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During the latter half of the seventies, the civilian labor force of the United States is estimated to expand by 9.1 million, reaching 101.7 million by 1980. This increase, which will complete the absorption of the post World War II "baby boom" into the labor force, implies an average annual growth rate of 1.9 percent, somewhat below the growth rate of the early seventies. After 1980, the rate of growth should decrease even further, averaging only 1.1 percent a year during the eighties. Even at this lower rate, however, the labor force is expected to rise to 108.6 million in 1985 and to 113.8 in 1990.

The labor force participation rates of women have been increasing rapidly for many years, and this increase is projected to continue, although at a lesser pace, through 1990 (table 1 and 2). The number of women in the labor force, 37.0 million in 1975, is projected to rise by 11.6 million by 1990, an increase of 1.8 percent per year. This represents a slightly slower rate of growth than experienced over the early seventies, reflecting a projected increase in births during the late seventies and early eighties and, most of all, the drop after 1985 in the number of persons at the ages at which people enter the labor force.

Although the labor force participation rate of men is expected to continue its gradual historical decline over the same period, the male civilian labor force, which numbered 55.6 million in 1975, is still expected to grow by 9.6 million between 1975 and 1990, or by 1.1 percent a year (table 1). Despite the slower rate of growth for men than for women, men are still expected to comprise 57 percent of the labor force in 1990.

In terms of its age composition, civilian labor force growth between 1975 and 1990 will be heavily concentrated in the central age groups. As shown below, the youth labor force (age 16-24) is actually expected to decline in size by 1990, and the elderly labor force (age 55 and over) is projected to be only slightly higher in 1990 than in 1975.

Age group	1975 actual (000)			
		1980	1985	1990
16-24 years	22,266	24,266	23,067	20,952
25-54 years 55 years and	56,182	62,497	70,616	78,567
over	14,165	14,910	14,919	14,320

These estimates of future labor force growth, which are discussed in detail below, were derived as part of the Bureau of Labor Statistics' periodic reassessment of its projections of the growth trends for the various sections of the American economy. 1/ As described in detail at the end of this report, these labor force projections were made essentially by extrapolating the observed trends in the labor force participation rates of the various groups of working age and by then applying the results to the Bureau of the Census projected population levels for these groups. These population estimate are not subject to much uncertainty, as they deal with persons who have already been born and who, by and large, can be counted. There is, however, a much greater element of uncertainty with regard to the future course of the labor force participation rates, of the various population groups, and it is within this context that these labor force projections should be viewed.

# Changes in the youth labor force

The principal reason for the projected slowdown in labor force growth during the 1980's is the sharp drop in the birth rate during the 1960's which will result in a smaller number of youth reaching labor force age than in recent years. In fact the youth labor force (age 16 to 24) is already growing at a slower pace. From 22.3 million in 1975, it is projected to increase by 2.0 million to 1980, a much smaller change than the 4.4 million advance between 1970 and 1975 (table 2). After 1980, the youth labor force is actually expected to decline, dropping by 1.2 million by 1985 and by a further 2.1 million, to 20.9 million, by 1990 (table 1). The shrinking of the youth labor force, will occur first among teenagers and then among youths 20 to 24.

Growth of the teenage labor force is actually projected to level off during the late 1970's after increasing only slightly, by about 330,000, from its 1975 level. Over the eighties, however, their labor force is expected to decrease by 1.5 million, reflecting the sharp drop in the teenage population. Because of the drop in their population, it is expected that by 1990 teenagers will represent only 6.7 percent of the labor force, a significantly smaller proportion than the 9.5 percent which they accounted for in 1975.

With large numbers of the present teenage cohorts passing through their early 20's over the next few years, the labor force group age 20 to 24 should grow very rapidly until the early 1980's, at which point it, too, will begin to decline. The labor force of women aged 20 to 24 is projected to have the greatest growth between 1975 and 1980, increasing by about 1.0 million. It should grow a further quarter of a million during the first half of the 1980 decade, but will then recede rapidly, dropping by nearly 700,000 by 1990 (table 1 and 2). The male labor force 20 to 24 years of age should increase by about 700,000 during the late 1970's. It is then expected to decrease by 300,000 during the early 1980's and by more than one million during the 1985-1990 period.

The completion of the entry of the "baby boom" into the labor force over the next few years will have the effect of making the overall work force younger. For example, the median age of the labor force, which already decreased from 39.6 years in 1970 to 36.0 years in 1975, is projected to drop even further to 34.9 years by 1980. Although the youth labor force will shrink after 1980, the median age of the labor force should increase only slightly during the decade, to about 36.5 years in 1990 (table 3). This is because the baby boom cohorts will still be relatively young, the oldest being only 39 in 1990. 2/

# The prime age labor force

The prime age labor force--that composed of persons 25 to 54--should grow more rapidly than the other two groups over the next fifteen years. It is projected to expand at a rate of 2.1 percent a year during the seventies and at a rate of 2.4 percent per year in the early eighties, before returning to the more moderate growth rates of the seventies (table 2). The principal factor behind this projected increase is the aging of the baby boom cohorts; by 1990, all these post-World War II "babies" will be in the prime ages. A second factor is the expected continuation of the rising trend in the labor force participation of women. As a result, the proportion of the labor force accounted for by prime age workers is expected to increase from 61 percent in 1975, to 65 percent in 1985 and to about 70 percent in 1990.

As this labor force groups grows, both in absolute and relative terms, the economy should have the potential for increased productivity. Also, with a much larger proportion of the work force in ages where the probability of unemployment is lowest, the Nation's unemployment rate (ceteris paribus) should tend to be somewhat lower than in recent years. Moreover, the conventional unemployment rate should be more similar to Perry's weighted unemployment rate because of the larger proportion of the labor force composed of prime age workers. 3/

Further, the capacity of the labor force to carry social responsibilities (such as Social Security) should be enhanced during this period. One way of illustrating this is to examine the projected changes in the ratio of nonworkers to workers, generally referred to as the "economic dependency" ratio: 4/

<u>1975</u>	1980	1985	1990

Dependency Ratio 125.4 114.7 111.5 111.4

As shown, the average number of nonworkers for each 100 labor force members are projected to drop from about 125 in 1975 to 111 in 1990. This decline reflects essentially the absorption of the baby boom cohorts into the labor force. (Of course, as the baby boom cohorts will begin to retire in large numbers during the late 1990's and early in the next century, the pendulum will begin to swing in the other direction. But this matter, which is of much concern in terms of the long-term health of the Social Security System, is outside the scope of this paper.)

As shown both in table 1 and 2, the projected growth of the prime age labor force between 1975 and 1990 will also be a reflection of the aging of the post World War II baby boom. The projected growth of 6.3 million in the latter seventies, will occur mainly among persons 25 to 34 years old, and the 8.1 million growth of the early eighties should be concentrated among 35 to 44 year olds. This latter age group should also exhibit the most growth in the late eighties. To the economy as a whole, the increase in the labor force of these age groups is highly favorable. However, because of the "crowding" of workers in these central age groups, the individual members of these groups are likely to encounter more competition for certain jobs, such as junior management positions, the number of which is generally related to the number of workers of all ages. 5/

A second factor contributing to the growth of the labor force among workers of prime working age is the increased participation by women, particularly those of child bearing age. Historically, participation rates for women at the primary childbearing ages have been significantly lower than both those of younger and of somewhat older women. However, this difference, particularly in relation to older women, has been getting smaller and smaller. While the rising trend in participation among women in the most active years of childbearing is attributable partly to the fact that many have either postponed their childbearing or have decided not to have children, it is also clearly evident among those--and they are still a large number--who are mothers of very young children. 6/

Although the growth of the prime-age female labor force is not projected to be as great in the late seventies as it was during the early part of this decade, it is expected to increase again during the early eighties, when most of the baby boom cohorts will enter this age group. Altogether, the number of prime age women in the labor force is projected to rise from 21.6 million in 1975 to 32.5 million in 1990, with their proportion of the labor force increasing from 23 to 29 percent (table 3). This represents a 2.7 percent annual average rate of increase over the 1975-90 period. Despite the fact that the prime age females make up a smaller proportion of the labor force than the prime age males, they should account for roughly half of the total labor force growth during the next fifteen years (table 2).

### The older labor force

In general, the number of older workers-those 55 years and over--is projected to rise somewhat in the late seventies, remain unchanged over the early eighties, and then decline during the late eighties. The participation rates of men in these age groups have been declining for some time. For example, the rate of men age 55 to 64 fell from 82 to 76 percent between 1970 and 1975, and it is projected to drop to about 70 percent by 1990. 7/ Rates for men 65 and over are also expected to continue their long run decrease. However, their labor force is still expected to increase somewhat during the late seventies because of the continued growth of their population. During the early eighties, there should be little change with decreases in

the number of older men in the labor force, offset by increases in the number of older women, whose participation rates are expected to show little change. In the late eighties, the labor force 55 and over is projected to fall, and the 1990 level of 14.3 million should be only slightly higher than the 1975 average for this group. This is probably a short term phenomen which is related to a decrease in the population 55-64, that is the surviving of the babies born during the low birth years of the 1930's. These population groups are expected to increase again after 1995.  $\underline{8}/$ 

Overall, the proportion of the total labor force accounted for by persons 55 and over should decline from 15 percent in 1975 to 13 percent in 1990 (table 3). The decrease in the proportion of older workers in the labor force has several implications which are difficult to quantify. On the one hand, older workers bring to the workplace job experience that cannot always be obtained in school. On the other hand, the older work force has a lower proportion of highly educated workers, thus their withdrawal will increase the educational attainment of the work force. It is therefore difficult to assess the impact of a smaller proportion of older workers on the productivity of the labor force. One probable effect will be to enhance promotion opportunities for younger members of the labor force, indeed, some of the current pressure for earlier retirement may be caused by the competition by younger workers for higher level jobs.

#### Footnotes

1/ These projections supersede those which were presented by Denis F. Johnston in "The U.S. labor force: projections to 1990," Monthly Labor Review, July 1975, pp. 3-13, reprinted as Special Labor Force Report 156. These labor force projections also supersede the projections presented by Ronald E. Kutscher (without demographic detail) in "Revised BLS projections to 1980 and 1985: an overview," Monthly Labor Review, March 1976, pp. 3-5. The new projections are based on the three projections of population as given in the Current Population Reports, Series, P-25, No. 601 (Bureau of the Census, 1975). Most of the discussion in this article is in terms of the Series II projection in that publication. These labor force projections 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 "baby boom' cohort" is defined as those persons born from 1950 to 1964, a period which encompasses the peak year of births, 1961. Thus, the "baby boom" cohort was 10 to 24 years of age in 1975 and will be 25 to 39 by 1990.

<u>3</u>/ George L. Perry, "Changing Labor Markets and Inflation," <u>Brookings Papers on Economic</u> <u>Activity</u> (3:1970), pp. 411-441.

4/ There is no standard definition of the "economic dependency" ratio. In this case, it is defined as the persons not in the labor force (i.e. including all those less than 16 years old) divided by the labor force. See Henry S. Shryock and Jacob S. Siegel and associates, The Methods and Materials of Demography, (Bureau of the Census, 1973), page 235.

5/ One of the most consistant advocates of the concept that the baby boom cohort will experience difficulties at each stage of their life cycle is Denis F. Johnston. His most recent statement of this theme is "The Aging of the Baby Boom Cohorts," Statistical Reporter, March 1976, pp. 161-165.

6/ For further discussion of recent trends in female labor force participation, see three articles on the labor force in the November 1975 Monthly Labor Review: Allyson Sherman Grossman, "Women in the Labor Force: the Early Years," pp. 3-9; Deborah Pisetzner Klein, "Women in the Labor Force: the Middle Years," pp. 10-16; Beverly Johnson McEaddy, "Women in the Labor Force: the Later Years," pp. 17-24.

7/ For discussion of topics related to declining male labor force participation rates and related topics, see Paul O. Flaim "Discouraged Workers and Changes in Employment," <u>Monthly Labor Review</u>, March 1973, pp. 8-16; Robert L. Stein, "Reasons for Nonparticipation in the Labor Force," <u>Monthly Labor Review</u>, July 1967, pp. 22-27; Joseph L. Gastwirth, "On the Decline of Male Labor Force Participation," <u>Monthly Labor Review</u>, November 1973, pp. 53-54 and William V. Deutermann, Jr., "Declining Labor Force Participation of Prime Age Men," (Washington, D.C.; Bureau of Labor Statistics, 1976) unpublished.

8/ Jacob S. Siegel, Demographic Aspects of Aging and the Older Population in the United States, Current Population Reports: Special Studies: Series P-23, No. 59 (U.S. Bureau of the Census, 1976).

# Table 1. Civilian nominstitutional population, civilian labor force, and civilian labor force participation rate, by sge and sex, actual 1970 and 1975 and projected 1980, 1985, and 1990

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Turned is the concentral	Civilian noninstitutional population, July 1			Civilian labor force, annual averages					Civilian lahor force participation rates, annual averages (percent of population in labor force)						
	Actu	<u>al</u>		Projected		Act	ual		Projected		Act	ual		Projected	
	1970	1975	1980	1985	1990	1970	1975	1980	1985	1990	1970	1975	1980	1985	1990
BOTH SEXES															
Total, 16 years and over 16 to 24 years 25 to 54 years 55 years and over	137,809 30,159 70,085 37,563	151,389 34,530 75,983 40,876	163,200 36,108 82,953 44,139	171,900 33,389 91,942 46,569	178,967 30,078 101,138 47,751	82,714 17,829 50,388 14,497	92,613 22,265 56,182 14,165	101,673 24,266 62,497 14,910	108,602 23,067 70,616 14,919	L13,839 20,952 78,567 14,320	60.0 59.1 71.9 38.6	61.2 64.5 73.9 34.7	62.3 67.2 75.3 33.8	63.2 69.1 76.8 32.0	63.6 69.7 77.7 30.0
MEN										Į					1
Total, 16 years and over         16 to 19 years         16 and 17 years         18 and 17 years         20 to 24 years         25 to 34 years         35 to 44 years         35 to 54 years         55 to 54 years         55 to 54 years         55 to 54 years         55 to 54 years         60 to 64 years         65 years and over         65 to 69 years         70 years and over	64,536 7,281 3,878 3,402 6,897 11,707 10,831 11,062 8,708 4,718 3,990 8,047 3,061 4,986	71,468 8,049 4,199 3,850 8,769 14,556 10,745 11,330 9,221 4,963 4,258 8,784 3,497 5,287	77,089 8,037 4,074 3,963 9,584 17,196 12,147 10,841 9,791 5,313 4,478 9,492 3,734 5,759	81,119 6,870 3,503 3,367 3,986 18,997 14,917 10,721 10,721 10,000 5,194 4,806 10,228 3,942 6,286	84, 379 6, 485 3, 173 8, 129 19, 590 17, 471 12, 085 9, 592 4, 888 4, 704 11, 027 4, 236 6, 791	51,194 4,005 1,808 2,197 5,709 11,311 10,464 10,417 7,124 4,218 2,906 2,164 1,278 886	55,615 4,760 2,039 2,721 7,398 13,854 10,288 10,426 6,982 4,185 2,797 1,906 1,008 799	60,000 4,905 2,061 2,849 8,069 11,600 9,892 7,275 4,448 2,827 1,890 1,125 765	62,903 4,181 1,777 2,404 7,795 18,021 14,192 9,709 7,162 4,283 2,879 1,843 1,104 739	65,220 3,976 1,612 2,364 6,671 18,345 16,571 10,901 6,704 3,990 2,714 1,852 1,125 727	79.3 55.0 46.6 82.8 96.6 94.2 81.8 89.4 72.8 26.9 41.8 17.8	77.8 59.1 48.6 70.7 84.4 95.1 95.7 92.0 75.7 84.3 65.7 21.7 31.7 15.1	77.8 61.0 50.6 71.8 84.2 95.2 95.5 91.2 74.3 83.7 63.1 19.9 30.1 13.3	77.5 60.9 50.7 71.4 83.0 95.1 90.6 71.6 82.5 59.9 18.0 28.0 11.8	77.3 61.3 50.8 71.4 82.1 94.7 94.8 90.2 69.9 81.6 57.7 16.8 26.6 10.7
WOMEN															
Total, 16 years and over         16 to 19 years         16 and 17 years         18 and 19 years         20 to 24 years         25 to 34 years         35 to 44 years         45 to 54 years         55 to 54 years         55 to 54 years         60 to 59 years         60 to 64 years         65 to 69 years         70 years and over         70 years and over	73,273 7,485 3,796 3,689 8,494 12,724 11,771 11,986 9,757 5,181 4,576 11,051 3,814 7,236	79,921 8,225 4,113 4,111 9,486 15,514 11,618 12,206 10,349 5,470 4,878 12,521 4,433 8,088	86,111 8,160 3,972 4,188 10,327 18,108 13,084 11,577 11,035 5,881 5,154 13,820 4,748 9,072	90,781 7,018 3,420 3,538 10,115 19,967 15,903 11,437 11,437 11,437 11,238 5,698 5,549 15,103 5,028 10,075	94,588 6,612 3,089 3,523 8,852 20,582 12,885 10,671 5,299 5,372 16,461 5,419 11,042	31,520 3,241 1,324 1,917 4,874 5,698 5,967 6,531 4,153 2,547 1,606 1,056 644 412	36,998 4,038 1,652 2,387 6,069 8,456 6,493 6,665 4,244 2,618 1,626 1,033 640 392	41,673 4,226 1,712 2,514 7,066 10,394 7,633 6,609 4,628 2,891 1,737 1,117 692 425	45,699 3,762 1,551 2,221 7,329 12,210 9,723 6,761 4,740 2,870 1,870 1,174 453	48,619 3,649 1,448 2,201 6,659 13,077 11,678 7,795 4,514 2,703 1,811 1,250 768 482	43.0 43.3 34.9 52.0 57.4 44.8 50.7 54.4 42.5 49.2 35.1 9.6 16.9 5.7	46.3 49.1 40.2 58.1 64.0 54.5 55.9 54.6 41.0 47.9 33.3 8.2 14.4 4.8	48.4 51.8 43,1 60.0 68.4 57.4 58.3 57.1 41.9 49.2 33.7 8.1 14.6 4.7	50.3 53.6 45.4 61.5 72.5 61.2 61.1 59.1 42.2 50.4 33.7 7.8 14.3 4.5	51.4 55.2 46.9 62.5 75.2 63.5 63.0 60.3 42.3 51.0 33.7 7.6 14.2 4.4

(Numbers in thousands)

Source: The 1970 and 1975 population are estimated from Current Population Reports, Series P-25, No. 614, Labor Force data for 1970 are from Special Labor Force Report 156. The 1975 labor force data are from Current Population Survey estimates. Population projections are from Current Population Reports, Series P-25, No. 601.

Table 2. Net changes in the civilian labor force 16 years old and over, by age and sex, 1970-75, 1975-80, 1980-85 and 1985-90

		Net (in th	change ousands)		Annual average rate of change 1/ (in percent)				
Sex and age groups	1970-75	1975-80	1980-85	1985-90	1970-75	1975-80	1980-85	1985-90	
BOTH SEXES									
Total, 16 years and over         16 to 24 years         16 to 19 years         20 to 24 years         25 to 54 years         25 to 34 years         35 to 44 years         45 to 54 years         55 years and over         55 years and over	9,899 4,436 1,552 2,884 5,795 5,301 350 143 -332 -51 -281	9,060 2,001 333 1,695 6,315 4,453 2,452 -590 745 677 68	6,929 -1,199 -1,188 -38 8,119 3,468 4,682 -31 9 -1 10	5,237 -2,115 -318 -1,797 7,951 1,391 4,334 2,226 -599 -684 85	2.26 4.44 3.88 4.82 2.18 5.43 0.42 0.17 -0.46 -0.09 -1.83	1.87 1.72 .74 2.37 2.13 3.64 2.73 70 1.03 1.17 .46	$ \begin{array}{c} 1.32 \\ -1.01 \\ -2.79 \\ \underline{2'} \\ 2.44 \\ 2.44 \\ 4.36 \\ \underline{2'} \\ \underline{2'} \\ \underline{2'} \\ .07 \\ \end{array} $	0.94 -1.92 82 -2.53 2.13 .90 3.33 2.54 82 -1.18 0.56	
MEN									
Total, 16 years and over         16 to 24 years         16 to 19 years         20 to 24 years         25 to 54 years         55 years and over         55 to 64 years         65 and over	4,421 2,444 755 1,689 2,376 -400 -142 -258	4,385 816 145 698 3,293 277 293 -16	2,903 -998 -724 -301 4,061 -160 -113 -47	2,317 -1,329 -205 -1,124 4,095 -449 -458 9	1.66 4.49 3.45 5.18 1.42 88 40 -2.54	1.52 1.30 .60 1.80 1.82 .61 .82 17	0.94 -1.60 -3.19 76 2.04 -0.35 31 50	0.72 -2.35 -1.01 -3.11 1.86 -1.02 -1.32 .10	
WOMEN									
Total, 16 years and over         16 to 24 years         16 to 19 years         20 to 24 years         25 to 54 years         55 years and over         55 to 64 years         65 years and over	5,478 1,992 797 1,195 3,418 68 91 -23	4,675 1,185 188 997 3,022 468 384 84	4,026 -201 -464 263 4,058 169 112 57	2,920 -786 -113 -673 3,856 -150 -226 76	3.20 4.39 4.40 4.39 3.44 .26 .43 44	2.38 2.22 0.91 5.04 2.62 1.70 1.73 1.56	1.84 36 -2.33 .73 3.05 .58 0.48 1.00	1.24 -1.47 61 -1.93 2.52 51 98 1.25	

 $\underline{1}$ / Compounded continuously.

2/ Less than 0.05 percent.

Table 3. Distribution of civilian labor force, by age and sex, actual 1970 and 1975 and projected 1980, 1985, and 1990

	Percent distribution								
Pour and ago amoun	Act	ual							
Sex and age group	1970	1975	1980	1985	1990				
BOTH SEXES									
Total, 16 years and over 16 to 24 years 16 to 19 years 20 to 24 years 25 to 54 years 35 to 54 years 45 to 54 years 55 years and over 55 to 64 years 65 years and over Median age MEN Total, 16 years and over 16 to 24 years 20 to 24 years	100.0 21.6 8.8 12.8 60.9 20.6 19.9 20.5 17.5 13.6 3.9 39.6 61.9 11.7 4.8 6.9 20.0	100.0 24.0 9.5 14.5 60.7 24.1 18.1 18.5 15.3 12.1 3.2 36.0 60.1 13.1 5.1 8.0	100.0 23.9 9.0 14.9 61.5 26.3 18.9 16.2 14.7 11.7 3.0 34.9 59.0 12.8 4.8 8.0 27.2	100.0 21.2 7.3 13.9 65.0 27.8 22.0 15.2 13.7 11.0 2.8 35.3 57.9 11.0 3.8 7.2 20.6	100.0 18.4 6.7 11.7 69.0 27.8 24.8 16.4 12.6 9.9 2.7 36.5 57.3 9.4 3.5 5.9				
25 to 54 years	38.9 11.2 8.6 2.6 37.6	37.3 9.6 7.5 2.1 36.7	37.2 9.0 7.2 1.9 35.5	38.6 8.3 6.6 1.7 35.9	40.4 7.5 5.9 1.6 36.9				
Total, 16 years and over	38.1 9.8 3.9 5.9 22.0 6.3 5.0 1.3 39.5	39.9 10.9 4.4 6.6 23.3 5.7 4.6 1.1 34.9	41.0 11.1 4.2 6.9 24.2 5.7 4.6 1.1 34.1	42.1 10.2 3.5 6.7 26.4 5.4 4.4 1.1 34.6	42.7 9.1 3.2 5.8 28.6 5.1 4.0 1.1 35.7				

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