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## APPENDIX F

### Statistical Measures of the Labor Force: Their Content and Comparability

"It is this union of passionate interest in detailed fact with equal devotion to abstract generalization that forms the novelty in our present society. . . . It is the salt that keeps life sweet."

A. N. WHITEHEAD, *Science and the Modern World*

#### *The United States since 1820*

The statistics on the labor force in this study derive from two types of survey which are described and appraised in Chapter 3 and referred to throughout the volume: the decennial enumeration of the nation's entire population, and the monthly sample enumeration of 20,000-35,000 interviewed households for population estimates. Both are conducted by the Bureau of the Census by means of interviews in individual dwellings. An alternative source of information—the employment schedules filled out by employers from payroll data—was used only occasionally for comparison.

The household interview has substantial advantages over employers' payroll data in measuring the labor force, just as it has in measuring earnings and income (Appendix D). It eliminates duplication in counting workers. It covers domestic servants, the self-employed, the unemployed, and persons who, though employed, are inactive and not receiving pay—none of whom would be on a business payroll. Moreover, by counting workers in connection with the population, it provides data which allow computation of the rate of participation of various groups classified by age, sex, color, residence, and other factors which affect the statistics on labor force behavior.

The same drawbacks which were discussed in previous chapters apply here. Frequently, when the census agent rings the doorbell, the adults of the family are working or shopping, and answers have to be secured from a fifteen-year-old daughter, or a landlady, not necessarily well posted on whether the subject of the interview is employed, involuntarily idle, laid off, or retired. Even the worker concerned is not always a good source of information about himself. Perhaps he does not know the name of his industry, cannot define it unambiguously, or confuses it with that of his firm. Perhaps he mentions a similar occupation with superior prestige; a high school teacher, anxious for social acceptance but deluded as to how it may best be obtained, may

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pass himself off as a professor. Perhaps his memory misleads him as to what he did in the previous week, month, or year. Perhaps his response is to some extent suggested by the wording of the questions or the order in which they are put to him. Perhaps his answers are cut short by an interviewer who finds it less confusing, or less time-consuming, to record his own impressions. But household interviews are indispensable in measuring the labor force, and their faults, like those of a new daughter-in-law, must be accepted.

Despite their defects, the United States censuses of the labor force since 1870 have covered with fair uniformity all important groups of people who have been working or seeking work (Table F-1, Part A). They have excluded the retired and the disabled,<sup>1</sup> persons in criminal pursuits (who in any case are not readily identified by house-to-house visits),<sup>2</sup> and students and housewives who do not work for pay. And they have included unpaid family workers and the unemployed. Before 1940 they may have omitted a few new job-seekers (young people from school and college who were inexperienced and did not know what occupation they belonged to),<sup>3</sup> and some who looked upon their work as too incidental—or lowly—to mention.

In 1870 and 1880 the censuses were conducted so haphazardly that their findings were useful only for rough comparison, but before 1870 the data belong to an order of accuracy so inferior as to interest primarily the antiquarian. Discussion commences here with 1820, for the attempts in 1810 to inventory workers by industry "were of little avail . . . and the results, although printed, have but little value."<sup>4</sup>

1820. Only 38.3 per cent of all persons aged 10 and older were recorded as occupied, partly because the enumeration was confined to agriculture, commerce, and manufacturing (including mechanical and hand trades) and partly because, even in these industries, it was guilty of manifest omissions (specially of slaves).<sup>5</sup> The extent of the

<sup>1</sup> Specific instructions concerning retired and disabled persons do not appear in the censuses until 1910. *Census of Population, 1910*, Vol. IV, p. 89.

<sup>2</sup> Occasionally disclaiming moral concerns, the census has stressed the practical difficulties of gathering data from those engaged in the seamy modes of livelihood, who will frequently claim some respectable means of support. The fact that bootleggers may have posed as restaurateurs perhaps disposes unofficially of a source of discontinuity during prohibition.

<sup>3</sup> Fabricant doubts that all the new or inexperienced work-seekers were omitted from the census in 1930 or earlier, as Durand and Goldfield assumed. He points out that many would have learned some occupation in school, at odd jobs, or from parents. Solomon Fabricant, "The Changing Industrial Distribution of Gainful Workers: Comments on the Decennial Statistics, 1820-1940," *Studies in Income and Wealth, Volume Eleven*, National Bureau of Economic Research, 1949, pp. 16-17.

<sup>4</sup> Carroll D. Wright and William C. Hunt, *The History and Growth of the United States Census*, S. Doc. 194, 56th Cong., 1st sess., February 24, 1900, p. 38.

<sup>5</sup> Fabricant, *op. cit.*, p. 31, note.

undercount may be deduced from the relatively small number reported as occupied in the larger cities: in Detroit, 1 in 16 out of a total of 1,422 inhabitants; in Albany and Baltimore, 1 in 9 of the populations. An attempt at correction of the United States data has been made by P. K. Whelpton, whose estimate of workers in various services (domestic, personal, and professional), mining, lumbering, and fishing brought the over-all labor force up to 44.4 per cent of the population aged 10 and over. But Whelpton made no allowance for underreporting in the industries covered, and in view of the absurdly low median for fourteen cities—only 13.5 per cent of those aged 10 and over were counted in the labor force—his addition of 6 per cent must also be regarded as inadequate.

1830. This enumeration did not include questions on the labor force.

1840. The coverage of industries was extended in 1840 to include agriculture, mining, trade, navigation, learned professions, and engineering. However, the ratios of the labor force to population in cities remained incredibly low, e.g. 6 per cent of 34,000 residents in Albany, 12 per cent of 102,000 in Baltimore, and 14 per cent of 24,000 in Louisville. Of Detroit's 9,000 residents just 25 workers were reported: 22 in manufacturing, 1 in commerce, and 2 in the learned professions (not counting 6 persons occupied "for revolutionary or military purposes"). Among twenty cities the median percentage was 18.3.<sup>6</sup> Again, Whelpton added a figure for domestic, personal, and professional services; lumbering, and fishing. The addition raised the proportion of those aged 10 and over in gainful occupations from 41.3 to 46.6 per cent but it did nothing to remedy the obvious deficiencies in the groups nominally reported.

1850 and 1860. These enumerations were less adequate than the earlier ones. Both excluded slaves and the former, white females as well, in effect confining the labor force to free males. Whelpton substituted his own interpolations based on the censuses of 1840 and 1870.

1870. The first post-Civil War census, which found 44.4 per cent of those aged 10 and older to be gainfully occupied, did not neglect any sizable groups but obviously it was still not complete. The Census Office (now the Bureau of the Census) itself felt that reconstruction and un-

<sup>6</sup> In 1843 the youthful American Statistical Association complained to Congress that "in returning the people according to their several employments, some of the marshals 'seem to have included the whole population, men, women, and children, in these classes, arranging them, probably, according to the employment of the head of the family, and some seem to have noticed only the males over 21 years of age; others seem to have noticed all who were sufficiently able to perform any service; and, lastly, some seem to have entirely neglected this duty, and have recorded none in some of the employments; and in many counties none are reported to have any employment whatever.'" Wright and Hunt, *op. cit.*, p. 37.

TABLE F-1, Part A

Labor Force Concepts of the Censuses over Time, United States, 1820-1953

	REGULAR DECENNIAL AND MONTHLY SAMPLE ENUMERATIONS				
	Decennial		Monthly Sample		
Coverage as to:	1820-1860 <sup>a</sup>	1870-1930 <sup>b</sup>	1940 <sup>c</sup>	1940-1945 <sup>d</sup>	1945-1953 <sup>e</sup>
Age <sup>f</sup>	10 and older	10 and older	14 and older	14 and older	14 and older
Date of labor force status <sup>g</sup>	vague	vague	March 24-30	week incl. 15th	week incl. 8th or 15th
Unemployed	yes	yes	yes	yes	yes
Inexperienced work-seekers	no <sup>h</sup>	no <sup>h</sup>	yes	yes	yes
Methods of payment:					
Wages, fees, profits	yes	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes	yes
Unpaid family labor <sup>i</sup>	yes	yes	yes	yes	yes
Economic status:					
Employees, incl. supervisors	yes	yes	yes	yes	yes
Employers, farmers, self-employed	yes	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes	yes
Relief workers (WPA, CCC, etc.)	-	-	-	yes, in 1940-1942	-
Inmates of institutions	obscure	yes <sup>j</sup>	no	no	no
Persons not working nor seeking work but having job:					
Temporarily ill	obscure	yes	yes	yes	yes
On vacation, paid or unpaid	obscure	yes	yes	yes	yes
On strike	obscure	yes	yes	yes	yes
Laid off temporarily	obscure	yes <sup>k</sup>	yes <sup>k</sup>	yes <sup>k</sup>	yes <sup>k</sup>
Waiting to start new job	obscure	yes	yes	yes	yes

TABLE F-1, Part A, continued

	REGULAR DECENNIAL AND MONTHLY SAMPLE ENUMERATIONS					
	Decennial		Monthly Sample			
	1820-1860 <sup>a</sup>	1870-1930 <sup>b</sup>	1940 <sup>c</sup>	1950 <sup>a</sup>	1940-1945 <sup>c</sup>	1945-1953 <sup>a</sup>
Coverage as to:						
Persons not working nor seeking work and having no job:						
Temporarily ill	obscure	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>
Disabled	obscure	no	no	no	no	no
Believe no jobs exist	obscure	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>
Weather-bound	obscure	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>	yes <sup>1</sup>
Part-time work for pay:						
Student or housewife working	m	m	yes	yes	yes	yes
Student or housewife seeking work	obscure	obscure	yes	yes	yes	yes
Industries and occupations:						
Legal	n	all	all	all	all	all
Illegal <sup>o</sup>	no	no	no	no	no	no
Slaves	not in 1850 or 1860	-	-	-	-	-
Armed forces abroad <sup>p</sup>	pr. no	no	no <sup>p</sup>	no <sup>p</sup>	no <sup>p</sup>	no <sup>p</sup>
Sex	free males only in 1850	both	both	both	both	both
Counting of dual job-holders	once	once	once	once	once	once

Source: 1820-1880, Appendix Table A-1. *Census of 1890, Compendium*, Part 3, p. 382. *Census of Population: 1900*, Vol. II, p. xxxvii; 1910, Vol. I, p. 310; 1920, Vol. II, p. 154; 1930, Vol. II, p. 595; 1940, Vol. IV, Part 1, pp. 178-182; 1950, *Preliminary Reports*, Series PC-7, No. 2, p. 21.

pr. = presumably.

<sup>a</sup> The censuses of 1820 through 1860 were so incomplete as to be of little value. No questions of any kind on the labor force were asked in 1830.

(notes on next page)

Notes to Table F-1, Part A, *continued*

<sup>b</sup> The 1870 census was the first even to attempt a complete count of occupations, but, owing presumably to the unrest associated with the post-Civil War reconstruction, both population and labor force were almost certainly under-enumerated in the southern states, and possibly in some northern areas as well (see text of this appendix). Women and young people in the labor force may have been undercounted in 1890 and overcounted in 1910, probably because of peculiarities in instructions (see Supplementary Appendix G).

<sup>c</sup> See text of this appendix and Supplementary Appendix H for discussion on the change in measurement technique, and of its supposed effect for 1940.

<sup>d</sup> The labor force as reported by the decennial census in April 1950 was below that of the sample survey estimate for the same month by 3.5 million, even though both used the same concept (see text of this appendix).

<sup>e</sup> The questionnaire used for April 1940 to June 1945 was very similar to that of the 1940 decennial census. The monthly data were subsequently revised upward to make them comparable to the new series begun in July 1945 (see text of this appendix). "Detailed Instructions to Interviewers for Filing Schedule DRS-370C," *Monthly Report of Unemployment*, Federal Works Agency, August 1941. *Sampling Procedures and Method of Operation of the Monthly Report on the Labor Force*, November 1942, and "Enumerator's Instructions for Filing Schedule SS-370 L," *Current Population Reports, Monthly Report on the Labor Force*, July 1945, and September 20, 1945, No. 39, p. 4, Bureau of the Census.

<sup>f</sup> These age limits doubtless resulted in the exclusion, except in 1940, of substantial numbers of newspaper delivery boys, or boys and girls working without pay on farms or in stores operated by their parents.

<sup>g</sup> Although the canvasses usually required a month or more and often referred to some vague period of the recent past, they had the following official dates:

1820, August 7	1930, April 1
1840-1900, June 1	1940, March 24-30
1910, April 15	1950, April 1
1920, January 1	

In practice the occupation reported was probably determined by the time of year in which the census was taken. The 1950 census required that the answers to questions must refer to the week preceding the date when the enumerator called—in most households during the first half of April.

<sup>h</sup> Probably very few persons who were seeking primary work for the first time were left out of the censuses through 1930, for it is likely that most new job-seekers had had some occasional work history and could therefore claim a gainful occupation (see text of this appendix).

<sup>i</sup> The censuses have always aimed at excluding persons who do home housework or incidental chores. Up to July 1945 this was left to the discretion of the interviewer; thereafter, the number of hours of unpaid work on a family farm or in a family business were reported, and persons working less than fifteen hours in the census week were omitted as part of the editing and tabulating process (see text of this appendix).

<sup>j</sup> No instruction was given concerning inmates during 1870-1890. In 1900 they were counted as gainfully occupied only if they received a stated wage in addition to board. In 1910-1930 they were included if they had been assigned regular duties.

<sup>k</sup> Persons laid off were classified as having jobs if they were definitely to return after a specific period: four weeks in the 1940 census,

30 days in the 1950 census and in sample surveys. If no definite period or date had been specified by the employer, the individual was regarded as without a job.

<sup>1</sup> Included if the respondent stated a "usual" occupation (through 1980), or (since 1940) stated he would have sought work, had he been well and believed that work was available.

<sup>m</sup> The specifications were obscure on this matter before 1910. During 1870-1930, working students and housewives could be counted as gainful workers but, except in 1910, the practice was not encouraged "unless the . . . boy or girl . . . is earning money regularly," or unless the student or housewife was spending most of the time in a gainful occupation. Solomon Fabricant notes that censuses in 1850 and 1860 included students aged 16 and older as gainfully occupied, even though they were not paid for studying or not employed part time ("The Changing Industrial Distribution of Gainful Workers," *Studies in Income and Wealth, Volume Eleven*, National Bureau of Economic Research, 1949, p. 11).

In 1900 a working student was regarded as student or worker depending upon which activity took up more of his time (*Census of Population, 1900*, Vol. IV, p. 85). The instructions did not mention working students in 1910, but in 1920 specified that they be classified according to their occupation.

<sup>n</sup> The census of 1820 covered only persons in agriculture, commerce, and manufacturing, and even in these industries skipped large blocks of workers, including slaves. It failed to include workers engaged in services (professional, domestic, and personal), forestry, fishing, and mining. The 1840 census included only persons in mining, agriculture, commerce, manufactures and trade, navigation of the ocean and inland waterways, and learned and engineering professions; it left out domestic and personal services, forestry, and fishing.

<sup>o</sup> Persons in illegal pursuits are barred in theory, but in practice the censuses have probably reported most prostitutes, gamblers, bootleggers, and dope peddlers as being in legal and more reputable callings (see text of this appendix, footnote 2).

<sup>p</sup> Members of the armed forces stationed abroad after 1940, in excess of the normal contingent of 150,000, have been added to the labor force in this study.

TABLE F-1, Part B

SPECIAL SURVEYS MADE DURING THE GREAT DEPRESSION

Coverage as to:	1937			
	Jan. 2, 1934 Mass.	Feb.-Apr. 1934 Penn.	Jan. 14, 1935 Mich.	Jan. 1936 R.I.
Age	14 and older	14 and older	15 and older	15 and older
Date of labor force status	vague	vague	month before enumeration	vague
Unemployed	yes	yes	yes	yes
Inexperienced work-seekers	yes	yes	yes	yes
Methods of payment:				
Wages, fees, profits	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes
Unpaid family labor	obscure <sup>a</sup>	obscure <sup>a</sup>	yes	no <sup>b</sup>
Economic status:				
Employees, incl. supervisors	yes	yes	yes	yes
Employers, farmers, self-employed	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes
Relief workers (WPA, CCC, etc.)	yes	yes	yes	yes
Inmates of institutions	no	no	no	no
Persons not working nor seeking work but having job:				
Temporarily ill	yes	yes	yes	yes <sup>c</sup>
On vacation, paid or unpaid	yes	yes	yes	yes
On strike	no	yes	yes	no
Laid off temporarily	yes	yes	yes	yes
Waiting to start new job	yes	yes	yes	yes
Persons not working nor seeking work and having no job:				
Temporarily ill	pr. yes	no	yes	yes
Disabled	pr. yes	no	no	no
Believe no jobs exist	pr. yes	pr. yes	pr. yes	yes
Weather-bound	pr. yes	pr. yes	pr. yes	yes
Seasonally idle	pr. yes	no	no	no

1937

United States  
Check Census

15-74

Nov. 14-20

TABLE F-1, Part B, continued

Coverage as to:	1937			
	Jan. 2, 1934 Mass.	Feb.-Apr. 1934 Penn.	Jan. 14, 1935 Mich.	Jan. 1936 R.I.
Part-time work for pay:				
Student or housewife working	pr. yes	yes	yes	yes
Student or housewife seeking work	pr. yes	yes <sup>a</sup>	yes	yes
Industries and occupations:				
Legal	all	except farm	all	all
Illegal	no	no	no	no
Armed forces abroad	...	...	...	...
Sex	both	both	both	both
Counting of dual job-holders	once	once	once	once

Source: Massachusetts: *Report on the Census of Unemployment, Annual Report on the Statistics of Labor*, Massachusetts, Pub. Doc. N 15, November 30, 1934, Part II. The respondent was asked his customary occupation as well as duration of employment.  
 Pennsylvania: "In general, the emphasis in the present enumeration was on the employment status of workers as demonstrated by their actual employment or availability in the labor market, since it was desired to reflect as accurately as possible the extent and nature of unemployment in a period of severe economic dislocation." Pennsylvania Division of Research and Statistics, State Emergency Relief Administration (*Census of Employable Workers in Urban and Rural Non-Farm Areas of Pennsylvania, 1934*), p. 2.  
 Michigan: "Age, Sex and Employment Status of Gainful Workers in Five Types of Communities," *Michigan Census of Population and Unemployment*, State Emergency Welfare Relief Commission, December 1936.  
 Rhode Island: *The Story of the 680,712*, Rhode Island Department of Labor, January 1936.  
 United States check census: *Census of Partial Employment, Unemployment and Occupation, Final Report*, Vol. IV, *The Enumerative Check Census*, Bureau of the Census, 1937.

pr. = presumably.

\* Not important in Massachusetts because of the small farming population, nor in Pennsylvania because farm areas were not represented in the survey.

<sup>a</sup> Unless actively seeking paid employment.

<sup>b</sup> The guidance issued to enumerators on the point was obscure and ambiguous. Persons temporarily absent from jobs owing to illness, bad weather, strikes, or vacations were regarded as neither working, nor wanting work, unless actually seeking a job.

<sup>c</sup> Unless they indicated that they sought a job solely because other potential workers in the family were unemployed. *Census of Employable Workers in Urban and Rural Non-Farm Areas of Pennsylvania, 1934*, as cited, p. v.

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rest in the South may have caused an undercount of about 1.3 million population.<sup>7</sup> In fact, the labor force may have been greater in northern areas than the report showed. In Philadelphia, for example, no more than 80 per cent of the males aged 16-59 were reported as occupied, against 91 per cent for the nation as a whole; and in Detroit (population 80,000), the count was only 10 women workers aged 60 and older and 40 boys aged 10-15 (compared to 146 girls!).

1880. The lack of necessary data on age in the returns for 1880 made it impossible to begin the detailed investigation of the labor force before 1890.

1890-1920. Though reasonable care was used in administering the census from 1890 on, the figures for some decades up to 1920 require adjustments (1) to make uniform the age groupings in 1890-1910; (2) to compensate for a minor undercount in 1890 and an appreciable overcount in 1910 of child and women workers; and (3) to convert the labor force, originally recorded as of June (1890 and 1900) or January (1920) to an April basis (Supplementary Appendix G). The corrections were small and mainly cancelled each other, raising the labor force by a mere 1 per cent of the population of working age in 1890 and 0.2 per cent in 1920, and reducing it by 0.5 per cent in 1900 and 2.5 per cent (mostly teenagers) in 1910.

1930-1950. There were so few working minors aged 10-13 reported by 1930, that the censuses of 1940 and 1950 did not include them in the labor force, though by 1950 it is likely that they were working in significant numbers once again as a result of the high level of employment opportunities. (See Appendix E, footnote 5.) Also dropped from the classification of labor force in 1940 were inmates of jails and asylums—including those who were drawing wages in the manufacture of rope or license plates, for instance. These new practices, however, affected only a few hundred thousand workers at the time. Other changes had more important effects upon the data gathered.

One of these was an improvement in the time-reference, hitherto extremely vague. Beginning in 1940 persons were asked whether they had had a job or had sought one in a certain week, March 24-30. An incidental effect of this innovation was supposed to be the inclusion in the labor force of many persons just out of school and hunting for their first jobs. This group had presumably been overlooked in the enumerations through 1930 because, never having held regular employment, they had too little experience (or imagination) to name an occupation. The main purpose was to eliminate many persons who neither had nor sought work during the reference week but who might have been counted in earlier censuses merely because they had har-

<sup>7</sup> *Historical Statistics of the United States, 1789-1945*, Bureau of the Census, 1949, p. 25.

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vested wheat, waited on tables at a resort hotel, or held other seasonal jobs.

To adjust for persons who were supposed to have been overreported by 1940 standards—seasonal workers as they were called—1,156,000 was subtracted from the 1930 labor force figure by John Durand and E. D. Goldfield.<sup>8</sup> This adjustment would not, in any case, have been enough to upset intercensal comparisons. Nevertheless it would seem from the argument in Supplementary Appendix H to have been without very solid foundation.

Another improvement in practice was initiated five years later at the close of World War II. Census technicians suspected that a considerable number of people who had actually been working for pay or profit during some part of the reference week were still being classed as housewives or students, either because their paid labor was very minor or because interviewers, seeing the respondents wearing an apron or reading a book, jumped to the false conclusion that they were not in the labor force. The new schedule led off with a "warm-up" question designed to give a woman a chance to say what she considered her primary occupation. If her reply were, say, that she had been occupied primarily as a housewife, the next question would be: "*In addition*, did you do any work for pay or profit?" If she answered in the negative, the following question was: "Were you looking for work?" Once having gotten off her chest the fact that she regarded herself as a housewife rather than a worker, she presumably would not hesitate to disclose the fact that she had also been active in the past week selling magazine subscriptions, or answering help-wanted ads for beauty parlor work. The census thus undertook to ensure that working housewives, students, and the unemployed were not omitted from the labor force count.

Such was the aim. The actual effect was naturally expected to be obscured by seasonal fluctuations and by impending cut-backs in war production and employment. Therefore, to reveal the effect of the change in technique, the Census Bureau conducted a pretest in April 1945 and thereafter, in the initial month of July, made two calls on identical households, using both old and new schedules.

The change resulted, generally speaking, in increases in the numbers reported as employed and as actively seeking work, and decreases in those classified as inactively unemployed and as not being in the labor force. Subsequently the census used the overlap ratios in various age and sex groups, supplemented by the pretest and by "evidence of other studies," to re-estimate employment and unemployment for each month back to 1940, raising the estimate of labor force for March 30, 1940 by

<sup>8</sup> *Census of Population, 1940, Estimates of Labor Force, Employment, and Unemployment in the United States 1940 and 1930*, Vol. IV, p. 2.

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1.5 million. This, added to the previous estimated excess of 0.5 million, brought the revised sample results to 2 million above the complete census figure. Some of the intervening monthly figures were increased by larger amounts.<sup>9</sup>

These amendments for 1940-1945 should not escape criticism. First, a less fortunate month for a test than July 1945 would have been hard to choose; the armed forces contained some twelve million men, unemployment was less than a million, and the composition of the civilian labor force by age, sex, and industry was also far from normal. Ratios derived from such an unusual period could not be supposed to apply to the earlier depression years, when as few as 1.3 million were in military camps, when as many as 8 million were idle, and when the occupational and demographic structure of the civilian labor force was more normal (or abnormal in an opposite direction). Second, the overlap between the old and the new data rested upon interviews with members of about 20,000 interviewed households divided into 364 subgroups, some of which, e.g. the unemployed, doubtless comprised no more than a few persons,<sup>10</sup> and must have been subject to enormous errors. Not unmindful of the budgetary limitations under which any statistical agency labors, it is still difficult to understand why the census should have relied upon a small sample overlap, based on one month, to correct data covering sixty months and a full range of seasonal, cyclical, and war and peace variations. The difficulty is not fully resolved by the Bureau of the Census' statement that the overlap was reinforced in some undescribed way by a pretest of unstated size and by "other evidence."<sup>11</sup> Instead of attempting to reconcile the series in this manner would it not have been more sensible (1) to postpone the new schedule to a less hectic time (we were still at war with Japan), and (2) to spread several double-interview canvasses over a few years, taking pains to represent all seasons of the year and various stages of economic fluctuation? The second course would not have been too costly in relation to the \$1 million spent each year on sample surveys, and the first would have cost nothing at all.

<sup>9</sup> *Current Population Reports, Labor Force, Employment and Unemployment in the United States, 1940 to 1946*, Bureau of the Census, September 11, 1947, Series P-50, No. 2, pp. 5-6, 9, Tables III, IV. The previous figure was itself a revision of the original estimate of the Work Projects Administration (*Current Population Reports, Monthly Report on the Labor Force*, November 1944, pp. 5-8, 10). The original WPA estimate for which the Census Bureau assumes no responsibility, was 1.4 million above the 1940 census count, though it may have been for mid-April rather than for the last week of March, the date to which the census referred. Oddly enough, the results were much closer in 1940, though the wording of the WPA schedule differed somewhat from that of the census.

<sup>10</sup> This is pure conjecture, since the census does not publish the number of households reporting in these various subgroups.

<sup>11</sup> *Labor Force, Employment and Unemployment in the United States, 1940 to 1946*, as cited, p. 6.

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### THE COMPLETE AND THE SAMPLE ENUMERATION IN APRIL 1950.

The two figures provided by the two types of survey for April 1950 rested on virtually identical questionnaires, and should have differed by no more than a sampling error of a half million; yet the monthly results exceeded the decennial by 3.5 million. Nearly three in six of this number were employed females, two in six were employed youths or men above middle age, and one in six was unemployed. Borderline cases apparently accounted for most of the difference. The estimates of both tallies for persons on full time, especially men aged 25-44, were almost identical. Of the 3.5 million discrepancy, part-time workers accounted for 2.7 million; individuals with jobs but not at work, 0.2 million; and the jobless, 0.6 million.

Census officials do not believe the discrepancy was the result of sampling difficulties, and in support of this position cite similar disparities for a matched sample of 51,000 persons interviewed in both the regular and sample enumerations of April 1940.<sup>12</sup> Rather, it has been attributed to the unqualified 130,000 temporary interviewers employed for the decennial census. The permanent staff, who conduct the sample survey, was a "small, well trained group with, on the average, more than 12 months of specialized experience in the enumeration of the labor force. . . . As was the case a decade earlier, when the monthly survey results were compared with the 1940 Decennial Census data, it appeared that the more skilled interviewers had had greater success in handling the labor force questions for population groups whose activity is difficult to measure and, in consequence, had obtained a more nearly complete count of persons who were employed or looking for work. . . . Both groups of enumerators obtained practically the same result for employed males 25 years of age and over."<sup>13</sup>

It is possible to agree that a skillful sample can come closer to the mark than a less skillful complete count. Still the disparity is disturbing. First, it exceeds any fluctuation in the ratio of labor force to population that has occurred in peacetime since 1890.<sup>14</sup> Second (and this was not explained by the census in pointing to the excess ten years earlier), it went up from 1 per cent of labor force in April 1940 to almost 6 per cent in April 1950, a differential at the latter date of nearly 5 per cent, or roughly 3 million (see footnote 8). Why were the differences on such a lower scale in 1940?

The census has emphasized the fact that the temporary canvasser is hardly an ideal interviewer. Often chosen politically and trained briefly, he is under strong pressure to make "quickie" canvasses be-

<sup>12</sup> *Census of Population, 1950 (Special Reports), Employment and Personal Characteristics, Series P-E No. 1A, pp. 16-17.*

<sup>13</sup> *Census of Population, 1950, Preliminary Reports, Series PC-7, No. 2, p. 1.*

<sup>14</sup> See Chapter 12.

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cause his compensation is at a few pennies per name. So brief are some of the house calls that even at this modest fee, a former official has told the author, enumerators have earned \$35 per day. Such agents would scarcely trouble long over stutterers or respondents who recall the events during the census week according to whether it was before or after the visit to Aunt Viola. It is plausible that decennial enumerators have never paid much attention to the elaborate instructions (it has taken the writer a good many years to understand them) and that they have been guided instead by common sense, or by quick impression, i.e. a woman ironing is a housewife—next item! Moreover, the personnel available for temporary work in 1940, when 8 million persons were idle, were doubtless superior to those who could be recruited and retained in 1950, when only 3.5 million persons were out of jobs and when interviewers resigned after finding their earnings were too low to continue.<sup>15</sup> Thus there may have been some deterioration in the practical conduct of the decennial census from 1940 to 1950. At the same time, the sample surveys could, by 1950, have reflected an increase in efficiency gained by experience in the 120 monthly interviews over the decade. They could easily have reported the sampling equivalent of several million extra workers (mostly on part time or unemployed) who in April 1940 would have been left out of the estimate, particularly since the monthly interviews were just beginning and the regular canvassers were only partially rehearsed. Either the new technique had no tendency to switch important numbers of borderline workers into the labor force or, if it had, its theoretical effect in this direction may have been washed out by a possibly greater carelessness of enumeration which resulted in the failure to include many workers in 1950 who would have been covered under the standards of enumeration used in 1940.

The difference between the results of the two labor force counts must also be viewed in the light of their time reference. The sample survey referred to the week ending April 8. The decennial survey began on April 1 and, though two-thirds of the population had been covered by April 15, it was not until the end of April that nine-tenths had been interviewed and the end of June that the count was virtually completed. Since the decennial count in 1950 referred to the week preceding the interviews, it may be said to have had a varying time reference. However, the effect of this variation would not explain the lower figure; on the contrary, the labor force rises seasonally in the spring and the later enumeration of a third of the population should have resulted in a higher figure.

<sup>15</sup> The enumerator first assigned to my own neighborhood quit, so we were informed by the local office, because the homes were too far apart.

## YEARS OF SCHOOLING.

The estimates of equivalent full-time years of school completed, underlying Chart 19, were based on three sets of data.

The first set consists of the years of school completed by persons 20 and older as reported for the first time in the 1940 census. These data were projected backward to the earlier censuses by 5-year cohorts. For example, males 70-74 who were enumerated in 1950 as having completed 8 years of education, were assumed to have had the same amount of education in 1930, when they were 60-64; in 1920, when they were 50-54; in 1910, when they were 40-44; in 1900, when they were 30-34; and in 1890, when they were 20-24. And women 40-44 who were enumerated in 1940 as having completed 8.7 years of education, were assumed to have had the same amount of education in 1930, when they were 30-34; and in 1920, when they were 20-24.

This method cannot, of course, provide information on years of school completed by persons too young to have completed their education at the various censuses, nor by persons who were counted by the censuses of 1890-1930, but who died before 1940. For their years of schooling completed, a second set of data were used—e.g., the number of young persons of various ages who were enrolled in school at the various census dates. These statistics, which were summarized in the 1920 census report, cover persons 5-20 by sex and age group for each census back to 1850.

These two types of data made it possible to estimate the nominal years of schooling completed by each five-year age group of males and females from 1890. However, the chief change in educational attainment since 1890 has not been in nominal years of school completed by the average person, but rather in the length of school terms and in actual attendance. This change can be taken roughly into account by means of a third set of data which permit converting each year of schooling into an equivalent full-time school year of 150 days. Data supplied by the Office of Education in the *Statistical Abstract of the United States, 1954* (Bureau of the Census, p. 125), indicate that the average student 5-17, enrolled in elementary and secondary schools, actually attended school about 158 days in 1950; 152 days in 1940; 143 in 1930; 121 in 1920; 113 in 1910; 99 in 1900; 86 in 1890; 81 in 1880; and 78 in 1870. Thus men 70-74 in 1940, in addition to having completed only 8 nominal years of education when they were enrolled in school during the decade or so centering around 1880, had in their youth attended only about 80 days a year and acquired a formal education equal to little more than 4 years of full-time schooling. But women 40-44 in 1940, who had completed 8.7 years of nominal education, had

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in their youth, around 1910, attended 113 days a year, acquiring a formal education equal to about  $6\frac{1}{2}$  years of full-time schooling.

Thus it would seem that the advancing standard of education has benefited the younger persons more than it has the older ones, and, as pointed out in Chapter 9, the ratio of education of the old to that of the young has fallen from about four-fifths at the turn of the century to under two-fifths in 1950.

But granted that the ratio of equivalent full-time years of school completed by the elderly to that of young persons was low in 1940 and 1950, why was it not just as low during 1890 to 1910? The explanation is that the standard of education changed relatively little between 1850 and 1890, so that persons who received their education during these years (and who became the older workers of recent decades) show relatively little increase in educational attainment over those who were elderly around 1900—they received their education before the wave of improvement took place. The younger and middle-aged people of recent decades, on the other hand, were in full position to benefit by the wave—thus the swiftly rising ratio of education of the young and middle-aged to the education of the old.

It is, of course, possible that there are errors in the assumption underlying the method whereby the cohort of males is assumed to have had the same education in 1890, when it was 20–24, as in 1940 when it was 70–74. First, many immigrants of little education entered the country during these fifty years, so that the education of those already here in 1890 must have been somewhat higher than these rough proportions would suggest. Second, many persons of this cohort died, and the survivors in 1940 may not have been entirely representative of those living in 1890, 1920, and 1910, and so on, especially since there seems to have been some tendency for the less well-educated to die at earlier ages. And third, many people doubtless overstate their education to the census taker. These estimates may therefore on balance exaggerate, rather than underestimate, the schooling of people who received their education in the early days.

If there was a variation in the amount of education reported by the same cohort in successive decades, it is rather likely to have been small, for the following comparison shows that those age groups old enough to have completed their education by 1940 reported very similar periods of education in 1950. (Not shown in the comparison are the age groups 20–24 and 25–29 in 1940 which included veterans and others who went on for further schooling, often at government expense. There were small increases in years of education reported by these cohorts in 1950.) The largest variation was a gain of 0.3 years of education for women 65 and older in 1940 who became 75 and older

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in 1950. But it is at once obvious that the composition of this group must have changed considerably, as an appreciable number of women 65 and older died out of the cohort.

It is also true that the earlier data on days of actual school attendance do not distinguish between males and females; but there is every likelihood that this wave of increase in actual attendance occurred for the females first, so that if adequate adjustment could have been made in this study for differences in actual school attendance by sex, the males would have had still less education to their credit at the turn of the century, compared to females then or now. The reason is that boys, much more than girls, would have been kept at home to help on the farm, in the family store, or in odd jobs for pay. Girls, with less earning power and less physical strength, would have been more easily spared. Indeed abundant instances of this have been related in some of the reports of the state bureaus of labor statistics. And as late as the 1920 census it was reported, "In the whole United States, at each age, a larger proportion among females attends than among males. The differences are slight in the earlier years, increasing to a maximum at 16 and 17 years." (*School Attendance in the United States, 1920, Census Monographs V*, pp. 49-51, 113-114, Tables 30, 31.) Here the census was referring to the number attending at some time during the school year. The census found this to be true for both Negroes and native whites, but apparently not for the foreign born; however, the foreign born of school age were never very numerous. (See also the references to school attendance legislation in Chapter 8 in the section on *Boys and Young Men.*)

Following is a test of the agreement in years of education reported by males and females in ten-year cohorts at the 1940 and 1950 censuses. The center column compares the figure for males aged 34-44 in 1940 with that for males aged 45-54 in 1950, and so on:

	<u>Years of Education Completed</u>		<u>Difference between 1940 &amp; 1950 for the Same Cohort</u>
	<u>1940</u>	<u>1950</u>	
Males			
35-44	8.7		
45-54	8.4	8.7	0
55-64	8.2	8.4	0
65-74		8.1	-0.1
65+	8.0		
75+		7.9	-0.1
Females			
35-44	8.8		
45-54	8.4	8.9	+0.1
55-64	8.1	8.5	+0.1
65-74		8.3	+0.2
65+	7.9		
75+		8.2	+0.3

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Young men and women 20-34 were excluded from this particular comparison, because many of them were still attending college and graduate school during the 1940's, and so the excess of the years of school reported in 1950, over that reported in 1940 by the same cohort, would not be a test of accuracy of reporting, but rather a measure of additional years of school acquired by the average member of the cohort during the decade.

### *Great Britain since 1841*

In Britain, as in America, most of the early tallies were incomplete, inaccurate, and vague as to coverage and time reference. The following explains why the censuses of 1801-1831 and 1851-1871 were worthless, and brings together what could be learned from those of 1841, 1881, 1891, and 1911-1951.

*1801-1831.* The census of 1801 listed only agriculture, trade, manufacturing, handicrafts, and "not employed"; and for these groups there was evidence of gross underreporting. From 1811 through 1831 the same classifications were retained, but whole families were grouped in the same category with no distinction between breadwinners and dependents. And so it was impossible to ascertain how many members of a family were in the labor force and how many were not.

*1841.* These were the earliest data which were adaptable to this study. Unfortunately some retired persons were included in the labor force under classifications of their former occupations. How great an overcount this amounted to is not known, but with life expectancy shorter in 1841 there must have been fewer older workers at that time than in 1891, when the census classified only 1 per cent of the population as retired. That category could have been offset in 1841 by the excessive numbers classified outside the labor force under "independent means of support." (At least one is entitled to assume so, since 1.4 per cent more individuals were recorded as being in these happy circumstances in 1841 than in 1891.) The two errors are presumed here to cancel each other and therefore to require no correction.

No such offset can be found for the unemployed, a more sizable group, who were not counted in the labor force. To compensate statistically, there is added here a hypothetical 10 per cent based on Thorp's description of 1841 as a depression year with widespread joblessness.<sup>16</sup> This estimate is accompanied by alternative estimates of what the labor force would have been in that year had the involuntary idle been 7 or 13 per cent of the population (Chapter 12, Table 56, lines 11-13).

<sup>16</sup> Willard L. Thorp, *Business Annals*, National Bureau of Economic Research, 1926, p. 161.

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*1851-1871.* These reports lumped the "occupied" and the "unoccupied" together, so the labor force could not be computed.

*1881 and 1891.* Census coverage was similar to the current practice except that it included in the labor force varying groups of students, paupers under 60, and prison or hospital inmates and classified them under any former trades they may have had. These groups had to be subtracted in the interest of conceptual accuracy and for comparison with other censuses.

*1911-1931.* Over the period the concept of labor force did not differ materially from that of the United States (Table F-2, Part A, this appendix). The British excluded children under 14 earlier, probably because the need for their labor declined earlier in the less agricultural Britain, and did not stipulate census policy regarding housewives and students employed part time for pay. The United States did not encourage including the two latter classifications unless their gainful occupation was regular and extensive.<sup>17</sup> Also the British census counted, in both the labor force and in the population, the armed forces at sea or stationed abroad. They were left out of the original United States totals, and added here on the basis of department reports.

In Britain, as in this country, the labor force embraced all persons aged 14 and older who were usually gainfully occupied, whether employed in government or private work, self-employed, unemployed, or receiving a wage, salary, fee, profit, or no pay whatsoever (provided the product of their labor was sold). Further similarity was noted in the exclusion from the labor force of the retired and of persons engaged in illegal callings, full-time study, or own housework, and in the vagueness concerning the time element (Supplementary Appendix H).

*1939-1952.* No official enumeration was made in Britain in the twenty years between June 1931 and April 1951. Estimates for interim years had therefore to be erected upon statistics not originally designed for that purpose: in 1939, those of H. Frankel; and in 1943, 1945, and 1947 those of "working population," compiled in British sources from unemployment insurance registrations, government and civilian agencies, the armed forces, and employers (Appendix B). The working population before 1948 left out women in part-time gainful jobs; men aged 65 and women aged 60 and older; private indoor domestic servants; employers and others in business on their own account; nonmanual employees receiving more than £420 a year; established civil servants; permanent employees of local authorities, railways, and public utility

<sup>17</sup> It should be kept in mind that it has never been common for a boy to work his way through high school or college in Great Britain (or in any European country). And few women had worked part time outside the home until after 1939; not a great many have since, in fact, either in Britain or in the United States.

TABLE F-2, Part A

## Labor Force Concepts of the Censuses over Time, 4 Foreign Countries, Various Periods, 1841-1952

Coverage as to:	GREAT BRITAIN (ENGLAND, WALES, SCOTLAND), 1841-1952				
	1841	1881, 1891	1911, 1921	1931	1951 1939-1952
Age	10 and older	10 and older	10 or 12 and older <sup>a</sup>	14 and older	15 and older 14 and older
Date of labor force status <sup>b</sup>	vague	vague	vague	vague	vague
Unemployed	no <sup>c</sup>	yes <sup>c</sup>	yes <sup>c</sup>	yes	yes
Inexperienced work-seekers	...	...	...	...	no
Methods of payment:					
Wages, fees, profits	yes	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes	yes
Unpaid family labor	no <sup>d</sup>	yes	yes	yes	yes
Economic status:					
Employees, incl. supervisors	yes	yes	yes	yes	yes
Employers, farmers, self-employed	yes	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes	yes
Inmates of institutions	yes <sup>e</sup>	yes <sup>e</sup>	yes <sup>e</sup>	yes <sup>e</sup>	pr. no
Persons not working nor seeking work but having job:					
Temporarily ill	pr. yes	yes	yes	yes	yes
On vacation, paid or unpaid	pr. yes	yes	yes	yes	yes
On strike	pr. yes	yes	yes	yes	yes
Laid off temporarily	pr. yes	yes	yes	yes	yes
Waiting to start new job	pr. yes	yes	yes	yes	yes
Persons not working nor seeking work and having no job:					
Temporarily ill	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	yes <sup>f</sup>	yes <sup>f</sup>
Disabled	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	...	...
Believe no jobs exist	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	...	...
Weather-bound	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	...	...
Seasonally idle	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	pr. yes <sup>f</sup>	...	...

TABLE F-2, Part A, continued

Coverage as to:	GREAT BRITAIN (ENGLAND, WALES, SCOTLAND), 1841-1952		1951	1939-1952
	1841	1881, 1891, 1911, 1921, 1931		
Part-time work for pay:	...	...	yes	counted as 1/2 person
Student or housewife working	...	...	yes	...
Student or housewife seeking work	...	...	no	...
Industries and occupations:				
Legal	...	all	all	all
Illegal	...	yes	no	no
Armed forces abroad	yes	no	yes	pr. yes
Sex	both	both	both	both
Counting of dual job holders	once	once	once	once

Source: Census of Great Britain: 1841, Vol. III, *Occupations*; 1851 (condensed form), pp. 56-65, *Census of England and Wales*; 1881, Vol. IV, *General Report*, pp. 25-50; 1891, *General Report*, pp. 35-59; 1911, *General Report*, p. 97, and *Occupations and Industries*, Part I, pp. v-ch; 1921, *General Report*, pp. 85-89; 1931, *General Report*, pp. 1-2, 104-115; 1951, *Preliminary Report*, pp. 51-52. Census of Scotland: 1881, 1911, 1921, 1931. *Statistical Abstract of the United Kingdom*, 1913, 1919-1932, 1924-1937, *Annual Abstract of Statistics*, 1935-1946, No. 84, *Monthly Digest of Statistics*, Nos. 37-42, 1949, and *Definitions of Items and Units in the Monthly Digest of Statistics* (revised January 1947), Central Statistical Office. *National Register*, General Register Office, 1939. *Registrar General's Statistical Review of England and Wales*, 1943, 1945. *Statistics Relating to the War Effort of the United Kingdom*, Ministry of Labour, Cmd. 6564, November 1944, pp. 41-42. *Report for the Years 1939-1946*, 1947, Ministry of Labour and National Service. H. Frankel, "The Industrial Distribution of the Population of Great Britain in July, 1939," *Journal of the Royal Statistical Society*, Parts III-IV, 1945, pp. 392-430. All London.

pr. = presumably.

\* 10 and older in 1911; 12 and older in 1921.

<sup>b</sup> Official dates of enumeration were:

1841, June 7	1911, April 3	1931, April 26/27
1881, April 4	1921, June 19/20	1951, April 8
1891, April 6		

Annual estimates were made for June 1939-1948.

<sup>c</sup> No specific inquiry as to the unemployed was made before 1931. For 1841, when they were lumped with the residue outside the "occupied," an estimate was used in this study. In 1881-1921 they were counted under their former occupations. Estimates were made for 1911 and 1921, using trade union unemployment data as indexes and unemployment figures reported by the 1931 census as a benchmark.

<sup>d</sup> The data included some family members who had independent means.

<sup>e</sup> Prisoners and inmates of institutions under 60 were listed under their former occupations; those 60 or older were excluded from the labor force. After 1911, the insane and all persons 60 or above were classified as retired.

<sup>f</sup> If the respondent stated a "usual" occupation. Disabled persons in 1841 included retired persons under their former occupations.

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TABLE F-2, Part B  
Canada, 1911-1952

Coverage as to:	Decennial Enumerations			Sample Surveys
	1911-1931	1941	1951	1945-1952
Age	10 and older	14 and older	14 and older	14 and older
Date of labor force status <sup>a</sup>	vague	vague	1st week in June	varying week <sup>a</sup>
Unemployed	yes <sup>b</sup>	yes <sup>b</sup>	yes	yes
Inexperienced work-seekers	...	no	yes	yes
Methods of payment:				
Wages, fees, profits	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes
Unpaid family labor	yes <sup>c</sup>	yes <sup>c</sup>	yes	yes
Economic status:				
Employees, incl. supervisors	yes	yes	yes	yes
Employers, farmers, self-employed	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes
Inmates of institutions	no <sup>d</sup>	no	no	no
Persons not working nor seeking work but having job:				
Temporarily ill	pr. yes	pr. yes	yes	yes
On vacation, paid or unpaid	pr. yes	pr. yes	yes	yes
On strike	pr. yes	pr. yes	yes	yes
Laid off temporarily	pr. yes	pr. yes	yes	yes
Waiting to start new job	pr. yes	pr. yes	yes	...
Persons not working nor seeking work and having no job:				
Temporarily ill	pr. yes <sup>e</sup>	pr. yes <sup>e</sup>	yes <sup>f</sup>	yes <sup>f</sup>
Disabled	pr. yes <sup>e</sup>	pr. yes <sup>e</sup>	no	no
Believe no jobs exist	pr. yes <sup>e</sup>	pr. yes <sup>e</sup>	...	...
Weather-bound	pr. yes <sup>e</sup>	pr. yes <sup>e</sup>	yes <sup>f</sup>	yes <sup>f</sup>
Part-time work for pay:	...	...	yes	yes
Student or housewife working	... <sup>c</sup>	... <sup>c</sup>	yes	yes
Student or housewife seeking work	no	no	yes	yes
Industries and occupations:				
Legal	all	all	all	all
Illegal	no	no	no	no
Armed forces abroad	no	no <sup>g</sup>	no <sup>g</sup>	no <sup>g</sup>
Sex	both	both	both	both
Counting of dual job holders	once	once	once	once

Source: *Canada Year Book*, Dominion Bureau of Statistics: 1921, p. 599; 1929, p. 140; 1934-1935, p. 118; 1945 and 1947, p. 140. Census of Canada: 1911, Vol. vi, *Occupations*, p. xxvi; 1941, Vol. vii, *Occupations*, p. 12. *Canadian Statistical Review*, April 1948, p. 15, and *Labour Force Bulletin*, April 1948 and February 1949, Dominion Bureau of Statistics. "Change in Population and in the Labour Force,"

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### Notes to Table F-2, Part B, *continued*

*Labour Force Gazette*, Supplement, December 1945, p. 18, and *Estimates of the Canadian Labour Force and Its Composition*, Mimeographed, Dept. of Labour, 1941-1947. All Ottawa.

pr. = presumably.

<sup>a</sup> Official dates of censuses were: 1911-1931, June 1; 1941, June 2; 1951, June. Annual estimates were made for 1939-1945; annual and quarterly estimates, based on sample surveys, for 1945-1952. From 1945 to the end of 1952, the survey week was typically in early March, early June, mid-August and early November, but sometimes a preceding or subsequent week (see Appendix Table B-6). Since January 1953, the labor force has been surveyed one week each month.

<sup>b</sup> Persons with "usual" occupations but unemployed at the time of the census were listed under their occupations when employed. Unemployment in 1911 and 1921 was estimated in this study (Appendix Table C-4).

<sup>c</sup> The labor force included family dependents who were engaged in gainful occupations in any capacity, as well as nonschool children who materially assisted their parents outside the home, but it left out school children even though they worked for their parents in the household or on a farm.

<sup>d</sup> The 1911 census was not clear concerning inmates of institutions but according to the Director of the Census Division of the Dominion Bureau of Statistics, it may be assumed that they were not regarded as gainfully employed.

<sup>e</sup> If the respondent stated a usual occupation.

<sup>f</sup> Provided the person would have been seeking employment if he had been well, if he had thought that jobs could be had, and if the weather had been favorable.

<sup>g</sup> However, official estimates of armed forces, including those abroad, were added to the civilian population and the labor force for the purpose of this study.

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concerns excepted by certificate; teachers; members of H. M. Forces and Women's Services, professional female nurses; police; and farmers' children employed in agriculture.<sup>18</sup> These totals were supplied by calculations based in large part on the ratio, in July 1948, of data from the old working population series, to those from the more comprehensive new social insurance plans. Since the latter registered all wage-earners irrespective of age, and no longer ignored those in better paid, nonmanual callings, private indoor domestic service, or uninsured occupations, they are presumed to measure the total labor force with reasonable accuracy. The June 1948 ratios of the new to the old manpower figures are used here to approximate the number of most of the males and females not in the former series for 1943, 1945, and 1947. However, private domestic servants, men aged 65 and older, and women aged 60 and older required separate computation (Appendix Table B-4).

Extending the school-leaving age from 14 to 15 in April 1947 had no noticeable consequence by June 1947, but had become fully effective a year later.<sup>19</sup>

### *Canada and New Zealand*

#### CANADA SINCE 1911.

Canada's concept of labor force has also closely resembled that of the United States (Table F-2, Part B). In a formal sense, it has been somewhat more restrictive in that up to 1941 it barred school children, even though they may have worked part time on family farms. It may have been more systematic in ruling out housewives in agriculture, though it shows little difference, actually, so far as unpaid farm women are concerned. On the other hand, it doubtless records many students in summer jobs, since the official census date has been the first part of June (see Appendix Table C-4 for a comparison between the June figure and the annual average). And until recent years, the Canadian instructions may also have been less clear in dealing with the disabled. But in other respects the Dominion Census and Bureau of Statistics have followed American usage, even to the point of adopting, in 1945, a technique similar to the one the United States had initiated in 1940.

#### NEW ZEALAND, 1896-1951.

This Commonwealth has been inhabited almost entirely by English stock (the Maoris constitute too small a segment of the population to be included in the data of this volume, except in the case of women

<sup>18</sup> The old and new manpower statistics are discussed in *Ministry of Labour Gazette* (London), February 1949, p. 40.

<sup>19</sup> *Ibid.*, p. 41.

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classified by marital status). The concept of the labor force has apparently varied only slightly over the last half century (Table F-2, Part C). New Zealand has clung to the notion of "usual" or "customary" employment. A modification, which affects comparability over the years, was made in 1945, when the time of the census was switched from late March or mid-April to the last week in September. The effect of this seasonal shift is measured in Appendix Table C-6. In 1951, the census was again enumerated in April.

The New Zealand labor force remained much the same in content for fifty years. Also, it was virtually the same in concept as that of the United States until 1940, except that it included some young children through 1921 and was vague concerning the inexperienced and disabled.

### *Germany, 1895-1950*

Here, too, the concept of labor force does not seem to have altered critically over the five decades (Table F-2, Part D, this appendix). Children under 15 were excluded during the World War II years, and children under 14 and working inmates of prisons, insane asylums, and poorhouses were excluded over the whole period. Censuses were taken in late May or early June, except in 1946 and 1950, when they were shifted to late October and September respectively. Finally, much German territory was lost, restored, and lost again as the result of two World Wars. However, the data appear to be moderately comparable during the interwar years.

For the period of World War II the figures do not justify quite the same confidence (Table F-2, Part D). Those for 1939-1944, derived by the United States Strategic Bombing Survey from the *Kriegswirtschaftliche Kraftbilanz* of the Statistisches Reichsamt, "were not always reliable, and had frequently changing conceptual and territorial coverage with little or no provision for adjustments to render them comparable."<sup>20</sup> They included all those gainfully occupied except party officials, and, in 1944 for the first time, a small number of home workers, i.e. persons engaged in industrial production at home. The statistics were founded on questionnaires returned by employers and the self-employed, and on the membership lists of industrial, trade, and cultural societies. They are, of course, subject to some gaps and duplications among organizations, and required a number of corrections.<sup>21</sup>

A striking feature, in comparison with the labor force of the United

<sup>20</sup> *The Effects of Strategic Bombing on the German War Economy*, Strategic Bombing Survey, Overall Economic Effects Division, 1945, p. 199.

<sup>21</sup> *Ibid.*, p. 199.

## APPENDIX F

TABLE F-2, Part C  
New Zealand, 1896-1951

Coverage as to:	1896-1911	1921-1936	1945	1951
Age	15 and older <sup>a</sup>	15 and older <sup>a</sup>	15 and older	15 and older
Date of labor force status <sup>b</sup>	vague	vague	vague	...
Unemployed	yes <sup>c</sup>	yes	yes	yes
Inexperienced work-seekers	...	...	yes	yes
Methods of payment:				
Wages, fees, profits	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes
Unpaid family labor	yes	yes	yes	yes
Economic status:				
Employees, incl. supervisors	yes	yes	yes	yes
Employers, farmers, self-employed	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes
Inmates of institutions	no	no	no	no
Persons not working nor seeking work but having job:				
Temporarily ill	pr. yes <sup>d</sup>	yes	yes	yes
On vacation, paid or unpaid	pr. yes <sup>d</sup>	yes	yes	yes
On strike	pr. yes <sup>d</sup>	yes	yes	yes
Laid off temporarily	pr. yes <sup>d</sup>	yes	yes	yes
Waiting to start new job	pr. yes <sup>d</sup>	yes	yes	yes
Persons not working nor seeking work and having no job:				
Temporarily ill	pr. yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>
Disabled	pr. yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>
Believe no jobs exist	pr. yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>
Weather-bound	pr. yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>
Seasonally idle	pr. yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>	yes <sup>d</sup>
Part-time work for pay:				
Student or housewife working	...	...	...	...
Student or housewife seeking work	...	...	...	...
Industries and occupations:				
Legal	all	all	all	all
Illegal	...	...	...	...
Armed forces abroad	-	-	yes	yes
Sex	both	both	both	both
Counting of dual job holders <sup>e</sup>	once	once	once	once

Source: *Report on the Results of a Census of the Dominion of New Zealand*, Registrar-General's Office, 1911, pp. 58, 62. *Population Census* (Census and Statistics Dept.): 1926, Vol. ix, p. 6; 1936, Vol. x, pp. i-vi, 59, and Vol. xi, p. 1; 1945, Vol. iv, pp. 3, 9, and Vol. ix, pp. i-vii, 50, 61. *New Zealand Official Year Book* (Census and Statistics Office): 1897, p. 109; 1927, p. 872; 1951, II, p. 5, iv, pp. 5-11. All Wellington.

## APPENDIX F

### Notes to Table F-2, Part C, *continued*

pr. = presumably.

<sup>a</sup> It is possible that some very young persons were included.

<sup>b</sup> Official census dates were:

1896-1926, April  
1936, Late March

1945, Sept. 25  
1951, April 17

<sup>c</sup> "Employment" and "unemployment" covered only wage and salary workers. The idle self-employed were part of the "occupied" population; they were probably insignificant in number and may be neglected.

<sup>d</sup> If the respondent stated a "usual" occupation.

<sup>e</sup> Presumably no worker was counted twice, but the census did not provide a specific answer on this question.

TABLE F-2, Part D  
Germany, 1895-1950

Coverage as to:	1895-1907 <sup>a</sup>	1925-1939 <sup>a</sup>	1939-1944 <sup>a</sup>	1946	1950
Age				15 and older	15 and older
Date of labor force status	vague <sup>b</sup>	vague <sup>b</sup>	May 31	vague <sup>b</sup>	vague <sup>b</sup>
Unemployed	yes	yes	yes	yes	yes
Inexperienced work-seekers	...	...	...	...	...
Methods of payment:					
Wages, fees, profits	yes	yes	yes	yes	yes
Room, board, & other goods	yes	yes	yes	yes	yes
Unpaid family labor	yes	yes	yes <sup>c</sup>	yes	yes
Economic status:					
Employees, incl. supervisors	yes	yes	yes	yes	yes
Employers, farmers, self employed	yes	yes	yes	yes	yes
Corporation officials, paid	yes	yes	yes	yes	yes
Government (incl. armed forces)	yes	yes	yes	yes	yes
Relief workers	-	... <sup>d</sup>	-	-	-
Inmates of institutions	no	no	no	no	no
Persons not working nor seeking work but having job:					
Temporarily ill	pr. yes	pr. yes	yes	yes	yes
On vacation, paid or unpaid	pr. yes	pr. yes	yes	yes	yes
On strike	pr. yes	pr. yes	yes	yes	yes
Laid off temporarily	pr. yes	pr. yes	yes	yes	yes
Waiting to start new job	pr. yes	pr. yes	yes	yes	yes
Persons not working nor seeking work and having no job:					
Temporarily ill	...	...	...	...	...
Believe no jobs exist	...	...	...	...	...
Weather-bound	...	...	...	...	...
Seasonally idle	...	...	...	...	...
Disabled	...	...	...	...	...

TABLE F-2, Part D, continued

Coverage as to:	1895-1907 <sup>a</sup>	1925-1939 <sup>a</sup>	1939-1944 <sup>a</sup>	1946	1950
Part-time work for pay:	yes <sup>e</sup>	yes	yes <sup>f</sup>	...	...
Student or housewife working	yes <sup>e</sup>	yes	yes <sup>f</sup>	...	...
Student or housewife seeking work	...	...	...	...	...
Industries and occupations:					
Legal	all	all	all	all	all
Illegal	no	no	no	no	no
Armed forces abroad	no	no	yes	-	-
Sex	both	both	both	both	both
Counting of dual job holders	once	once	once	once	once

Source: *Statistik des Deutschen Reiches*, Berlin, Statistisches Reichsamt, Neue Folge: *Band 103*, pp. 2, 245; *Band 203*, Abteilung, II, pp. 2-5; *Band 211*, p. 35; *Band 402*, Abteilung I and II, p. 7; *Band 458*, p. 7. *Statistisches Jahrbuch*, Berlin, Statistisches Reichsamt, 1934, p. 12; 1935, p. 11. *Wirtschaft und Statistik*, Berlin, Statistisches Reichsamt: 1940, p. 519; 1941, p. 50; 1952 (Wiesbaden, Statistisches Bundesamt), pp. 256-352. *The Effects of Strategic Bombing on the German War Economy*, U.S. Strategic Bombing Survey, Overall Economic Effects Division, 1945, pp. 29-41, 199-216. Frank Notestein and others, *The Future Population of Europe and the Soviet Union*, Geneva, League of Nations, 1944, pp. 256-257, 264-265. *Deutschland in Zahlen*, Köln, Wirtschaftswissenschaftliches Institut der Gewerkschaften, 1951, pp. 25-45.

pr. = presumably.

<sup>a</sup> The 1895 and 1907 censuses referred originally to a territory larger than that after World War I, when Germany had been partitioned by the Versailles treaty. To make the over-all series cover the same area, the 1895 and 1907 population and labor force in the amputated areas were deducted on the basis of official German data. The age-sex distribution in this restricted territory may have differed somewhat, but for lack of information it had to be made proportional to that originally reported. By 1946 territory was still more restricted. The 1939 population and labor force include adjustments for males in the military and labor services, originally omitted, which apply only to males aged 14-19, 20-24, and 25-39. Females and the older male groups were probably not much affected.

<sup>b</sup> Official census dates were: mid-June 1895, 1907, 1925, 1933; May 17, 1939; October 29, 1946; September 1950. The Strategic Bombing Survey data refer to May 31, 1939-1944 (see text of this appendix).

<sup>c</sup> Omitted "home workers," i.e. persons doing industrial tasks at home, up to 1943.

<sup>d</sup> Included relief workers in 1933 but not compulsory labor service in 1939.

<sup>e</sup> If the part-time job is a major source of the respondent's income.

<sup>f</sup> Included "helping family members," a group with no counterpart in Anglo-American statistics (*The Effects of Strategic Bombing on the German War Economy*, U.S. Strategic Bombing Survey, 1945, p. 30).

## APPENDIX F

States, was the huge proportion of female farm workers in Germany. It is not known whether this difference was due to a higher rate of participation or to a more liberal classification. Since women undoubtedly tend to work more in the fields in Germany than here, perhaps there should be a larger proportion of such women in the German labor force. But many of them may have performed tasks too trivial to have qualified them as workers in the United States, for this country has very likely ignored female farm workers unless their labor outside the home demanded a substantial part of the week—in recent years, fifteen hours or more. One wonders whether comparing Germany's female labor force with America's is not akin to translating German poetry!

### SUPPLEMENTARY APPENDIXES

(Mimeographed; on file at the National Bureau of Economic Research, Inc., and in other economics libraries. Copies will be furnished at cost on special request made to the National Bureau while the supply lasts.)

- G Adjustments of United States Labor Force and Population Used in Appendix A
- H Rejection of the Durand-Goldfield Adjustments of the United States Labor Force of 1930
- I Sampling and Interview Errors in Census Monthly Estimates of Labor Force