Business*, March 1941, p. 17, and March 1954, p. S-11; *Monthly Labor Review*, March 1955, p. 349. The data for 1900–1929 cover wage earners only; those for 1947 and 1954, wage earners and salaried supervisory employees. The 1900 data on female employment cover females 16 and older. The data on female employment for 1954 were obtained directly from the Bureau of Labor Statistics and cover only employment in March, June, September, and December. The annual average is thus the mean of employment in these four months; the second quarter is taken as the average of employment in March and June.

DUAL JOBHOLDING.

The study is concerned primarily with how many people participate in the labor force and only incidentally with how hard or how long they work, or what kind of work they do. Still, variations in the proportion of persons who work concurrently at more than one job might be interrelated, as cause or effect, with changes in the number of persons in the labor force, and might serve as a partial substitute for such changes.

There is no information before 1940, but for five scattered dates since then the census has compiled sample survey information which suggests that dual jobholding is a relatively minor factor.[19] The first survey—though it was taken as of January 1943 during one of the busiest years of World War II—reported only 3.8 per cent of the employed civilian workers to have more than one job. The next two surveys—taken in early July of 1946 and 1950—indicated that the percentage was less than 3.5. The final survey—taken in early December 1950, when extra pre-Christmas job opportunities could be expected to increase dual jobholding in the light of economic mobilization for the Korean conflict—revealed a further drop to 3 per cent.[20] Not only was multiple employment a relatively small factor during these years, but it was also relatively stable, considering the wide range of economic conditions covered by the surveys.[21] A fifth survey, published recently, indicates a somewhat larger percentage of dual jobholders (5.5 per cent) in July 1956. The census indicates that some of the difference may be attributable to improved measurement techniques used in 1956, but suggests that there are reasons for believing that some actual increase has occurred.[22]

Even these data exaggerate the number of persons who were ac-

[19] Domestic service employees who usually work for several different employers during the week were considered to have only one job. Those who regularly work for only one employer, however, were counted as dual jobholders if they changed employers during the week. Persons operating two or more firms or business enterprises (or combination of these) were considered as having only one job. To make results of the 1950 and 1946 surveys comparable with those of the 1943 survey, the census included persons who were self-employed. (From a mimeographed memorandum of December 1950, furnished by courtesy of Gertrude Bancroft of the Bureau of the Census.)

[20] The proportion of *jobs* held by dual jobholders could be expected to be somewhat greater than that of dual jobholders, since persons who hold more than one job may even hold more than two. No data were offered for 1943 on this proportion, but it was 5.6 per cent in July 1950, and 5.0 per cent in December 1950.

[21] This is also the conclusion of the Bureau of the Census in analyzing the data: "Except for seasonal differences, the extent of dual jobholding appears to have been remarkably constant, over the past several years. . . ." (Mimeographed memorandum cited in footnote 19.)

[22] "Multiple Jobholding: July 1956," *Current Population Reports, The Labor Force,* Bureau of the Census, Series P-50, No. 74, April 1957.

tually working "simultaneously" at more than one job. Some doubtless took a secondary job to supplement their vacation income, others to replace it if they had not been in primary jobs long enough to receive pay for vacation shut-downs.[23] Still others might have left one job and begun another later in the same week. Thus some of dual jobholding is actually sequential jobholding, or having two jobs but working at only one of them.

The true extent of genuine simultaneous work cannot be known until the census surveys precisely how many persons actually work at two jobs in the same day. But it is highly probable that *working* at more than one job has been less than even the modest percentages of *holding* more than one job reported by the census. As for earlier years, it must have been still less, for it is unlikely that people can work at two or more jobs in the same day unless the workday in primary employments is short. In earlier years, the workday was long.

Declining Participation of Negroes versus Stability among Whites

It has already been noted that the stability of the labor force participation of the total United States population and of the native white population does not extend to the foreign-born or to Negroes.

In 1930, the labor force participation of the colored in the United States was approximately the same as that of Germany's population. By 1950, it had fallen here almost to the level of the whites, i.e. from almost two-thirds to not much over half the population of working age. The decline was about the same whether or not standardized for age and sex—in fact, it occurred in nearly every age and sex group. It was specially pronounced for males and for young and old persons. And it occurred for females, while native white and some age groups of foreign-born females were increasing their participation.[24] How can we explain this instability?

COMPOSITION.

The reduction in labor force participation of Negroes has not been due to their large migration from rural to urban areas; on the contrary, the participation of the colored in urban areas has been appreciably above that of the colored in rural areas, both in the United States as a whole and in the South.[25] The migration may even have softened the decline.

[23] Vacationers working at secondary jobs may have been numerous at the time of the surveys in early July of 1946 and 1950.

[24] The only colored females who showed an increase in propensity to be in the labor force throughout 1890–1950 were those in the 25–44 age group.

[25] Standardized for age and sex. *Census of Population, 1940, The Labor Force, loc. cit.*

Nor has the decrease been due to changes among Negroes, Indians, Chinese, and others in the composition of the nonwhites, for Negroes have been so large a percentage of the whole nonwhite group as to dominate its labor force tendencies almost completely. Finally, it was not due to changes in age or sex composition, since the results were not modified appreciably by standardizing the colored labor force for age and sex.

One possible explanation may be that an increasing share of Negro females were kept out of the labor force by the rising responsibilities for the care of young children since 1930, for there has been a rise in the ratio of colored children under 14 to colored females of working age, no doubt as a result of the increase in the survival rate of the former. It is true that a decline in child-care responsibilities did not cause a rise in the participation of colored females before 1930, but the reason could have been that they had already reached their maximum potential in the labor force by that time.

THE SHORTER WORKWEEK.

In Chapter 7 (Chart 14), decreases in the length of the workweek seemed to be associated with increases in female participation—perhaps because they made it possible for many females to work in industry and still do their housework.

There are no analogous statistics by color. But to the extent that Negroes worked in the same firms or industries as white persons, they undoubtedly observed much the same standard hours. In recent decades Negroes have been moving rapidly out of relatively long-hour domestic service and agriculture into relatively short-hour manufacturing and service industries, a movement which could have produced an even greater decline in average hours for Negroes than for whites and permitted *more* rather than fewer Negro females to enter the labor force.

Large Cities Taken as a Whole and Individually

The stability of labor force participation rates over time observed for the four foreign countries, for the United States as a whole, for native whites in the United States, for the United States urban and rural areas, and for the 38 large United States cities in the aggregate, does not hold for all the cities examined, taken individually, in Canada or in the United States.

In Canada, participation was not highly stable either in individual cities or in all cities combined; in the cities combined, it rose per 1,000 population 15 and older from 581 in 1911 to 626 in 1951. In two-thirds of the 21 cities taken separately, the maximum change was greater than the maximum change when combined; in the other third, the maximum

TABLE 54

Stability of the Labor Force per 1,000 Population 14 and Older, by Color, 38 Large Cities, United States, 1920–1950

	OVER-ALL AND MAXIMUM [a] CHANGES IN LABOR FORCE [b]					
	Whites 1920–1950 [c]		*Colored 1920–1950* [c]		*All Classes 1900–1950* [c]	
	Over-All	*Maximum*	*Over-All*	*Maximum*	*Over-All*	*Maximum*
Atlanta	+34	34	−137	138	−30	33
Baltimore	+9	11	−154	154	−11	39
Birmingham	+46	46	−96	96	−40	40
Boston	−54	54	...	...	−35	72
Bridgeport	+20	29	...	...	+4	13
Buffalo	+30	30	...	...	+20	21
Chicago	+21	23	−89	89	+27	41
Cincinnati	−13	22	−122	122	−31	39
Cleveland	+35	35	−74	90	+38	38
Columbus	+13	24	...	...	+39	43
Dallas	+43	43	−76	76	+12	13
Denver	+39	44	...	...	+40	48
Detroit	+18	26	−95	95	+5	20
Houston	+18	18	−106	106	−35	35
Indianapolis	+42	44	−3	49	+55	55
Kansas City	+20	25	−96	102	+26	34
Los Angeles	+11	21	−39	39	+53	53
Louisville	−9	10	−166	166	−16	55
Memphis	+30	33	−88	88	−68	68
Milwaukee	+34	53	...	...	+45	53
Minneapolis	+34	42	...	...	+49	49
Newark	+18	18	−41	93	0	11
New Haven	−21	32	...	...	−6	45
New Orleans	0	6	−156	156	−23	65
New York	−15	15	−139	139	−3	29
Norfolk	+52	52	−95	95	−38	38
Omaha	−9	18	...	...	−7	19
Philadelphia	−10	22	−141	141	−23	32
Pittsburgh	−8	8	−117	117	−2	30
Portland, Ore.	+37	39	...	...	+37	39
Providence	−35	35	...	...	−40	55
Richmond	+41	41	−110	110	−8	31
Rochester	+4	16	...	...	+2	31
St. Louis	+7	7	−136	146	+16	44
St. Paul	+9	15	...	...	+20	24
San Francisco	+9	35	+15	21	+27	42
Scranton	−15	15	...	...	−17	28
Seattle	+20	28	...	...	+65	65
38 Cities						
Aggregate	+6	8	−109 [d]	109 [d]	+5	25
Median	+18	27	−96	102	−1	39

notes on following page

changes were 50 to 70 per 1,000 (based on Appendix Table A-13). Most of the changes occurred between 1941 and 1951 and seemed to stem largely from the male population. Male participation increased in 15 of the 21 cities, despite its general decline in recent decades in Canada as a whole. With male participation increasing, there was nothing to offset the rise for females.

In the United States, the stability observed in participation in all 38 large cities combined was largely due to fluctuations offsetting each other over time among the individual cities. In only 7 cities was the maximum change as small as that of the 38 combined, and about 29 had a maximum change of 30 to 72 per 1,000 population 14 and older.

Participation in individual cities was less than stable for whites alone as well as for all classes (Table 54), although the comparison had to be confined to 1920–1950, since data by color were not available for 1900. (The study of 38 large United States cities covered the census dates 1900 and 1920–1950.) Among white persons, participation was highly stable for all of the 38 cities combined (as was that of all classes), but all except three cities had maximum changes greater than the maximum change in the combined average, and 17 cities had maximum changes of 30 to 54 per 1,000. The changes for whites were small, however, compared with those for the colored. Colored persons are not numerous in many areas, and data were available for the full period 1920–1950 for only 23 cities. In all 23 except San Francisco, the colored labor force participation declined between 1920 and 1950; in all but a few it declined in every decade; in every city it fell between 1930 and 1940; and in only five was there a rise, which took place between 1940 and 1950. In 16 of the 23 cities the decline in colored participation occurred in the face of a rise in white participation. The decline averaged 109 per 1,000 colored population, but in seven cities it was more than 135—a fifth of the colored labor force in 1920. In the case of females, colored participation declined in all but four of the 23 cities (Indianapolis, Los Angeles, Newark, and San Francisco) while that of white females was rising in every one of the 38 cities. That of colored males declined without exception, and in 1950 was lower than white male participation in every one of the 23 cities. *It is noteworthy that*

Notes to Table 54

Source: Appendix A. *Census of Population: 1920*, Vol. II, Chapter III, Tables 15–17, and Vol. IV, *Occupations*, Chapter IV, Table 22; *1930*, Vol. III, Table 12, and Vol. IV, *Occupations*, Table 9; *1940*, Vol. III, *The Labor Force*, Parts 2–5, Table 5; *1950*, Vol. II, *Characteristics of the Population*, Part 1, Tables 86, 87.

[a] Difference between highest and lowest figures.

[b] Standardized for age and sex on the basis of the composition of population of Chicago in 1930.

[c] The study of 38 large cities covered 1900 and 1920–1950. Since data by color were not available for 1900, the comparison had to be confined to 1920–1950.

[d] Data were available for only 23 cities.

these declines in colored participation occurred despite the enormous increase in jobs available to Negroes.

This lack of stability in large cities demands explanation.

GROWTH OF CITIES.

Could the diverse behavior among the different cities have been related to changes in their size? That is, could the participation of whites have fallen in cities that were growing slowly, and risen in cities that were growing rapidly? The possibility that the latter offered more job opportunities to women, boys, and older men was tested by correlating, separately for whites and Negroes, the change between 1920 and 1950 in labor force participation [26] with the increase in population in each city. The test revealed some tendency for Negro participation to decline least in the cities with the most rapidly growing colored population. The correlation was not large ($r = 0.48$), though it was significant on the 95 per cent level; for whites it was much weaker and it was only moderately significant. There was no strong indication that changes in a city's labor force participation are tied to its population growth.

PROSPERITY OF CITIES.

Could the change in a city's labor force participation be associated with its relative prosperity? This question was examined in two ways: First, the changes in the white and colored participation between 1920 and 1950 were compared with the changes in real earnings of males of all classes.[27] Second, the changes in white and Negro participation in each city between 1920 and 1950 were compared with the *level* of earnings of white and Negro males in that city in 1949 respectively. But the changes in participation showed no association with *changes* in earnings for either whites or Negroes, and showed only a bare association with the *level* of earnings of whites ($r = 0.40$).

CHANGES IN JOB OPPORTUNITIES.

The labor force behavior in individual cities offers a chance to see whether participation rose in those cities in which unemployment declined most (or rose least), and fell in those cities in which unemployment rose most (or declined least). Accordingly, changes from 1930 to 1950 in labor force participation of whites were compared with changes in their unemployment rates [28]—with almost zero results. We have

[26] Standardized for age and sex.

[27] Adjusted to the purchasing power of the dollar in Chicago in 1930. All classes were used because separate earnings for whites and colored were not available in 1920.

[28] Comparisons between 1930 and 1940 and between 1940 and 1950 were made in Chapter 10 which dealt with the labor force in depressions.

already noted that the great decline in Negro participation between 1940 and 1950 occurred while job opportunities for colored people were surely becoming more abundant. Nevertheless, on the chance that the *size* of the changes may have been related—the changes in colored participation from 1930 to 1950 were correlated with the changes in the colored male unemployment rate among the 23 cities with separate data. Again, however, the correlation was too small to be significant.

INFLUENCE OF THE FOREIGN-BORN.

Did the total white participation rate rise in those cities where the foreign-born whites were few in number, and fall in those cities where they were relatively numerous and where their decreasing labor force propensity could exert more of a depressing effect? Some such tendency is borne out in a correlation between the change in white labor force participation between 1920 and 1950 and the ratio of foreign-born to whites in 1930. The correlation ($r = -0.43$) was significant on the 95 per cent level, though it was not large enough to justify placing great reliance on this factor as an explanation.

EFFECT OF CHANGES IN CHILD-CARE RESPONSIBILITIES OF WOMEN.

It has been suggested that more women could enter the labor force if there were fewer young children who required care at home, and that many women in their desire or need for jobs might postpone having children. It is true that white female participation rose in all cities, while the relative number of white children declined in all but four cities. But there was no significant correlation between the changes in the ratio of white children under 14 to white females 14 and older and the changes in white female participation. There was a significant similar correlation, however, for Negro females among the 23 cities for which data were available. In all the cities but 4 there were decreases in the participation of Negro women; and in all but 3 there were increases in the ratio of children to women—no doubt due to the decline in Negro infant mortality. And there was some tendency ($r = -0.48$) for colored female participation to decline most in cities where the increase in the relative number of colored children was greatest. The correlation did not assure that increases in child-care responsibilities were the dominant factor in causing the exodus of Negro women from the labor force, but it was significant on the 95 per cent level—high enough to require consideration.

THE TENDENCY OF NEGRO PARTICIPATION RATES AMONG CITIES TO EQUALIZE.

In 1920 the colored labor force rates of 23 cities had an interquartile range of 80 [29] or 11½ per cent of the median rate; by 1950, this range had declined to 47, or less than 8 per cent. Between these dates the colored participation rate had declined most in those cities where it was highest at the start of the period ($r = -0.73$). This tendency to equalize, significant on the 95 per cent level, was observed entirely among the colored, and was not observable among the whites. It should not be surprising that as the working habits of the Negroes moved more closely to those of the whites, they would also move more closely to those of each other.

United States and Britain in the Nineteenth Century

UNITED STATES, 1820–1880.

Has the labor force been stable over the last sixty years because its potentiality for decline was exhausted in an earlier period? This conjecture is not supported by analyses available heretofore; the late Daniel Carson concluded that participation actually rose throughout the nineteenth century. However, examination of his materials [30] revealed no clear evidence that the total labor force participation changed at all, but suggested that a misleading impression was produced by the gradual improvement in census enumerations in the first three quarters of the nineteenth century, and by lack of standardization for age and rural-urban composition.

Whelpton [31] attempted to adjust for certain deficiencies in early enumerations but the data still indicated that labor force participation was rising. But there is serious doubt that Whelpton's adjustments were sufficient (Appendix F). And the rise may have been due also to a tendency for relatively more persons to be in the adult age groups, or to live in urban areas. Since 1890 data have allowed us to eliminate the effects of some demographic developments by standardizing the labor force for age, sex, and rural-urban compositions, but before 1890, the data did not permit such adjustment.

How are we to test this? Since information on rural and urban labor force were not available for the usual standardization, we resort to a device which we call "destandardization" (Table 55):

[29] Per 1,000 Negro population 14 and older.

[30] "Changes in the Industrial Composition of Manpower since the Civil War," *Studies in Income and Wealth, Volume Eleven*, National Bureau of Economic Research, 1949.

[31] P. K. Whelpton, "Occupational Groups in the United States, 1820–1920," *Journal of the American Statistical Association*, September 1926, pp. 335–343.

TABLE 55

Rural-Urban Destandardization Test of Stability of the Proportion of Population 10 and Older in the Labor Force, United States, Selected Years, 1820–1880

(labor force and population in thousands)

	1820	*1840*	*1870*	*1880*
Urban areas				
1. Population 10 and older	468	1,260	7,500	10,350
2. Assumed stable per cent in labor force (average of 1890–1940) [a]	52.2	52.2	52.2	52.2
3. Assumed labor force (line 1 × line 2)	244	658	3,915	5,403
Rural areas				
4. Population 10 and older	6,020	10,369	21,624	26,411
5. Assumed stable per cent in labor force (average of 1890–1940) [a]	46.4	46.4	46.4	46.4
6. Assumed labor force (line 4 × line 5)	2,793	4,811	10,034	12,255
United States				
7. Population 10 and older (line 1 + line 4)	6,488	11,629	29,124	36,761
8. Labor force (line 3 + line 6)	3,037	5,469	13,949	17,658
9. Per cent in labor force calculated by destandarization (line 8 ÷ line 7)	46.8	47.0	47.9	48.0
10. Actual per cent in labor force (Whelpton) [b]	44.4	46.6	44.4	47.3
11. Difference between Whelpton's [b] calculation of per cent in labor force and the calculation by destandardization (line 9 — line 10)	2.4	0.4	3.5	0.7

Source: Appendix A.

[a] This percentage is the average for 1890–1940 of the proportion of urban or rural population 10 and older in the labor force, standardized for age and sex on the basis of population of the United States in 1940.

[b] See footnote f, Appendix Table A-1.

Note: The data for 1830, 1850, and 1860 could not be used, for reasons set forth in Appendix F.

1. It is assumed that the participation rates in both urban and rural areas during 1820–1880 were the same as those standardized for age and sex during 1890–1940: urban, 52.2 per cent; rural, 46.4 per cent.

2. These assumed rates are multiplied by the actual urban and rural populations aged 10 and older during 1820–1880.

3. The resulting urban and rural labor forces are then added to obtain the combined labor force for the United States.

4. Finally, this sum is divided by the actual United States population 10 and older, in order to compute the destandardized rates for the United States as a whole. To the extent that the rise in participation was due to the more rapid growth of urban areas, with their higher participation levels, the rates thus "destandardized" for rural-urban composition should be reasonably close to those reported by the census and adjusted by Whelpton.

The expectation is approximately confirmed. Although the agreement was not precise (Table 55, line 11), the difference was only 0.4 per cent in 1840 and 0.7 per cent in 1880. Where the destandardized rate differed by a larger amount, i.e. 2.4 per cent in 1820 and 3.5 per cent in 1870, it could easily be more nearly correct than the Whelpton result, as the latter was subject both to errors in enumeration and to mistakes in adjusting for miscounts. On the accuracy of the adjustments for miscounts, Fabricant says:

> ". . . I am inclined to believe that Whelpton's estimates are no better than those obtained by assuming simply that for 1820–60 the ratios of gainful workers to total population 10 years and over lie between 44 and 50 per cent. If I *had* to narrow the range, I would put the limits at 46 and 48, and caution the reader against ascribing much validity to them." [32]

Our destandardized rate for 1820 is 46.7 per cent, which is within this narrower range.

For 1870, however, our understanding of the difference may be aided by the observation of Francis A. Walker, Superintendent of the Census at that time:

> "The statistics of the census [of 1870] are not of uniform value. The census law of 1850 [under which it was conducted] was a purely tentative measure. Some of the inquiries which it proposed are such as the country is not even yet ripe for. In respect to others, no adequate machinery is provided; and the investigations from that census fail to accomplish worthy results. In respect to others, still, the compensation provided is so inadequate that, although the statistics are easily accessible, and the machinery for their collection is well adapted to the purpose, the motive force is wanting to secure the thorough performance of the duty. . . . Yet these statistics the authorities of the census are presumably bound to publish. . . ." [33]

[32] Solomon Fabricant, "The Changing Industrial Distribution of Gainful Workers: Comments on the Decennial Statistics, 1820–1940," *Studies in Income and Wealth, Volume Eleven*, NBER, 1949.

[33] *Census of 1870*, Vol. I, *Statistics of Population*, Part 1, p. xlvii.

A major reason for the defective enumeration of the census was that:

> "the United States Marshals were left to appoint their assistants—the actual enumerators—without any check or control on the part of the Census Office . . . its right to make such a protest even being seriously a subject of question."[34]

In view of the shakiness of the data, the destandardization cannot prove that labor force participation, properly standardized, would have been stable during 1820–1880 or that it would have been close to the rates in later decades. It does indicate that the apparent rise in participation during 1820–1880 could be explained by the shift of population from rural areas, where participation was lower, to urban areas, where it was higher. The behavior is thus consistent with the hypothesis that the United States labor force participation has been fairly stable—aside from changes in age-sex or rural-urban composition—throughout the 130 years from 1820 to 1950.

ENGLAND AND WALES, 1841–1911.

The labor force of England and Wales in 1881 and 1891, adjusted for the minor omissions referred to in Appendix F, was almost exactly the same as in 1911 (Table 56, line 10).

In 1841, as originally reported, it was below these levels, but it did not include the unemployed in that depression year. If this omission were corrected by the addition of a hypothetical 10 per cent of the labor force, the participation rate of 1841 would be fairly close to the 1911 rate—particularly in view of the imprecision of the data.

But again it must be kept in mind that a larger share of the inhabitants lived in the lower-participation rural areas. What would be the result of applying the destandardization test? Assuming the participation rates in rural and urban areas were the same as in 1911, we find a destandardized rate for 1841 very similar to the "actual" (adjusted) rate for that year. It was less similar to the actual in 1881 and 1891. Even so, the destandardized and the actual labor force participation were apart by scarcely more than 0.5 per cent of the population aged 10 and older. The British, like the American experience, is consistent with the hypothesis that the labor force was a stable proportion of the population of working age in the nineteenth century, as it was in the twentieth.

[34] *Census of 1880, Compendium of the Tenth Census,* June 1, 1880, Part I, p. lx.

TABLE 56

Rural-Urban Destandardization Test of Stability of the Proportion of Population 10 and Older in the Labor Force, England and Wales, Selected Years, 1841–1911

(labor force and population in thousands)

	1841 [a]	*1881*	*1891*	*1911*
Urban areas				
1. Population 10 and older	5,803 [a]	13,143	15,925	22,269
2. Assumed stable per cent in labor force (same as in 1911) [b]	57.9	57.9	57.9	57.9
3. Assumed labor force (line 1 × line 2)	3,360	7,610	9,221	12,894
Rural areas				
4. Population 10 and older	6,287 [a]	6,163	6,129	6,250
5. Assumed stable per cent in labor force (same as in 1911) [b]	54.1	54.1	54.1	54.1
6. Assumed labor force (line 4 × line 5)	3,401	3,334	3,316	3,381
England and Wales				
7. Population 10 and older (line 1 + line 4)	12,090	19,306	22,054	28,519
8. Labor force (line 3 + line 6)	6,761	10,944	12,537	16,283
9. Per cent in labor force calculated by destandardization (line 8 ÷ line 7)	55.9	56.7	56.8	57.1
10. Actual per cent in labor force	50.5	57.3	57.3	57.1
Corrected for omission of unemployed in 1841:				
11. Assuming 10 per cent unemployed	56.1	–	–	–
12. Assuming 7 per cent unemployed	54.3	–	–	–
13. Assuming 13 per cent unemployed	58.0	–	–	–
14. Difference between "actual" per cent in labor force and the calculation by destandardization (line 9 minus line 10)	5.4	—0.6	—0.5	0
15. Same, assuming 10 per cent unemployed in 1841	—0.2	–	–	–
16. Same, assuming 7 per cent unemployed in 1841	1.6	–	–	–
17. Same, assuming 13 per cent unemployed in 1841	—2.1	–	–	–

Source: Appendix A.

[a] These figures were estimated by taking the rural population as 52 per cent of the total population aged 10 and older.

[b] Actual per cent in labor force.