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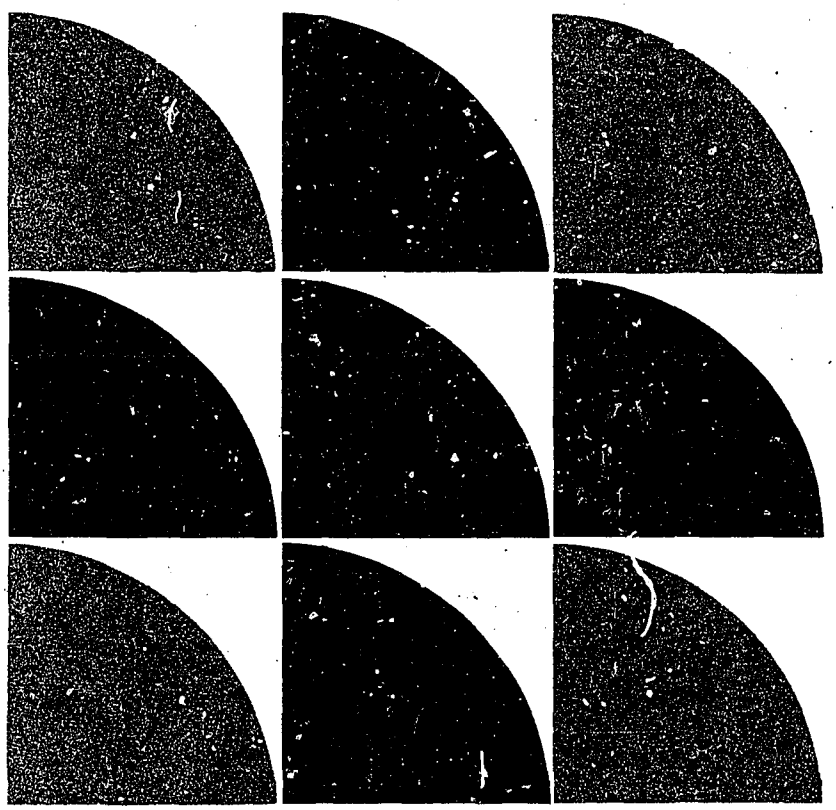
ABSTRACT

The work force is expected to expand to 101.8 million by 1980. Rate of growth will then decline, reaching 107.7 million by 1985 and 112.6 million by 1990. Projected data are presented in text, graphs, and tables compared with actual 1960 and 1970 figures. Numbers and percentages are divided according to sex and age. (MS)

The U. S. Labor Force: Projections to 1990

Special Labor Force Report 156

U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
1973



Following is a list of reprints of Special Labor Force Reports which have been published in the *Monthly Labor Review* since January 1969. Copies may be obtained while the supply lasts upon request to the Bureau of Labor Statistics or to any of its regional offices.

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155	Employment of High School Graduates and Dropouts, October 1972

The U.S. labor force: projections to 1990

Special Labor Force Report shows work force expanding to 101.8 million by 1980; rate of growth is then expected to decline, with labor force reaching 107.7 million by 1985 and 112.6 million by 1990

DENIS F. JOHNSTON

DURING THE 1970's, the total labor force of the United States is estimated to expand by 15.9 million, reaching 101.8 million by 1980, according to the latest projections of the Bureau of Labor Statistics. This increase implies an average annual growth rate of 1.7 percent, about the same as the average annual rate for the 1960's. After 1980, the rate of growth is expected to decline, averaging only 1.0 percent a year during the eighties. At this decelerated rate, the labor force is estimated to reach 107.7 million by 1985 and 112.6 million by 1990.

Projected changes in the labor force are of necessity closely related to changes projected in the size and age composition of the working-age population —those 16 and over. Projected changes in labor force participation rates (the percent of the population in the labor force) for specific age-sex groups are also significant, but their impact is overshadowed by the effect of the projected population changes. Between 1970 and 1990, for example, 89 percent of the projected change in the male labor force and 68 percent of that of the female labor force can be attributed to projected population changes. Only among men 65 and over, and women 20 to 24 and 45 to 54, do projected changes in labor force participation rates have a greater effect on the labor force than changes in population.

This article presents projections of the total labor force of the United States, by age and sex, for 1980, 1985, and 1990.[1] It includes a discussion of past trends, as background for the analysis of changes implied by the projections, together with a brief summary of the assumptions which underlie the projections and the methods employed in their development.

Changes in the 1970's

The projected 1980 labor force differs markedly from the actual labor force of 1960 and 1970 in its composition by age and sex. The median age of the labor force, which declined from 40 to 38 years during the 1960's, is expected to fall still more rapidly during the present decade, reaching 35 years by 1980. The major factor in this decline is the sharp rise in the number of young adult workers aged 25 to 34 years—from 17.7 to 26.8 million—as the "baby boom" generation moves inexorably through the life cycle. This age group—one-fifth of the labor force in 1970—is estimated to make up over one-fourth of the labor force 10 years later (table 1).

These projections also indicate a continuing increase in the proportion of the labor force that are women—from 36.7 percent in 1970 to 38.5 percent in 1980. This projected increase is much less pronounced, however, than the rise since 1960, when 32.1 percent of those in the labor force were women (table 2). Two major reasons may be cited in support of the more modest growth projected for women workers during the present decade. First, the largest changes in the female population in the 1970's are in the age group (25 to 34 years) whose labor force participation rate is lower than for those age groups where the largest population increases occurred in the 1960's. Second, the unusually rapid increase in women's labor force participation rates during the past decade is associated with the precipitous decline in the birth rate. These projections assume that no further drastic declines in birth rates are in prospect. Thus, the labor force participation rate of women 25 to 34 years old, which rose from 35.8 percent in 1960 to 44.8 percent in 1970, is projected to rise only 5.4 percentage points during

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Bureau of Labor Statistics

Table 1. Total population, total labor force, and labor force participation rates, by age and sex, actual 1960 and 1970 and projected 1980, 1985, and 1990

[Numbers in thousands]

Sex and age group	Total population, July 1					Total labor force, annual averages					Labor force participation rates, annual averages (percent of population in labor force)				
	Actual		Projected			Actual		Projected			Actual		Projected		
	1960	1970	1980	1985	1990	1960	1970	1980	1985	1990	1960	1970	1980	1985	1990
BOTH SEXES															
Total, 16 years and over	121,817	142,366	167,339	175,722	183,078	72,104	85,903	101,809	107,716	112,576	59.2	60.3	60.8	61.3	61.5
16 to 24 years	21,773	32,257	37,463	34,405	31,643	12,720	19,916	23,781	22,184	20,319	58.4	61.7	63.5	64.5	64.2
25 to 54 years	67,764	71,777	84,740	94,028	103,309	46,596	51,487	61,944	69,202	76,421	68.8	71.7	73.1	73.6	74.0
55 years and over	32,279	38,333	45,136	47,289	48,126	12,788	14,500	16,084	16,330	15,836	39.6	37.8	35.6	34.5	32.9
MEN															
Total, 16 years and over	59,420	68,641	80,261	84,285	87,911	48,933	54,343	62,590	66,017	68,907	82.4	79.2	78.0	78.3	78.4
16 to 19 years	5,398	7,649	8,339	7,141	7,045	3,162	4,395	4,668	3,962	3,901	58.6	57.5	56.0	55.5	55.4
16 and 17 years	2,880	3,937	4,111	3,515	3,373	1,322	1,840	1,887	1,603	1,530	45.9	46.7	45.9	45.6	45.4
18 and 19 years	2,518	3,712	4,228	3,626	3,672	1,840	2,555	2,781	2,359	2,371	73.1	68.8	65.8	65.1	64.6
20 to 24 years	5,553	8,668	10,666	10,305	9,021	4,939	7,376	8,852	8,496	7,404	88.9	85.1	83.0	82.5	82.1
25 to 34 years	11,347	12,601	18,521	20,540	21,040	10,940	11,974	17,523	19,400	19,853	96.4	95.0	94.6	94.4	94.4
35 to 44 years	11,878	11,303	12,468	15,409	18,378	11,454	10,818	11,851	14,617	17,398	96.4	95.7	95.1	94.9	94.7
45 to 54 years	10,148	11,283	10,781	10,630	11,922	9,568	10,487	9,908	9,744	10,909	94.3	92.9	91.9	91.7	91.5
55 to 64 years	7,564	8,742	9,776	9,874	9,424	6,445	7,127	7,730	7,716	7,307	85.2	81.5	79.1	78.1	77.5
55 to 59 years	4,144	4,794	5,263	5,129	4,787	3,727	4,221	4,558	4,421	4,112	89.9	88.0	86.6	86.2	85.9
60 to 64 years	3,420	3,948	4,513	4,745	4,637	2,718	2,906	3,172	3,295	3,195	79.5	73.6	70.3	69.4	68.9
65 years and over	7,530	8,395	9,710	10,386	11,681	2,425	2,164	2,058	2,082	2,135	32.2	25.8	21.2	20.0	19.3
65 to 69 years	2,941	3,139	3,633	3,852	4,065	1,348	1,278	1,289	1,322	1,365	45.8	40.7	35.5	34.3	33.6
70 years and over	4,590	5,256	6,077	6,534	7,016	1,077	886	769	760	770	23.5	16.9	12.7	11.6	11.0
WOMEN															
Total, 16 years and over	62,397	73,725	87,078	91,437	95,167	23,171	31,560	39,219	41,699	43,669	37.1	42.8	45.0	45.6	45.9
16 to 19 years	5,275	7,432	8,057	6,910	6,776	2,061	3,250	3,669	3,203	3,188	39.1	43.7	45.5	46.4	47.0
16 and 17 years	2,802	3,828	3,969	3,397	3,243	801	1,324	1,427	1,247	1,205	28.6	34.6	36.0	36.7	37.2
18 and 19 years	2,472	3,604	4,088	3,513	3,533	1,260	1,926	2,242	1,956	1,983	51.0	53.4	54.8	55.7	56.1
20 to 24 years	5,547	8,508	10,401	10,049	9,801	2,558	4,893	6,592	6,523	5,826	46.1	57.5	63.4	64.9	66.2
25 to 34 years	11,605	12,743	18,442	20,301	20,750	4,159	5,704	9,256	10,339	10,678	35.8	44.8	50.2	50.9	51.5
35 to 44 years	12,348	11,741	12,903	15,741	18,524	5,325	5,971	6,869	8,560	10,219	43.1	50.9	53.2	54.4	55.2
45 to 54 years	10,438	12,106	11,625	11,407	12,695	5,150	6,533	6,537	6,542	7,364	49.3	54.0	56.2	57.4	58.0
55 to 64 years	8,070	9,763	11,307	11,492	10,934	2,964	4,153	5,057	5,213	5,003	36.7	42.5	44.7	45.4	45.8
55 to 59 years	4,321	5,257	5,966	5,806	5,396	1,803	2,547	3,055	3,033	2,853	41.7	48.4	51.2	52 3	52.9
60 to 64 years	3,749	4,506	5,341	5,688	5,538	1,161	1,606	2,002	2,180	2,150	31.0	35.6	37.5	38.3	38.8
65 years and over	9,115	11,433	14,343	15,537	16,687	954	1,056	1,239	1,319	1,391	10.5	9.2	8.6	8.5	8.3
65 to 69 years	3,347	3,780	4,595	4,942	5,267	579	644	758	814	864	17.3	17.0	16.5	16.5	16.4
70 years and over	5,768	7,653	9,748	10,595	11,420	375	412	481	505	527	6.5	5.4	4.9	4.8	4.6

SOURCE: Population and labor force data for 1960 are from Special Labor Force Report 119 and differ slightly from later estimates. Corresponding 1970 data are from Current Population Survey estimates. Projected population data are from Current Population Reports, Series P-25, No. 493, Series E.

the current decade, reaching 50.2 percent in 1980.

The large increase in the number of young adult workers, and the continued rise in the number of women in the labor force, are the salient features of the changes in prospect during the remainder of the present decade. However, the changes which are foreseen in the other age-sex groups of the working-age population are also significant (table 3).

First, the teenage labor force, which increased from 5.2 million in 1960 to over 7.6 million in 1970, is projected to increase still further, but at a slower pace, reaching a peak in the late 1970's. Thereafter, this group may be expected to decline slowly in number, reaching 8.3 million in 1980. This development has important implications for the absorption of these new young labor force entrants into the Nation's economy. During the 1960's when the number of teenage workers was rising by about 240,000 a year, on average, teenage unemployment fluctuated between 12.2 and 17.2 percent (on an annual average basis). In contrast, the size of the teenage labor force is estimated to increase by only about 70,000 a year, on average, during the current decade. This slower pace of increase should enhance the effectiveness of measures designed to reduce the unemployment rate among teenagers. (See chart 1.)

Second, the group aged 20 to 24 is projected to continue to grow rapidly in size during the current

decade, but again at a slower pace than during the 1960's. This group increased by an average of 480,000 a year during the 1960's, but is expected to increase at the more moderate pace of 320,000 a year during the current decade, reaching 15.4 million workers by 1980.

Third, the group aged 35 to 44, which was the same size in 1970 as in 1960, is projected to increase by 1.9 million during the current decade, reaching 18.7 million in 1980, as the larger number of persons born between 1935 and 1944 moves into this age group of workers.

Fourth, the group aged 45 to 54, which increased by 2.3 million between 1960 and 1970, is projected to decline by nearly 600,000 during the present decade, reaching 16.4 million workers in 1980. At that time, this group will consist mostly of the relatively small number of persons born between 1925 and 1934—the "depression" cohort.

Fifth, the Nation's older workers (aged 55 and over) are projected to continue to increase in number at a somewhat more moderate pace during the current decade. This group increased by about 1.7 million during the 1960's, and is expected to increase by an additional 1.6 million during the 1970's, reaching 16.1 million workers in 1980. Within this group, the number of workers aged 65 and over is projected to remain nearly constant, rising from 3.2 million in 1970 to 3.3 million in 1980. This trend is in contrast to the steady increase in the size of the population 65 and over, which is expected to grow from 19.8 million in 1970 to over 24 million by 1980. Projected reductions in the labor force participation rates of persons in this age group yield a nearly constant number of workers despite the substantial increase in the population.

Comparison with earlier projections

In general, the present set of labor force projections differs from the previous BLS study in two major respects. First, the participation rates for men in all age groups are now estimated to decline over time, reflecting the observed downward movement over the 1955–72 period. [2] Second, the participation rates for women are considerably higher than those

Table 2. Distribution of total labor force, by age and sex, actual 1960 and 1970 and projected 1980, 1985, and 1990

Sex and age group	Number (in thousands)					Percent distribution				
	Actual		Projected			Actual		Projected		
	1960	1970	1980	1985	1990	1960	1970	1980	1985	1990
BOTH SEXES										
Total, 16 years and over	72,104	85,903	101,809	107,716	112,576	100.0	100.0	100.0	100.0	100.0
16 to 24 years	12,720	19,916	23,781	22,184	20,319	17.6	23.2	23.4	20.6	18.0
16 to 19 years	5,223	7,645	8,337	7,165	7,089	7.2	8.9	8.2	6.7	6.3
20 to 24 years	7,497	12,271	15,444	15,019	13,230	10.4	14.3	15.2	13.9	11.8
25 to 54 years	46,596	51,487	61,944	69,202	76,421	64.6	59.9	60.8	64.2	67.9
25 to 34 years	15,099	17,678	26,779	29,739	30,531	20.9	20.6	26.3	27.6	27.1
35 to 44 years	16,779	16,789	18,720	23,177	27,617	23.3	19.5	18.4	21.5	24.5
45 to 54 years	14,718	17,020	16,445	16,286	18,273	20.4	19.8	16.2	15.1	16.2
55 years and over	12,788	14,500	16,084	16,330	15,836	17.7	16.9	15.8	15.2	14.1
55 to 64 years	9,409	11,280	12,787	12,929	12,310	13.0	13.1	12.6	12.0	10.9
65 years and over	3,379	3,220	3,297	3,401	3,526	4.7	3.7	3.2	3.2	3.1
Median age	39.9	38.2	35.2	35.8	37.0					
MEN										
Total, 16 years and over	48,933	54,343	62,590	66,017	68,907	67.9	63.3	61.5	61.3	61.2
16 to 24 years	8,101	11,773	13,520	12,458	11,305	11.2	13.7	13.3	11.6	10.0
25 to 54 years	31,962	33,279	39,282	43,761	48,160	44.3	38.7	38.6	40.6	42.8
55 years and over	8,870	9,291	9,788	9,798	9,442	12.3	10.8	9.6	9.1	8.4
Median age	39.7	38.2	35.2	35.8	36.9					
WOMEN										
Total, 16 years and over	23,171	31,560	39,219	41,699	43,669	32.1	36.7	38.5	38.7	38.8
16 to 24 years	4,619	8,143	10,261	9,726	9,014	6.4	9.5	10.1	9.0	8.0
25 to 54 years	14,634	18,208	22,662	25,441	28,261	20.3	21.2	22.3	23.6	25.1
55 years and over	3,918	5,209	6,296	6,532	6,394	5.4	6.1	6.2	6.1	5.7
Median age	40.3	38.2	35.1	35.9	37.1					

The uses of projections

. . . The basic distinction between a projection and a forecast reflects the purpose it is intended to serve rather than the method of its preparation or the degree of understanding which it reflects. A forecast may be defined as a projection which has been selected as representing the "most likely" outcome in situations whose determinants are insufficiently known or controlled to permit outright prediction. Its distinguishing characteristic is the element of judgment or decision which is necessary in making such a selection. If projections are race horses, the forecast is the horse you decide to bet on. .

Whereas projections may serve a number of functions, the basic function on a forecast is to delineate the most probable outcome in a specified area of concern over a specified period in the future. The need for a forecast does not arise until and unless the user must commit himself to a definite plan of action extending into the future. Given such a commitment, the preparation or adoption of some kind of forecast is inescapable.

Projections in general, and economic-demographic projections in particular, may be used to meet a number of purposes. First, they are most commonly designed to fulfill an anticipatory function—allowing the user to anticipate the probable magnitude or impact of some probable or postulated set of conditions or changes at some future time. . . .

Second, projections—or the forecast which is selected from among them—are an essential input for planning and program development. If our plans and programs are rational, they must be future-oriented, and they must therefore incorporate some systematic appraisal of the environment in which these plans are likely to operate in the future. . . .

Third, projections are an essential—though sometimes implicit—ingredient in program evaluation. Attempts at program evaluation, especially in areas involving social behavior, commonly encounter the problem that program benefits cannot be estimated with nearly the confidence or accuracy that surrounds estimates of program costs. The social researcher recognizes in this difficulty the truism that the impact of any social program is entangled in a web of cross-impacts reflecting the totality of interactions occurring in the society. One way to avoid this difficulty is to project the course of developments which might be anticipated in the absence of the particular program, so that comparison of this projection with actual post-program outcomes may yield an estimate, however crude, of program impact or "benefit."

Fourth, projections may be viewed as essential links in a chain of conjecture: each projection includes among its underlying assumptions certain conditions which are derived from a prior projection, and most projections are likely, in turn, to provide inputs to other projections. . . .

Fifth, projections serve a public information function. Our justifiable concern with the manipulative and propagandistic elements which may be found in projections prepared for public effect should not obscure the fact that projections, when freed of such influences, have a unique educational value. . . .

Finally, projections serve an exploratory or heuristic function, insofar as they may be developed in order to delineate the probable (or possible) consequences of alternative sets of initial conditions and determining factors. While the chief value of such exercises may be educational, they may be of considerable practical value to the decisionmaker as well. To the extent that they expand his awareness of the "degrees of freedom" which he enjoys in a given situation, they may prompt his consideration of alternative solutions which he might not otherwise have recognized.

Each of these six functions provides a perspective from which to suggest a course of action in "building upon" the available economic and demographic projections. However, it is the last of these functions which most clearly reflects the nature and potential value of projections in their purest sense, and it is the fulfillment of this function which most nearly implies a capacity to carry out the other functions as well.

* * * * *

. . . To build upon economic and demographic projections, it is necessary to recognize the different purposes for which projections are developed and the different strategies which are called for in pursuing these purposes. From the standpoint of the technician, the necessary strategy is straightforward: we need to integrate our economic and demographic models, incorporating additional indicators of relevant social processes, so as to develop more inclusive social systems models. But for the decisionmaker and social critic alike, a different strategy must be employed—one which recognizes in the failures of past predictions not the need for improved analytical systems, but rather the existence of opportunities for the expression of human values which alone give meaning to our decisions.

—DENIS F. JOHNSTON,

"Building on Economic and Demographic Projections," a paper presented at a meeting of the Society of Actuaries, Toronto.

Table 3. Net changes in total labor force 16 years old and over, by age and sex, 1960–70, 1970–80, and 1980–90

Sex and age group	Net change (in thousands)			Percent change			Average annual rate of change[1] (in percent)		
	1960–70	1970–80	1980–90	1960–70	1970–80	1980–90	1960–70	1970–80	1980–90
BOTH SEXES									
Total, 16 years and over	13,799	15,906	10,767	100.0	100.0	100.0	1.75	1.70	1.01
16 to 19 years	2,422	692	−1,248	17.6	4.4	−11.6	3.81	.87	−1.62
20 to 24 years	4,774	3,173	−2,214	34.6	19.9	−20.6	4.93	2.30	−1.55
25 to 34 years	2,579	9,101	3,752	18.7	57.2	34.8	1.58	4.15	1.31
35 to 44 years	10	1,931	8,897	.1	12.1	82.6	(2)	1.09	3.89
45 to 54 years	2,302	−575	1,828	16.7	−3.6	17.0	1.45	−.34	1.05
55 to 64 years	1,871	1,507	−477	13.6	9.5	−4.4	1.81	1.25	−.38
65 years and over	−159	77	229	−1.2	.5	2.1	−.48	.24	.67
MEN									
Total, 16 years and over	5,410	8,247	6,317	39.2	51.8	58.7	1.05	1.41	.96
16 to 24 years	3,672	1,747	−2,215	26.6	11.0	−20.6	3.74	1.38	−1.79
25 to 54 years	1,317	6,003	8,876	9.5	37.7	82.5	.40	1.66	2.04
55 years and over	421	497	−346	3.0	3.1	−3.2	.46	.52	−.36
WOMEN									
Total, 16 years and over	8,389	7,659	4,450	60.8	48.2	41.3	3.09	2.17	1.07
16 to 24 years	3,524	2,118	−1,247	25.5	13.3	−11.6	5.67	2.31	−1.30
25 to 54 years	3,574	4,454	5,599	25.9	28.0	52.0	2.18	2.19	2.21
55 years and over	1,291	1,087	98	9.4	6.8	.9	2.85	1.90	.15

[1] Compounded continously.

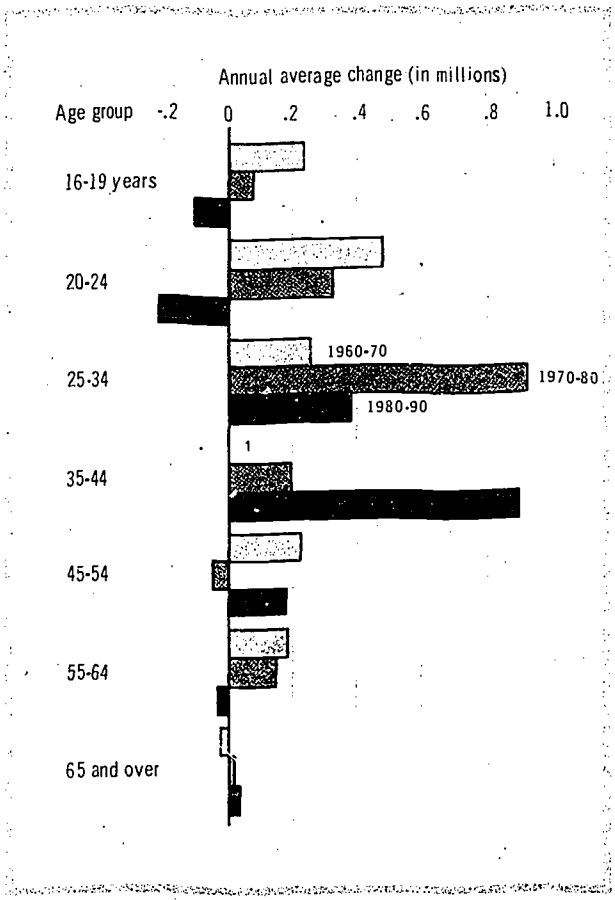
[2] Less than .05 percent.

formerly estimated, although the rate of increase is generally slower than that observed during the 1960 decade (table 4). The net effect of these changes is to reduce the 1980 male labor force by 1.0 million (in comparison with the previous BLS projection) and to raise the female labor force by 2.1 million, for a net increase of 1.1 million (from 100.7 to 101.8 million workers).

The direction of both of these major changes is the same as that of earlier revisions in the BLS projections (as shown in table 4). However, unlike the earlier revisions, the present projection does not hold the participation rates for men in the central working ages (25 to 54) at a constant level. Instead it allows these rates to edge downward slowly, on the assumption that the observed reductions between 1955 and 1972 are not attributable to cyclical factors, but rather reflect a long-term secular trend. As has been noted in previous BLS projections, the projected declines in the participation rates of younger men (16 to 24) are assumed to reflect the net effect of continued growth in school enrollment, while the declines projected among men 55 and over reflect a long-term trend toward earlier retirement—an option which is increasingly supportable by virtue of the improved terms and increased coverage afforded by a host of private and public pension plans and personal savings.[3]

In regard to the upward revision in the participation rates for women, three major points should be made. First, the current projection implies a substantial reduction in the rate of increase of participation rates of women under 35. This is particularly noticeable in comparison with the very rapid gains observed among women in this age group during the 1964–72 period, when their participation rates increased by 10 percentage points, reaching 50.4 percent in 1972. The projected gain over the following 8-year period (1972–80) is only 2.5 percentage points. As noted previously, the more modest growth projected in the labor force participation rates of these younger women reflects the judgment that the extraordinary growth observed during the past decade was accelerated by certain factors which are not expected to have a significant impact in the future. The most important of these is the rapid decline in fertility that occurred during the 1960's. Between 1960 and 1972, the general fertility rate declined from 118.0 to 73.4—a drop of 38 percent.[4] Since the presence of young children in the home limits the availability of mothers for work outside the home (ceteris paribus), this reduction in fertility allowed a growing proportion of young women to enter the labor force. In addition, the Vietnam buildup of the late 1960's afforded unusually favorable employment opportunities for these women.

Chart 1. Change in labor force (annual average) over successive decades, 1960 to 1990, by age group



[1] An increase of one thousand per year, on average.

Also, in the late 1960's the number at or near the median age at which women married for the first time was considerably larger than the number of men 2 to 3 years older than themselves whom they would normally have married. This temporary imbalance was exacerbated by the Vietnam buildup, thus inducing considerable delay in marriage. Each of these factors is assumed to have had a strong positive influence on the participation rates of young women in the recent past, and none of these factors is expected to be operative in the future.

Second, the current projection implies a more moderate reduction in growth of the participation rate among women 35 to 54 years old. Between 1964 and 1972, their participation rate increased by 5 percentage points, reaching 52.7 percent in 1972. The corresponding increase for 1972–80 is only 2.0 percentage points. This slower projected growth reflects in part the slow increase in labor force participation among women 45 to 54 years old observed during the past decade. In addition, it is felt that the very large increases projected in the number of young women workers 25 to 34 years old may have a limiting effect on the employment opportunities of older women.

Finally, the projection for older women (55 and over) shows a small increase in their rate of labor force participation during the remainder of the current decade. This projected increase occurs only among women 55 to 64 years old; the long-term decline in participation among women 65 and over is expected to continue. Although the projected labor force of women 55 and over in 1980 is practically identical with the previous BLS projection, the projected participation rates are somewhat lower, reflecting the stabilized rates observed in the recent past. This apparent discrepancy is accounted for by the larger size of the population of women 55 and over currently projected for 1980.

Changes in the 1980's

The outstanding feature of the projected 1980–90 increase in the total labor force is the slower pace of growth—from an average annual rate of 1.7 percent in the 1970's to 1.0 percent in the 1980's. At this reduced rate, the labor force is projected to increase by 10.8 million during the 1980 decade, reaching 107.7 million by 1985 and 112.6 million by 1990. Also significant is the expected shift in the locus of major expansion, from the 25- to 34-year-old group in the 1970's to the 35- to 44-year-old group during the 1980's. The latter group, whose number is projected to increase by about 190,000 a year, on average, during the current decade, is projected to grow by nearly 900,000 a year, on average, during the 1980's. One manifestation of this shift is the estimated rise in the median age of the labor force—from 35.2 years in 1980 to 37.0 years in 1990.

The number of young workers (16 to 24 years old) is projected to decline by nearly 350,000 a year, on average, during the 1980's from 23.8 million in 1980 to 22.2 million by 1985 and 20.3 million by 1990—only 400,000 more than their number in 1970. (See chart 2.) However, this younger group in 1990 is expected to differ sharply from that of 1970, with nearly 500,000 fewer men and 900,000 more women workers—reflecting the assumed continuation in both the downward trend in

Table 4. Comparison of current labor force projection with earlier BLS projections, 1980 and 1985

[In thousands]

Sex and age group	Total labor force 16 years old and over, by age and sex							
	1980					1985		
	Current projection	SLFR 119 [1]	1980 SLFR 49 [2]	Differences (1) − (2)	Differences (1) − (3)	Current projection	1985 SLFR 119 [1]	Difference (6) − (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
BOTH SEXES								
Total, 16 years and over	101,809	100,727	99,942	1,082	1,867	107,716	107,156	560
16 to 24 years	23,781	23,130	22,554	651	1,227	22,184	22,242	−58
25 to 54 years	61,944	61,377	60,431	567	1,513	69,202	68,525	677
55 years and over	16,084	16,220	16,957	−136	−873	16,330	16,389	−59
MEN								
Total, 16 years and over	62,590	63,612	64,061	−1,022	−1,471	66,017	67,718	−1,701
16 to 24 years	13,520	13,690	13,888	−170	−368	12,458	13,179	−721
25 to 54 years	39,282	39,983	39,893	−701	−611	43,761	44,542	−781
55 years and over	9,788	9,939	10,280	−151	−492	9,798	9,997	−199
WOMEN								
Total, 16 years and over	39,219	37,115	35,881	2,104	3,338	41,699	39,438	2,261
16 to 24 years	10,261	9,440	8,666	821	1,595	9,726	9,063	663
25 to 54 years	22,662	21,394	20,538	1,268	2,124	25,441	23,983	1,458
55 years and over	6,296	6,281	6,677	15	−381	6,532 [3]	6,392	140

[1] Sophia C. Travis, "The U.S. labor force: projections to 1985," Monthly Labor Review, May 1970, pp. 3-12, reprinted as Special Labor Force Report 119.

[2] Sophia C. Travis and Denis F. Johnston, "Labor Force Projections for 1970-80," Monthly Labor Review, February 1965, pp. 129-40, reprinted as Special Labor Force Report 49.

Table 5. Effect of alternative fertility assumptions on projected total labor force of women 16 to 49 years old, by age, 1980, 1985, and 1990 [1]

[In thousands]

Sex and age group	1980			1985			1990 [2]		
	Series D	Series E	Series F	Series D	Series E	Series F	Series D	Series E	Series F
BOTH SEXES									
Total, 16 years and over	101,138	101,809	102,166	106,932	107,716	108,247	112,119	112,576	113,031
MEN									
Total, 16 years and over	62,590	62,590	62,590	66,017	66,017	66,017	69,102	68,907	68,834
WOMEN									
Total, 16 years and over	38,548	39,219	39,576	40,915	41,699	42,230	43,017	43,669	44,197
16 and 17 years	1,425	1,427	1,429	1,245	1,247	1,247	1,356	1,205	1,149
18 and 19 years	2,228	2,242	2,253	1,943	1,956	1,964	1,971	1,983	1,991
20 to 24 years	6,372	6,592	6,730	6,307	6,523	6,686	5,643	5,826	5,965
25 to 29 years	4,770	5,038	5,176	5,167	5,505	5,743	5,042	5,387	5,646
30 to 34 years	4,104	4,218	4,268	4,689	4,834	4,920	5,116	5,291	5,416
35 to 39 years	3,593	3,632	3,646	4,568	4,641	4,668	5,202	5,268	5,307
40 to 44 years	3,225	3,237	3,241	3,904	3,919	3,927	4,931	4,951	4,963
45 to 49 years	3,203	3,205	3,205	3,384	3,386	3,387	4,052	4,054	4,056
50 years and over	9,628	9,628	9,628	9,688	9,688	9,688	9,704	9,704	9,704

[1] As currently defined by the Bureau of the Census in Current Population Reports, Series P-25, No. 493, Series D implies an ultimate completed cohort fertility rate of 2,500, that is, 1,000 women would have, on average, 2,500 births throughout their childbearing period. Series E implies a corresponding rate of 2,100, and Series F implies a rate of 1,800. The basic projections in this report are based on the Series E population projections.

[2] The differences in the projected male labor force in 1990 are due to differences among the three series in the number of births projected for 1973 and 1974—cohorts which would be 16 and 17 years old in 1990. The projected female labor force 16 and 17 in 1990 is similarly affected.

the participation rates of young men and the upward trend for young women.

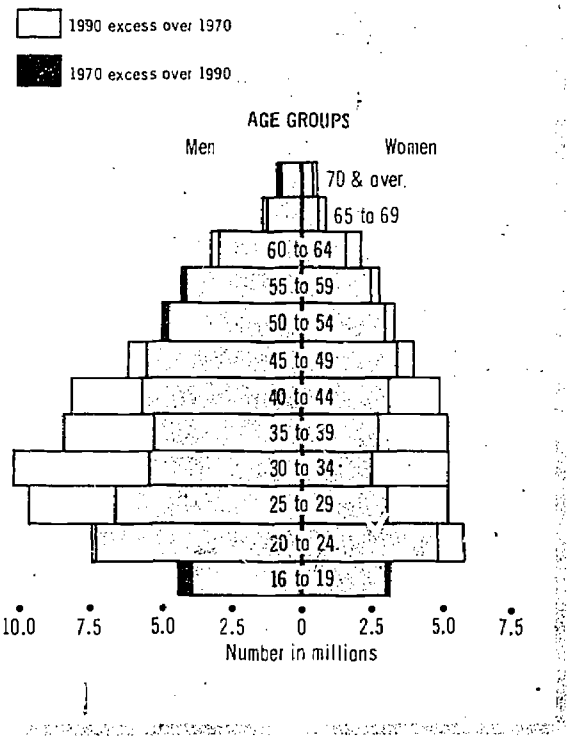
Workers in the 25- to 34-year-old group are estimated to continue to increase in number during the 1980's but at a much slower pace than in the 1970's, reaching 29.7 million by 1985 and 30.5 million by 1990. Moreover, this gain is expected to occur primarily during the first half of the 1980 decade, with an annual average increase of 600,000 a year, in contrast to an increase of only 160,000 a year, on average, between 1985 and 1990.

The prospects among workers 45 to 54 years old imply a reversal of the trend foreseen for the current decade—from an annual average decline of nearly 60,000 in the present decade to an average gain of 180,000 a year in the 1980's. Meanwhile, the smaller number of persons born in the 1925–34 period will be moving into the 55- to 64-year-old age group, whose labor force numbers are therefore expected to decline by nearly 50,000 a year, on average.

Finally, the outlook for workers 65 and over during the 1980's is for a slow but steady increase in number (20,000 a year), as the assumed continuing decline in their participation rates is more than offset by the continued rise in the underlying population of older persons—from 24 million in 1980 to 25.9 million in 1985 and 27.8 million by 1990.

The sex distribution of the projected labor force is not expected to change greatly in the 1980's. The proportion of workers who are women is expected to rise from 38.5 percent in 1980 to 38.7 percent in 1985 and 38.8 percent in 1990. This stabilization reflects primarily the changing age composition of the working-age population during the decade, with declines in the number of young women and very small increases in the number of women 45 to 64 years old—the two age groups whose participation rates have been relatively high (chart 3).

Chart 2. Age-sex profile of total labor force, 1970 actual and 1990 projected



Alternative projections

The alternative projections shown in table 5 describe the estimated effect of specified changes in a single variable (fertility) upon the size and age-sex distribution of the projected labor force.[7] Table 5 shows the projected total labor force of women 16 to 49 years old, by age, for 1980, 1985, and 1990, under three alternative assumptions concerning fertility: Series "D," "E," and "F." As is explained in the following section on methodology, Series E (defined as 2,100 births per 1,000 women) is the series adopted for the basic set of projections in this report; it represents a level of fertility whereby each generation is barely replaced by the next one, so that the population eventually stops growing (except for immigration). Series D implies a higher fertility rate of 2,500 births per 1,000 women, while Series F implies a lower rate of 1,800 births per 1,000 women. Thus Series E is somewhat closer to F than to D. In developing these alternative projections, the assumed participation rates for women with and without children under 5 years old are the same for each series; the only difference among the three series is the difference in the proportions of the population of women with and without children under 5. Series D implies a larger proportion of women in each childbearing age group with children under 5, while Series F implies a lower proportion, with Series E falling in between.

The effect of these alternative fertility assumptions (ceteris paribus) can be illustrated by examining the 1980 projection. As noted previously, the basic Series E projection yields a total labor force

of 101.8 million. A shift to Series D has the effect of reducing the female labor force (and thus the total labor force) by about 670,000, while a shift to Series F increases the labor force by about 360,000. Thus, the range of the projected variation in the size of the labor force, as we move from Series D to Series F, amounts to about 1.0 million, or 1 percent of the basic projection for 1980. Among all women workers, however, that range amounts to 2.6 percent of the basic projection, and among women in the principal childbearing ages (16 to 49), it amounts to 3.5 percent of the basic projection.[6]

It should be noted, parenthetically, that the previous projections assumed continuation of the Series C fertility levels (the level which approximates the actual fertility rate of the mid-1960's). Since that time, fertility has declined to its present level, which is close to Series E. On the basis of the above calculations, the shift from Series C to Series E would account for an increase in the size of the female labor force of about 700,000 in 1970. Thus, the "error" in the fertility assumption alone accounts for over one-third of the 1.9 million underestimate of the 1970 female labor force in the BLS projections prepared in 1964.[7]

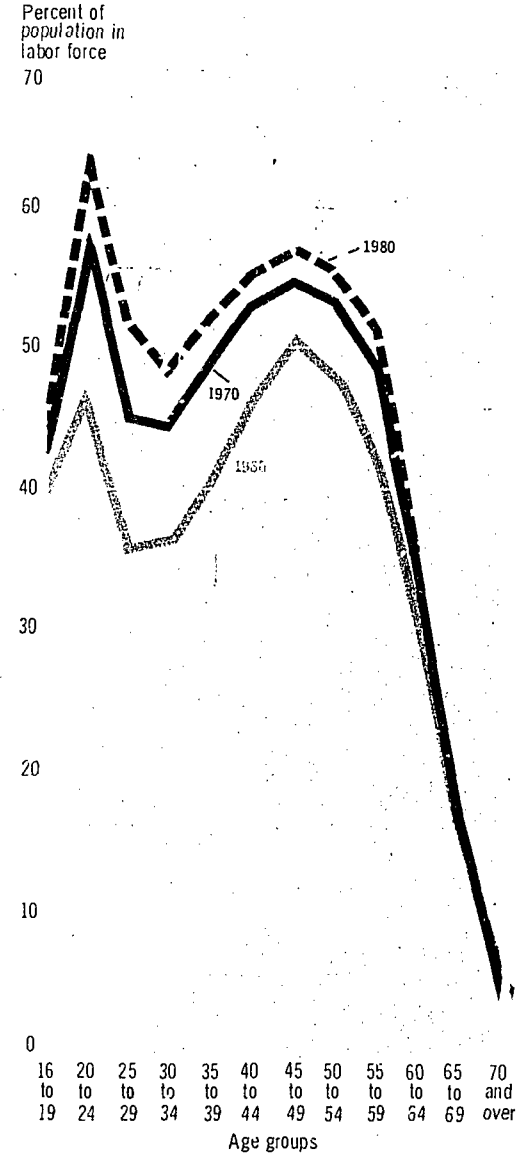
Methods and assumptions

The projections in this report reflect anticipated changes in the demographic composition of the population of working age, combined with our judgments as to the changes which might be expected in the labor force participation rates of the several age-sex groups in the population. The predominant factor in these projections is the anticipated change in the size and age-sex composition of the population. The projections assume no drastic changes in the propensity of the several population groups to seek work. They also assume a generally favorable demand situation, together with the absence of major wars or other major social or economic disturbances. Finally, the projections assume no major legislative or social changes which would alter the conditions under which individuals choose to enter or remain out of the labor force, or which would alter the prevailing definitions of "labor force," "employment," or "unemployment."[8]

The general approach is to extrapolate observed trends in the participation rates of each age-sex group to the terminal date of the projection (1990),

Chart 3. Labor force participation rates of women, by age, 1960, 1980, and 1990

[Percent of total population in total labor force]



and to apply the projected rates to the projected population to obtain the labor force. The major steps in this procedure are as follows:

Step 1. Annual average rates of labor force participation (the percent of the total population in the total

labor force) were obtained for each year, 1955 through 1972, for men and women separately in the following age groups: 16–17, 18–19, and 5-year groups thereafter to 70 and over. By means of linear regression, the average annual change in the participation rates of each age-sex group over the 1955–72 period was obtained. That average annual change, times 5, was taken as representative of the average observed 5-year change in the participation rate of each age-sex group.

Step 2. Each of the observed 5-year changes in participation rates was then gradually reduced by a constant proportion for successive 5-year periods, so as to reduce all changes to approximately zero in 50 years (that is, in 10 5-year periods). Such a "tapering" of trends is designed to prevent the occurrence of future rates that might otherwise fall outside plausible (or possible) limits. It also reflects the assumption that each rate is moving toward some asymptotic level which can only be defined arbitrarily. To accomplish this reduction, a constant multiplier (M) was applied to each observed average 5-year change to obtain the projected change over the first projected period (1970–75). That change was again multiplied by M to obtain the projected change for the next 5-year period (1975–80), and so on to 1985–90. For example, the largest observed 5-year change was −4.64 percentage points (among males 65 to 69); the multiplier (M) was assigned a value such that $4.64 \times M^{10} < 0.05$. In this case, M = .63. Similarly, the smallest observed 5-year change (among women 65 to 69) was −.22; here, the appropriate value for M is .84.

Step 3. The projected 5-year change for each age-sex group, 1970–75, added algebraically to the 1969–71 average labor force participation rate for the specified group (used as a base) yields the projected participation rate for 1975. Repeating this procedure yields projected participation rates for 1980, 1985, and 1990.

Step 4. For women in the childbearing ages (16 to 49), the trends in the ratio of the observed participation rates among women with children under 5 and those without children under 5 to the participation rates for all women in the specified age groups were estimated and projected. The projected ratios were then used to obtain projected participation rates for women with and without children under 5, by age, to 1990.

Step 5. The percentages of women in each age group (16 to 49) who would have children under 5, consistent with the fertility levels of the Bureau of the Census' Series C, D, E, and F projections of population (as given in *Current Population Reports*, Series P-25, No. 493) were estimated for the years 1975, 1980, 1985, and 1990. These percentages were then applied to the projected total population of women in these ages to obtain the number of women with and without children under 5 for the target years.

Step 6. The projected participation rates for women with and without children under 5 (as obtained in step 4) were then applied to the projected numbers of women with and without children under 5 (by age), yielding a projected labor force consistent with the Series C, D, E, and F population projections.

Step 7. An analysis of recent trends in the fertility of American women and of information relating to the fertility expectations of young married women led to the decision to adopt the Series E projections for the basic set of labor force projections. Aggregating the projected labor force of women 16 to 49, by presence of children under 5, and dividing by the corresponding population produced a final projected set of participation rates for all women 16 to 49 for the target years, consistent with Series E population projections.

Step 8. On the assumption that changes in fertility would not affect the participation rates for men or for women 50 and over, the projected labor force for these latter groups was obtained by multiplying the projected population by the projected participation rates obtained in step 3. □

———*FOOTNOTES*———

[1] These projections supersede those which were presented by Sophia C. Travis in "The U.S. labor force: projections to 1985," *Monthly Labor Review*, May 1970, pp. 3–12, reprinted as Special Labor Force Report 119. Information by color or race, a category included in the earlier report, is not yet available, and will be published in a forthcoming report in 1974. The new projections are based on the Series E projections of population, as given in the *Current Pop-*

ulation Reports. Series P-25, No. 493. They incorporate the Bureau of Labor Statistics current judgments and assumptions concerning anticipated future developments in the labor force participation rates of the several age-sex groups in the population of working age (16 and over).

[2] The declines which have been observed in the labor force participation rates of men in the central working ages (25 to 54 years old) have been attributed, in part, to the availability of disability payments to men under 50 years old. See the communication by Joseph L. Gastwirth, "On the decline of male labor force participation." *Monthly Labor Review*, October 1972, pp. 44–46.

[3] The most recent tables of average expected working life for men show a continuing decline at all ages. See Howard N. Fullerton, "A table of expected working life for men, 1968." *Monthly Labor Review*, June 1971, pp. 49–55.

[4] The general fertility rate is defined as the number of births in a specified calendar year per 1,000 women 15 to 44 years old at the midpoint of the given year.

[5] The need for alternative sets of projections, and for projections expressed in terms of interval-estimates rather than point-estimates has long been recognized. However, the demand for a single "basic" projection (or forecast) is imperative when such a projection is to be used as a basis for other projections, or as an element in program planning. For recent recommendations in this regard, see Marc Rosenblum, "On the accuracy of labor force projections," *Monthly Labor Review*, October 1972, pp. 22–29.

[6] Obviously, adjustments for changing fertility levels provide only a partial explanation for the growing labor force participation of women. Furthermore, fertility may itself reflect increased opportunity for labor force participation and the material rewards associated with such participation —factors which are in turn influenced by increasing educational attainment. For an illuminating discussion of the potential impact of alternative national goals on the economic activity of women, see Sonia S. Gold, "Alternative National Goals and Women's Employment," *Science*, Feb. 16, 1973, pp. 656–60.

Useful suggestions for the improvement of long-range labor force projections by taking into account the "causal determinants" of labor force participation are provided by Jacob Mincer, "Labor-Force Participation and Unemployment: A Review of Recent Evidence," with discussions by W. G. Bowen, T. Aldrich Finegan, Frank C. Pierson, and Richard A. Easterlin, in Robert A. Gordon and Margaret S. Gordon, eds., *Prosperity and Unemployment* (New York, John Wiley & Sons, Inc., 1966), pp. 73–134; and by John G. Myers, "Some Basic Factors in Long Range Economic Projections." *1972 Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, pp. 170–74. A limited amount of research along these lines is underway in the Bureau of Labor Statistics. It is hoped that the findings of such research will ultimately permit the development of labor supply projections which reflect explicit demand assumptions—something which trend extrapolations can never do.

[7] The 1964 BLS projection appeared in the February 1965 issue of the *Monthly Labor Review*, and was reprinted as Special Labor Force Report 49.

[8] The participation rates shown in this report are obtained by dividing the total labor force by the total population (times 100). To compare these rates with those published on a current basis in *Employment and Earnings*, or with time-series published in the *Manpower Report of the President* or in the *Handbook of Labor Statistics*, it is necessary to adjust the population in the denominator to remove inmates of institutions. The resultant rates are generally 0.5 to 1.0 percent higher. A similar adjustment is necessary to obtain projections of the civilian labor force and corresponding participation rates, based on the civilian noninstitutional population. That adjustment involves subtracting the Armed Forces from both the numerator and the denominator, and subtracting inmates of institutions from the denominator. The above projections assume an Armed Forces of 2.0 million in 1980, 1985, and 1990, 1,960,000 men and 40,000 women. The projected number of women in the Armed Forces may be too conservative. See Nancy Goldman, "The utilization of women in the military." *The Annals* of the American Academy of Political and Social Science, March 1973, pp. 107–16.

Total labor force participation rates based on total noninstitutional population, and the civilian labor force and civilian noninstitutional population participation rates, will be provided in appendix tables with the forthcoming reprint of the above report.

Appendix

This report contains, in addition to the article from the July 1973 issue of the Monthly Labor Review, the following material:

Explanatory note

The projected labor force participation rates in this article were based on the projected total population including persons in institutions, whereas published historical and current rates are based on the noninstitutional population. 1/ In order to facilitate comparisons with historical data, the projected rates have been recomputed on a noninstitutional population base and are presented in the following tables. The projected civilian labor force and participation rates are also shown.

The noninstitutional population was projected by assuming that the proportion of the projected population in each age-sex group who would be in institutions would be the same as reported in the 1970 Census of Population (the latest available at the time the projections were made and the basis of current estimates of the institutional population.)

Conversion of the projected total labor force and total noninstitutional population to the civilian labor force and civilian noninstitutional population involves subtracting from both the projected size of the Armed Forces, which was assumed to remain constant from 1980 to 1990 at 2,000,000, comprising 1,960,000 men and 40,000 women.

1/ These rates are published in the U.S. Department of Labor's Handbook of Labor Statistics and Employment and Earnings (BLS), and the Manpower Report of the President.

Supplementary tables

Table A. Total labor force participation rates based on total noninstitutional population, by age and sex, annual average, selected years 1950 to 1972, and projected 1980, 1985, and 1990

Age and sex	Actual							Projected		
	1950	1955	1960	1965	1968	1970	1972	1980	1985	1990
BOTH SEXES										
Total, 16 years and over	59.9	60.4	60.2	59.7	60.7	61.3	60.2	61.7	62.2	62.4
MALES										
Total, 16 years and over	86.8	86.2	84.0	81.5	81.2	80.6	79.7	79.2	79.5	79.6
16 to 19 years	65.9	63.0	59.4	56.7	58.3	58.4	59.9	56.6	56.1	56.0
16 and 17 years	52.0	49.5	46.8	44.6	46.8	47.5	48.3	46.4	46.1	45.9
18 and 19 years	79.0	77.1	73.6	70.0	70.2	69.9	72.0	66.5	65.8	65.3
20 to 24 years	89.1	90.8	90.2	86.0	86.5	86.6	85.9	84.0	83.5	83.1
25 to 34 years	96.2	97.7	97.7	97.4	97.1	96.6	95.9	95.7	95.6	95.5
25 to 29 years	(1/)	97.2	97.0	96.9	96.4	95.8	94.9	94.8	94.6	94.5
30 to 34 years	(1/)	98.3	98.3	98.0	98.0	97.5	97.0	96.8	96.6	96.5
35 to 44 years	97.6	98.1	97.7	97.4	97.2	97.0	96.5	96.1	95.9	95.7
35 to 39 years	(1/)	98.2	97.9	97.9	97.5	97.5	96.8	96.5	96.3	96.2
40 to 44 years	(1/)	98.0	97.5	97.0	97.0	96.5	96.2	95.5	95.3	95.1
45 to 54 years	95.8	96.5	95.8	95.6	94.9	94.3	93.3	92.9	92.7	92.5
45 to 49 years	(1/)	97.1	96.6	96.1	95.9	95.4	94.6	94.1	93.8	93.6
50 to 54 years	(1/)	95.7	94.8	95.0	93.9	93.1	91.9	91.7	91.4	91.1
55 to 64 years	86.9	87.9	86.8	84.7	84.3	83.0	80.5	80.1	79.2	78.6
55 to 59 years	(1/)	92.5	91.6	90.2	90.0	89.5	87.4	87.7	87.2	86.9
60 to 64 years	(1/)	82.5	81.2	78.0	77.3	75.0	72.5	71.3	70.4	69.9
65 years and over	45.8	39.6	33.1	27.9	27.3	26.8	24.4	22.1	20.9	20.1
65 to 69 years	(1/)	57.0	46.8	43.0	43.0	41.6	36.9	36.4	35.2	34.4
70 years and over	(1/)	28.1	24.4	19.1	17.9	17.7	16.7	13.4	12.3	11.6
FEMALES										
Total, 16 years and over	33.9	35.7	37.8	39.3	41.6	43.4	43.9	45.6	46.2	46.5
16 to 19 years	41.0	40.7	39.4	38.1	42.0	44.0	45.9	45.7	46.6	47.2
16 and 17 years	30.1	28.9	29.1	27.7	31.7	34.9	36.6	36.1	36.9	37.4
18 and 19 years	51.3	51.0	51.1	49.4	52.5	53.7	55.6	55.0	55.9	56.3
20 to 24 years	46.1	46.0	46.2	50.0	54.6	57.8	59.1	63.5	65.1	66.4
25 to 34 years	34.0	34.9	36.0	38.6	42.6	45.0	47.6	50.4	51.1	51.6
25 to 29 years	(1/)	35.3	35.7	38.9	43.2	45.2	49.2	52.0	52.5	53.2
30 to 34 years	(1/)	34.7	36.3	38.2	41.9	44.7	45.8	48.5	49.8	50.2
35 to 44 years	39.1	41.6	43.5	46.1	48.9	51.1	52.0	53.5	54.5	55.4
35 to 39 years	(1/)	39.2	40.8	43.6	46.4	49.2	50.2	52.1	53.3	54.0
40 to 44 years	(1/)	44.1	46.3	48.5	51.2	52.9	53.6	55.1	56.3	57.0
45 to 54 years	38.0	43.8	49.8	50.9	52.3	54.4	53.9	56.6	57.7	58.3
45 to 49 years	(1/)	45.9	50.7	51.7	52.6	55.0	54.4	57.1	58.1	58.8
50 to 54 years	(1/)	41.5	48.7	50.1	52.1	53.8	53.3	56.1	57.2	57.9
55 to 64 years	27.0	32.5	37.2	41.1	42.4	43.0	42.1	45.1	45.7	46.1
55 to 59 years	(1/)	35.6	42.2	47.1	47.9	49.0	48.2	51.6	52.7	53.3
60 to 64 years	(1/)	29.0	31.4	34.0	36.1	36.1	35.4	37.8	38.7	39.2
65 years and over	9.7	10.6	10.8	10.0	9.6	9.7	9.3	9.1	9.0	8.8
65 to 69 years	(1/)	17.8	17.6	17.4	17.0	17.3	17.0	16.8	16.8	16.7
70 years and over	(1/)	6.4	6.8	6.1	5.8	5.7	5.4	5.3	5.1	5.0

1/ Not available.

Table B. Civilian noninstitutional population, civilian labor force, and civilian labor force participation rates, by age and sex, actual 1970 and projected, 1980, 1985, and 1990

(Numbers in thousands)

Age and sex	Armed Forces		Percent of total population in institutions - projected, 1980-'90	Civilian noninstitutional population (July 1)				Civilian labor force (annual averages)				Civilian labor force participation rates (Percent of civilian noninstitutional population in civilian labor force)			
	Actual	Projected,		Actual	Projected			Actual	Projected			Actual	Projected		
	1970	1980-'90		1970	1980	1985	1990	1970	1980	1985	1990	1970	1980	1985	1990
BOTH SEXES															
Total, 16 years and over	3,187	2,000	-	137,105	163,033	171,276	178,502	82,714	99,809	105,716	110,576	60.3	61.2	61.7	62.0
MALES															
Total, 16 years and over	3,148	1,960	-	64,324	777,079	81,038	84,606	51,194	60,630	64,057	66,947	79.7	78.7	79.1	79.1
16 to 19 years	389	231	-	7,154	8,016	6,831	6,736	4,005	4,437	3,731	3,670	56.0	55.4	54.6	54.5
16 and 17 years	31	19	1.09	3,855	4,047	3,458	3,317	1,808	1,868	1,584	1,511	46.9	46.2	45.8	45.6
18 and 19 years	358	212	1.12	3,299	3,969	3,373	3,419	2,197	2,569	2,147	2,159	66.6	64.7	63.7	63.2
20 to 24 years	1,670	942	1.24	6,855	9,592	9,235	7,967	5,709	7,910	7,554	6,462	83.3	82.5	81.8	81.1
25 to 34 years	663	471	-	11,763	17,832	19,828	20,322	11,311	17,052	18,929	19,382	96.2	95.6	95.5	95.4
25 to 29 years	399	274	1.21	6,420	9,438	10,285	9,936	6,110	8,934	9,715	9,369	95.2	94.7	94.5	94.3
30 to 34 years	264	197	1.14	5,343	8,394	9,543	10,386	5,201	8,118	9,214	10,013	97.3	96.7	96.6	96.4
35 to 44 years	354	267	-	10,811	12,072	14,982	17,921	10,464	11,584	14,350	17,131	96.8	96.0	95.8	95.6
35 to 39 years	247	178	1.06	5,154	6,569	8,391	9,532	5,012	6,331	8,074	9,159	97.2	96.4	96.2	96.1
40 to 44 years	107	89	1.01	5,657	5,503	6,591	8,389	5,452	5,253	6,276	7,972	96.4	95.5	95.2	95.0
45 to 54 years	69	46	-	11,060	10,620	10,471	11,749	10,417	9,862	9,698	10,863	94.2	92.9	92.6	92.5
45 to 49 years	48	31	1.03	5,804	5,221	5,441	6,504	5,528	4,912	5,103	6,085	95.2	94.1	93.8	93.6
50 to 54 years	21	15	1.10	5,256	5,399	5,030	5,245	4,889	4,950	4,595	4,778	93.0	91.7	91.4	91.1
55 to 64 years	3	3	-	8,590	9,646	9,743	9,298	7,124	7,727	7,713	7,304	82.9	80.1	79.2	78.6
55 to 59 years	3	3	1.19	4,717	5,197	5,065	4,727	4,218	4,555	4,418	4,109	89.4	87.7	87.2	86.9
60 to 64 years	-	-	1.42	3,873	4,449	4,678	4,571	2,906	3,172	3,295	3,195	75.0	71.3	70.4	69.9
65 years and over	-	-	-	8,091	9,301	9,948	10,613	2,164	2,058	2,082	2,135	26.7	22.1	20.9	20.1
65 to 69 years	-	-	2.47	3,075	3,543	3,757	3,965	1,278	1,289	1,322	1,365	41.6	36.4	35.2	34.4
70 years and over	-	-	5.25	5,016	5,758	6,191	6,648	886	769	760	770	17.7	13.4	12.3	11.6
FEMALES															
Total, 16 years and over	39	40	-	72,781	85,954	90,238	93,896	31,520	39,179	41,659	43,629	43.3	45.6	46.2	46.5
16 to 19 years	9	8	-	7,381	8,014	6,872	6,740	3,241	3,661	3,195	3,180	43.9	45.7	46.5	47.2
16 and 17 years	-	-	.53	3,802	3,948	3,379	3,226	1,324	1,427	1,247	1,205	34.8	36.1	36.9	37.4
18 and 19 years	9	8	.34	3,579	4,066	3,493	3,514	1,917	2,234	1,948	1,975	53.6	54.9	55.8	56.2
20 to 24 years	18	18	.28	8,459	10,354	10,003	8,758	4,874	6,574	6,505	5,808	57.6	63.5	65.0	66.3
25 to 34 years	6	9	-	12,683	18,373	20,226	20,673	5,698	9,247	10,330	10,669	44.9	50.3	51.1	51.6
25 to 29 years	4	6	.30	6,904	9,679	10,477	10,128	3,114	5,032	5,499	5,381	45.1	52.0	52.5	53.1
30 to 34 years	2	3	.35	5,779	8,694	9,749	10,545	2,584	4,215	4,831	5,288	44.7	48.5	49.6	50.2
35 to 44 years	4	3	-	11,672	12,846	15,673	18,444	5,967	6,866	8,557	10,216	51.1	53.5	54.6	55.4
35 to 39 years	2	2	.39	5,600	6,975	8,712	9,761	2,757	3,630	4,639	5,266	49.2	52.0	53.3	54.0
40 to 44 years	2	1	.45	6,072	5,871	6,961	8,683	3,210	3,236	3,918	4,950	52.9	55.1	56.3	57.0
45 to 54 years	2	2	-	12,013	11,554	11,338	12,620	6,531	6,535	6,540	7,362	54.4	56.6	57.7	58.3
45 to 49 years	1	1	.54	6,287	5,617	5,823	6,899	3,452	3,204	3,385	4,053	54.9	57.0	58.1	58.8
50 to 54 years	1	1	.63	5,726	5,937	5,515	5,721	3,079	3,331	3,155	3,309	53.8	56.1	57.2	57.8
55 to 64 years	-	-	-	9,658	11,214	11,397	10,844	4,153	5,057	5,213	5,003	43.0	45.1	45.7	46.1
55 to 59 years	-	-	.75	5,206	5,921	5,760	5,356	2,547	3,055	3,033	2,853	48.9	51.6	52.7	53.3
60 to 64 years	-	-	.90	4,452	5,293	5,637	5,488	1,606	2,002	2,180	2,150	36.1	37.8	38.7	39.2
65 years and over	-	-	-	10,915	13,599	14,729	15,817	1,056	1,239	1,319	1,391	9.7	9.1	9.0	8.8
65 to 69 years	-	-	1.88	3,720	4,509	4,849	5,168	644	758	814	864	17.3	16.8	16.8	16.7
70 years and over	-	-	6.75	7,195	9,090	9,880	10,649	412	481	505	527	5.7	5.3	5.1	5.0

Table C. Projected total labor force of women 16 to 49 years old, by age and presence of children under 5, under alternative fertility assumptions, 1980, 1985, and 1990

(Numbers in thousands)

Year and series	Total, 16 to 49 years	16 and 17 years	17 and 18 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years
A. Projected labor force participation rate (all series)									
Women with children under 5:									
1980	-	22.2	35.8	42.9	33.7	31.9	32.7	31.5	36.6
1985	-	21.9	36.9	45.2	35.2	33.2	33.7	32.2	38.3
1990	-	21.6	37.6	47.1	36.2	34.2	34.5	32.8	39.1
Women without children under 5:									
1980	-	36.2	56.7	74.6	68.0	56.6	55.6	56.4	57.0
1985	-	36.9	57.5	76.2	69.8	58.1	56.9	57.6	58.1
1990	-	37.4	57.9	77.2	70.9	58.9	57.6	58.3	58.7
B. Projected total labor force:									
Women with children under 5:									
Series "D" -- 1980	5,525	17	153	1,872	1,805	1,081	431	132	34
1985	6,416	14	136	1,975	2,207	1,326	567	156	35
1990	6,665	15	139	1,800	2,263	1,549	663	195	41
Series "E" 1/ 1980	4,712	14	129	1,572	1,540	935	376	116	30
1985	5,438	12	114	1,660	1,864	1,132	489	136	31
1990	5,620	11	117	1,513	1,902	1,307	566	168	36
Series "F" -- 1980	4,277	12	111	1,384	1,404	871	355	111	29
1985	4,778	10	98	1,423	1,623	1,018	449	128	29
1990	4,864	9	100	1,298	1,632	1,134	505	153	33
Women without children under 5:									
Series "D" -- 1980	23,395	1,408	2,075	4,500	2,965	3,023	3,162	3,093	3,169
1985	24,811	1,221	1,807	4,332	2,960	3,363	4,021	3,748	3,349
1990	26,648	1,341	1,832	3,843	2,779	3,567	4,539	4,736	4,011
Series "E" 1/ 1980	24,879	1,413	2,113	5,020	3,498	3,283	3,256	3,121	3,175
1985	26,573	1,235	1,842	4,863	3,641	3,702	4,152	3,783	3,355
1990	28,345	1,194	1,866	4,313	3,485	3,984	4,702	4,783	4,018
Series "F" -- 1980	25,671	1,417	2,142	5,346	3,772	3,397	3,291	3,130	3,176
1985	27,764	1,237	1,866	5,263	4,120	3,902	4,219	3,799	3,356
1990	29,629	1,140	1,891	4,667	4,014	4,282	4,802	4,810	4,023

1/ Assumed in basic projection.

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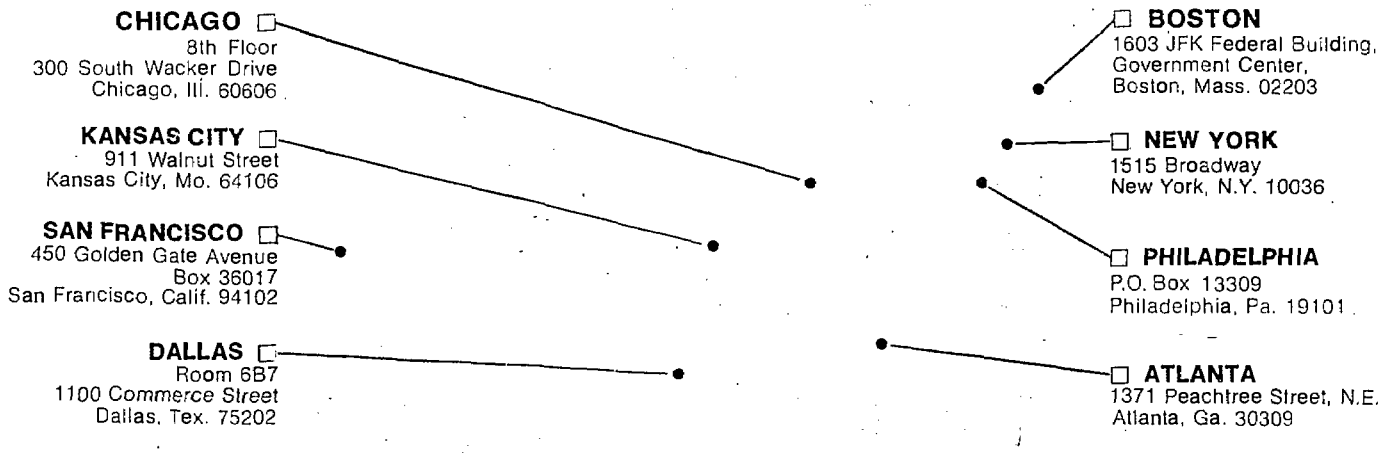

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