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Nations at war try to increase the labor supply by two methods. The first is an attempt to enlarge the usefulness of persons in the labor force, to harness their unemployed and leisure time and to reduce their slack and wasteful effort. The second is an attempt to enlarge the labor force, to bring in, as soldiers and workers, persons not there in peacetime.

This paper is concerned with measuring and analyzing the size of the labor force in terms of number of persons, not their efficiency or the hours worked. It is not, moreover, concerned with forecasting or with suggesting answers to such questions as the number of men who should be in uniform; the speed with which they should be drained from the civilian labor force to build up the armed forces; the means by which withdrawals from the civilian labor force might be replaced; or the types of production that might best be curtailed.

Whoever has to make these decisions will, however, need to know how successful the various belligerent nations have been in keeping up their civilian labor forces. As essential steps in supplying that knowledge we discuss what *labor force* means and whether the idea has a place in a war between whole populations; the soundness of the statistics for the United States; the composition of the labor force and its fluctuations in peacetime; and whether the 'propensities' of Americans, Britons, and Germans to enter the labor force depend on administrative decision or on economic and social factors.

Since each country's experience ought to be looked at against its own backdrop, I examine the experience of the United States with its labor force in World War I; the present experience in the light of that experience; the extent to which the rise in 'propensity' compensated the normal civilian labor force for its losses to the armed services; the factors that determine the extent of the replacements; and the question of what is likely to happen after the war.

## 1 THE LABOR FORCE IDEA

The study of the labor force is complicated somewhat by the fact that changes in it are determined by changes in the size and in the age and sex distribution of the population from which the labor force is drawn, and by fluctuations in the propensity of persons to be in the labor force. These two sources of changes in the labor force are probably not entirely independent, but since no connection between them is observable, they are treated as being quite separate. Changes in the labor force arising from changes in the population

have merely been measured, since changes of that sort are determined by social and economic forces beyond the scope of this study. The chief concern has been to ascertain, and assign the causes of, changes in the propensity to be in the labor force, i.e., the percentage of persons of given working-age and sex groups who are in the labor force. The labor force is the sum of persons who are classified as either employed or unemployed (as these terms are defined in the 1940 census) and, except when designated as the civilian labor force, includes persons in the armed forces, excluding only those normally stationed outside the continental United States.

The concept of the labor force is historically a concept of the market. In western nations persons of working age customarily engage in some form of useful activity, chiefly gainful, household, or school work. Although the first, work for pay, is not always the most useful, it is the sole type of activity a commercially minded people considers relevant to the labor supply. If a person offers to sell his services or a product of them, his labor is counted in the labor supply and he himself is counted in the labor force. Under this convention a race-track tout is classed as being in the labor force, whereas a housewife is not, though her labor may release her husband to do extra gainful war work.

Much is to be said, despite these inconsistencies, for singling out part of the population as the labor force; all the more if the immediate concern is with the product that gainful workers usually turn out. However indispensable school work may be, its end-products are often purely cultural, as is indeed much of the activity of frankly gainful workers. Housework and child care have a type of output analogous to school work in their failure to produce an immediate value output. Moreover, so far as school work and housework contribute to fighting wars, they help largely through releasing labor for the market. On the one hand, gainful workers may be able to put in added hours because housewives take over chores that would otherwise fall to them. On the other hand, gainful workers may be more productive because they have spent time at the work of learning.

It has long seemed worth while to bar from labor force status persons who work non-gainfully, if only because they may spend relatively more of their time in leisure and enjoying themselves. Another reason is to set off the unemployed, as now customarily conceived, from persons voluntarily idle, disabled, too old or too young

to work, busy at non-commercial useful work, or who for other reasons are not in gainful occupations.

Granted that the labor force concept is serviceable in time of peace, an objection might still be raised when the entire nation is committed to war activity, possibly by compulsion. The concept of labor force appears to rest largely on free choice. Is it compatible with the idea of policing people into war production?

The answer lies in the whole body of the study. One of the findings, however, may be noted here. The labor force propensities of nations seem to set deep in their economic structure, geography, customs, and aspirations. Partly because of this, and partly because the best trained and most vigorous people are already in the labor force, these propensities are not much shaken by political tremors. That changes in the political system need not render the labor force idea obsolete is illustrated by the Hitler census of 1939 which kept on with a concept of gainful worker apparently similar to that of the United States census of 1930. So long as effectiveness, rather than mere numbers, is the aim of mobilization, the concept of labor force will continue to hold its value.

This is not to say that it is faultless. Developed by the Census Bureau in the latter half of the nineteenth century, clearly for statistical expediency, its defects have always restricted its usefulness. It was modified in the census of 1940, when it got its present title, but the alterations were neither drastic nor definitive. Like most practical devices, the 'gainful worker' or 'labor force' concept has grown up apart from economic theory. Used chiefly as a proxy for the labor supply and as a means to figure unemployment it is bewildering to anyone trained to look at labor supply as a schedule of efficiency units of labor time coming on the market at each 'economic level'.<sup>1</sup> The idea that a definite number of men and women might be attached to the labor market, irrespective of terms or economic conditions, seems excessively arbitrary.

Under the census practice labor market attachment is inferred from a person's record during a certain week: if it is decided that a person is employed or unemployed, he is considered in the labor

<sup>1</sup> *Economic level* is chosen as more inclusive than *real wage rate*, for the latter is only one of the many independent variables of the labor supply function. Others, perhaps no less important than real wage rates, are (1) level of employment (of labor time and, connected with this, net family income), (2) relative difficulty or ease of getting a job or extra hours of employment, (3) working conditions, (4) alternatives, such as relief, pensions, education facilities.

force; if he is neither employed nor unemployed, he is not. To estimate the labor force a census or poll enumerator asks every household or a sample of households in the nation whether at any time during the census week each member 14 years or older was employed, actively seeking work, or on public emergency work.

Even after recognizing the requirements of statistical practicability, anyone who tries to use the data conscientiously is puzzled by some features of the definition. Does not the number of persons seeking work, classed as unemployed and in the labor force, depend upon economic conditions and terms of employment? When a person is asked by the enumerator whether he is actively seeking work, is he asked also about his efficiency or the kind of job and the wage rate he is willing to accept? Is he asked whether he would take a job if the main wage earner of the family had gotten back his job or his normal income?<sup>2</sup> Is a person not seeking work asked if, under certain attainable conditions, he would seek work after all?

It is usually argued, of course, that such inquiries would be too costly, even if possible; that they are, moreover, unessential—only work-seeking as an objective fact must be noted. However, 'active' search for work may range from perfunctory to feverish. In addition, a person does not come into the labor force if he seeks a job for which he cannot qualify.

Yet buried in the controversy is a live fact that enables us to use current statistics despite our theoretical objections: most people have to work, largely regardless of inducements; and idle persons who say they are in the labor force have in mind specific jobs held previously by themselves or by persons they know and with whom they compare themselves. Our various censuses have yielded labor force percentages that are strikingly similar for comparable age and sex groups.<sup>3</sup> Though they have not been taken at all stages of economic fluctuations, nevertheless conditions at census dates have varied, and the propensity to be in the labor force seems almost perfectly inelastic.<sup>4</sup>

One might interpose, of course, that it would be more accurate to define labor force propensity as proneness to *say* one is attached to

<sup>2</sup> A wife actively seeking work only while her husband is unemployed or earning low wages will give up the search as soon as he finds work or gets a raise.

<sup>3</sup> See Tables 1 and 2 and the discussion in Sec. 4.

<sup>4</sup> I am indebted to Arthur F. Burns for the wise caution that the census dates, even back to the nineteenth century, offer a narrow range of economic fluctuations by which to test the supposed inelasticity of the labor force as an economic function.

**TABLE 1**  
**Population and the Labor Force (with adjustments to the 1940 Census Definition),**  
**by Age Groups and Sex, United States, 1910-1940 (thousands)**

AGE GROUP	1910 (April)				1920 (January)				1930 (April)				1940 (April)					
	GAINFUL WORKERS		LABOR FORCE		GAINFUL WORKERS		LABOR FORCE		GAINFUL WORKERS		LABOR FORCE		POPULATION		LABOR FORCE		WPA (adj. for omitted entries) (rounded)	
	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.	POPULATION	DEF.
10-13	3,666	374	4,343	258	4,879	162	4,734	162	4,691	1,311	4,903	924	4,734	not counted <sup>1</sup>	4,734	not counted <sup>1</sup>	4,734	not counted <sup>1</sup>
14-17	3,624	1,888	3,862	1,558	4,691	1,263	4,691	1,263	4,691	1,263	4,691	1,263	4,691	1,263	4,691	1,263	4,691	1,263
18-24	6,419	5,905	6,365	5,668	7,593	6,400	8,188	6,517	7,593	6,400	8,188	6,517	8,188	6,517	8,188	6,517	8,188	6,517
25-44	14,169	13,814	16,122	15,639	18,291	17,807	19,686	17,788	18,291	17,807	19,686	17,788	19,686	17,788	19,686	17,788	19,686	17,788
45-64	7,164	6,586	9,115	8,552	11,171	10,506	13,371	10,427	11,171	10,506	13,371	10,427	13,371	11,845	11,845	11,845	11,845	11,845
65 & older	1,986	1,198	2,483	1,493	3,325	1,939	4,406	1,838	3,325	1,939	4,406	1,838	4,406	1,830	1,830	1,830	1,830	1,830
10-24	13,709	8,042	14,750	7,381	17,163	7,825	17,825	7,990	17,163	7,825	17,825	7,990	17,825	7,568 <sup>1</sup>	7,568 <sup>1</sup>	7,568 <sup>1</sup>	7,568 <sup>1</sup>	7,568 <sup>1</sup>
25-64	21,333	20,400	25,237	24,191	29,462	28,313	33,057	28,215	29,462	28,313	33,057	28,215	33,057	30,596	30,596	30,596	30,596	30,596
25 & older	23,319	21,675	27,720	25,684	32,787	30,252	37,463	30,053	32,787	30,252	37,463	30,053	37,463	32,426	32,426	32,426	32,426	32,426
10 & older	37,028	29,717	42,290	33,065	49,950	38,077	55,288	38,043 <sup>2</sup>	49,950	38,077	55,288	38,043 <sup>2</sup>	55,288	39,994 <sup>1</sup>	40,258 <sup>1</sup>	40,258 <sup>1</sup>	40,258 <sup>1</sup>	40,258 <sup>1</sup>
10-13	3,593	168	4,259	120	4,765	73	4,606	73	4,765	73	4,606	73	4,606	not counted <sup>1</sup>	4,606	not counted <sup>1</sup>	4,606	not counted <sup>1</sup>
14-17	3,596	801	3,895	836	4,673	648	4,818	682	4,673	648	4,818	682	4,818	379	379	379	379	379
18-24	6,329	2,386	6,625	2,611	7,826	3,290	8,418	3,391	7,826	3,290	8,418	3,391	8,418	3,684	3,684	3,684	3,684	3,684
25-44	12,811	2,540	15,306	3,433	17,957	4,560	19,986	4,606	17,957	4,560	19,986	4,606	19,986	6,036	6,036	6,036	6,036	6,036
45-64	6,261	960	7,915	1,352	10,243	1,915	12,714	1,918	10,243	1,915	12,714	1,918	12,714	2,489	2,489	2,489	2,489	2,489
65 & older	1,963	156	2,450	197	3,309	266	4,613	252	3,309	266	4,613	252	4,613	259	259	259	259	259
10-24	13,518	3,355	14,779	3,567	17,264	4,011	17,842	4,146	17,264	4,011	17,842	4,146	17,842	4,063 <sup>1</sup>	4,063 <sup>1</sup>	4,063 <sup>1</sup>	4,063 <sup>1</sup>	4,063 <sup>1</sup>
25-64	19,072	3,500	23,221	4,785	28,200	6,475	32,700	6,524	28,200	6,475	32,700	6,524	32,700	8,525	8,525	8,525	8,525	8,525
25 & older	21,035	3,656	25,671	4,982	31,509	6,741	37,313	6,776	31,509	6,741	37,313	6,776	37,313	8,784	8,784	8,784	8,784	8,784
10 & older	34,553	7,011	40,450	8,549	48,773	10,752	55,155	10,922 <sup>2</sup>	48,773	10,752	55,155	10,922 <sup>2</sup>	55,155	12,847 <sup>1</sup>	12,983 <sup>1</sup>	12,983 <sup>1</sup>	12,983 <sup>1</sup>	12,983 <sup>1</sup>
10 & older	71,581	36,728	82,740	41,614	98,723	48,829	110,443	48,965	98,723	48,829	110,443	48,965	110,443	52,841 <sup>1</sup>	53,241 <sup>1</sup>	53,241 <sup>1</sup>	53,241 <sup>1</sup>	53,241 <sup>1</sup>

See the text for an explanation of the sources of the data and the methods used in compiling this table; see also Appendices A and B.

1 The number of persons 10-13 in the April 1940 labor force was assumed by the census to be so small that it was not worth counting, and is assumed here to be zero.

2 My adjustments for census comparability vary a bit from those of John D. Durand published in a recent article, *The Post War Employment of Women in the United States, International Labor Review*, Dec. 1943. They are based, however, on somewhat different assumptions. See my acknowledgments.

the labor force. In times of great depression millions who have no chance of filling a job might conceivably go on claiming employability because they would be employable in normal times. Moreover, some young persons, wives, and old people who may say (honestly enough) they are actively seeking work would, if the chief breadwinner of the family got his job back or a raise in wages, quit their jobs or their search for jobs and thus sever their labor market attachment.

The net outcome of these two psychological tendencies cannot be determined by mere logical deduction. For the purposes of this study it is even less vital than it may seem. Concerning the group clinging to its normal employability, perhaps the best standard after all is an economic system running rather satisfactorily (normally). Should labor force status admit only those able to hold a job under the most trying conditions, *though the very process of employing them would abolish these abnormal conditions?*

The 'psychic' unemployed, in the labor force only during depressions, clearly belong neither to the net productive force nor to the normal labor force.<sup>5</sup> Anyway, no appreciable number of them has ever been included in the census labor force figures (Sec. 4). Consequently, the propensities measured by the census and monthly poll may well reflect without serious distortion the true fluctuations in the labor force. If so, the propensity to be in the productive labor force is rather insensitive to economic fluctuations. That this is so is shown by the census experience, and, when effects of the draft are eliminated, by the monthly poll experience also (Sec. 4).

## 2 LABOR FORCE ESTIMATES, 1914-1923

### *Structural Estimates of the Normal Labor Force*

Before 1940 the United States labor force was not counted oftener than at the decennial censuses of population. The monthly figures, 1914-23, explained in Appendix A and depicted in Charts 1 and 2, are mere interpolations of them and rest upon two assumptions:

<sup>5</sup> Loring Wood of the War Production Board has requested me to emphasize the point, already implied, that many of the additional workers might conceivably get jobs and thus force primary workers into unemployment. If the number of these cases happened to be relatively large, the term 'psychic' work seekers would not be truly descriptive. The inflation in the number of unemployed, though equal to the number of additional workers, would consist of both 'psychic' and 'real' work seekers. Actually my term psychic work seekers is intended to describe, not the personnel of a true cohort, but a *statistical equivalent* of the inflation in work seekers due to psychological consequences of economic depression.