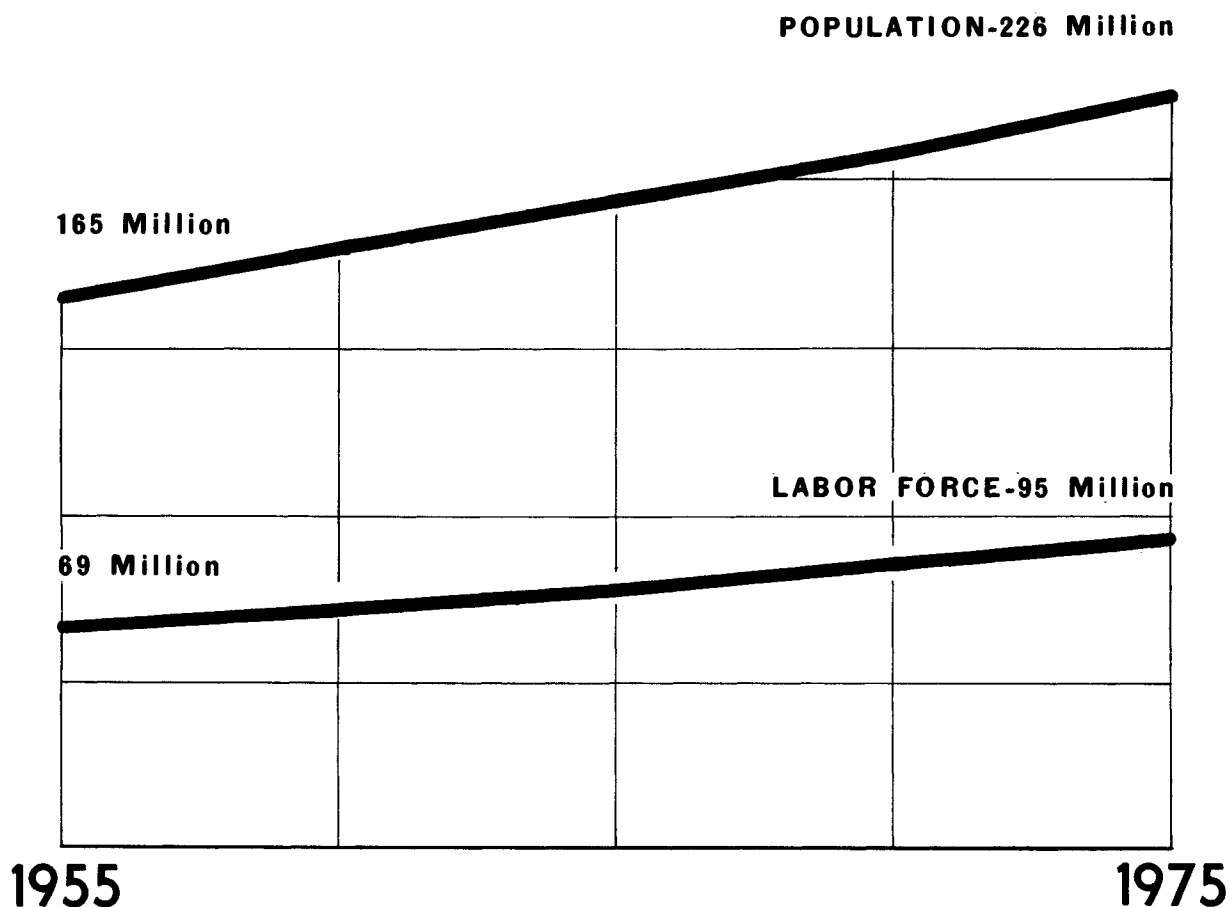


Population and Labor Force Projections for the United States, 1960 to 1975



Bulletin No. 1242

UNITED STATES DEPARTMENT OF LABOR
James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS
Ewan Clague, Commissioner

Population and Labor Force Projections for the United States, 1960 to 1975



Bulletin No. 1242

UNITED STATES DEPARTMENT OF LABOR

James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS

Ewan Clague, Commissioner

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. - Price 40 cents

CONTENTS

	<u>Page</u>
Introduction	1
Summary	2
Population growth from 1900 to 1955	3
Changes in age composition of the population	7
Some effects of population changes	7
Future population trends	9
Method of projecting population	10
Projections of the number now alive	10
Net immigration	10
Projections of births	10
Past trends in the birthrate	10
Expected trends in birthrates	12
Labor force trends	15
Increasing labor force participation of women	20
Declining labor force participation of young persons	21
Declining labor force participation of older men	21
Changes in age composition of the labor force, 1900 to 1955	22
Method of projecting the labor force	22
Men 25-64 years of age	24
Men 65 years and over	25
Young people	26
Adult women	31
Women 20-44 years of age	32
Women 45 years and over	38
The age-sex composition of the future labor force	40
Changes between 1955 and 1965	40
Changes between 1965 and 1975	41
Trends in part-time and full-time employment	42
Method of projecting part-time and full-time workers	43
Changes in the part-time composition of the future labor force	46
Implications	49

Charts

1. Birthrates, by selected age groups and order of birth, 1920-55	13
2. Population and labor force, by age and sex, April 1957	18
3. Percent of men and women in the labor force, by age groups, April 1920, 1950, and 1957	19
4. School enrollment and labor force status of population, 14-24 years of age, by sex, October 1955 and projected 1960-75	29
5. Projected proportion of women in each age group with specified number of children	35
6. Projected rates of labor force participation for women 45-64 years of age, by marital status	39
7. Projected percent of male population 65 years and over working full time and part time	45
8. Projected percent of female population 55-64 years old working full-time and part time	46
9. Projected changes in number of full-time and part-time workers, by age groups and sex, 1955-65 and 1965-75	47

Tables

1. Population of the United States, actual, 1900-58, and projected, 1965 and 1975	3
2. Births and birthrates in the United States, 1915-57	4
3. Average remaining lifetime in years at selected ages, by color and sex, 1900, 1940, 1950, and 1955	6
4. Age distribution of the population of the United States, 1900-75	8
5. Total labor force, 1890-1955	16
6. Labor force participation rates, by age and sex, April 1920, 1950, and 1957.....	17
7. Distribution of the labor force, by age and sex, June 1900 and annual averages, 1950 and 1955	23
8. Median years of school completed by civilian population, by age, March 1957	27
9. Percent of total population enrolled in school, by age and sex, actual October 1947-56 and projected 1960-75.....	28
10. Projected total labor force, annual averages 1960-65	30
11. Labor force participation rates for women in the civilian population, by marital status and age, March 1957.....	31
12. Total labor force, by age and sex, annual averages, 1955 and projected 1965 and 1975	40
13. Hours distribution of persons at work, by age and sex, annual average 1955	42
14. Persons at work by full-time and part-time status, by sex, annual averages, 1955 and projected 1965 and 1975.....	48

Appendix Tables

A-1. Population, total labor force, and labor force participation rates, by age and sex, actual 1955 and projected 1960-75	52
A-2. Persons at work, by full-time and part-time status, by age and sex, annual averages, 1955 and projected 1960-75	55

Population and Labor Force Projections in the United States 1960 to 1975¹

Introduction

Knowledge of future population and labor force growth is essential in making forecasts of the economic and social needs of our Nation. Some of the more important needs that are related directly to population change are housing, schools, food supply, transportation facilities and social services. Labor force projections indicate the number of workers who will be available to produce the goods and services required by our increasing population. Used in conjunction with industry and occupational trends they can provide specific information on the kinds of workers who will be needed. Such information is useful to many different groups. Educators need these data to plan for school program facilities and teachers; employers, to plan their personnel and staffing programs; government, to promote the training of the Nation's work force; and individuals, to chart their careers.

Moreover, the nature of the demand for goods and services is affected by the size and composition of the labor force because work itself creates demands for certain types of goods and services. An increase in the number of working wives, for example, means a greater demand for domestic services, laundries, restaurant meals, and other products designed to make housekeeping easier. In addition, the added family income provided by working wives creates a demand for many items such as larger and better equipped houses, newer cars, and newer furniture than might otherwise be possible. Increasing numbers of young workers create demands for goods and services peculiar for this group such as college training, special clothing, and recreational needs.

This bulletin presents population and labor force projections to 1975 and a detailed description of the method used in preparing the labor force projections. The estimates of the future population are one of the series published by the Bureau of the Census in their Current Population Reports, Series P-25, No. 187. Because population projections are so fundamental to the projections of the labor force, an evaluation of population trends is also included.

¹ Prepared by Sophia Cooper and Stuart Garfinkle of the Division of Manpower and Employment Statistics, Bureau of Labor Statistics.

Summary

The principal findings of this study of population and labor force growth are as follows:

1. The population of the United States will probably reach about 226 million by 1975. Current high birthrates are being maintained largely because women are having their first children sooner after marriage and their additional children in more rapid succession than in the recent past. Some increase in the size of family is also partially responsible for the recent high birthrates.

2. Between 1955 and 1965 the labor force in the United States is expected to increase by 11 million, assuming favorable economic conditions prevail. Women 35 years of age and over will account for over 4 million of the growth as a result of population increase and the tendency for more married women to work outside the home. Another 4 million will come from the increased numbers in the 14-24 age group. The greater number of men 45-64 years of age in the population will account in large part for the remaining labor force growth. Almost no change is expected among men 25-44 years of age, because by 1965, this age group will include the smaller number of persons who were born during the depression of the 1930's.

3. Between 1965 and 1975, the labor force is expected to increase by 15 million persons. Contrary to the earlier decade the male population in the central working ages (i. e., 25-44 years) will increase sharply, adding about 3-1/2 million to the labor force. Men 45 years and over will account for another 2 million of the growth. Young men and young women will add more than 5 million as a result of continued population growth in these ages. An additional 2-1/4 million of the increase will come from women over 35 and about 1-3/4 million from women 25-34 years of age.

4. The addition of these large numbers of young people and married women to the labor force will mean an unusually large increase in the number of part-time workers. Almost 4 million, or 35 percent, of the total labor force increase between 1955 and 1965 will be part-time workers, although they comprise only 15 percent of the present labor force. Between 1965 and 1975, the rise in the number of part-time workers will be almost 3-1/2 million, but they will represent a smaller proportion of the total increase than in the preceding decade.

Population Growth from 1900 to 1955

A study of population changes is a necessary starting point for projecting future manpower supply, since the number of workers available at any time depends mainly on the number of persons of working age in the population. Because population changes establish the framework for labor force trends, a brief review of the history of population growth in the United States is presented. Described also are the changes in the size and composition of the population that are likely to affect the labor force in the years ahead.

The population of the United States increased from 76 million in 1900 to 165 million in 1955 (table 1). It grew most rapidly during the first decade of this century when a record number of almost 9 million immigrants entered the country, but continued to expand rapidly between 1910 and 1930, even though immigration was substantially curtailed. During the depression of the 1930's a sharp drop in the birthrate and the virtual elimination of immigration resulted in a rate of population growth only one-third as high as that from 1900 to 1910.

Table 1. Population of the United States, actual, 1900-58
and projected, 1965 and 1975

Year	Population (thousands)			Average annual percent increase in total population	
	Total	Male	Female	Period	Percent
Actual					
1900	76,094	38,869	37,226		
1910	92,407	47,554	44,852	1900-10	2.0
1920	106,466	54,295	52,171	1910-20	1.4
1930	123,077	62,297	60,780	1920-30	1.5
1940	132,122	66,352	65,770	1930-40	.7
1950	151,683	75,530	76,153	1940-50	1.4
1955	165,248	82,001	83,245	1950-55	1.7
1958	174,064	86,207	87,858	1955-58	1.7
Projected					
1965	193,643	95,562	98,081	1958-65	1.5
1975	225,552	111,113	114,439	1965-75	1.5

Source: U. S. Department of Commerce, Bureau of the Census.

World War II marked the end of the downtrend in the rate of population growth. There was a sharp increase in the birthrate during the early war years. Marriages and births declined during 1944 and 1945, when millions of young men were overseas. War casualties also slowed the rate of population growth. After the war ended, the birthrate rose sharply. The number of babies born in 1947 reached 3.8 million compared with a yearly average of 2.4 million during the period 1935-39 (table 2). The number of births remained high (3.6 million) but stable between 1948 and 1950 and then began to climb again. More than 4 million babies have been born in every year between 1954 and 1957.

Table 2. Births and birthrates in the United States, 1915-57

Year	Number (thousands)	Rate (per 1,000 population)
1915	2,965	29.5
1920	2,950	27.7
1925	2,909	25.1
1930	2,618	21.3
1935	2,377	18.7
1940	2,559	19.4
1941	2,703	20.3
1942	2,989	22.2
1943	3,104	22.7
1944	2,939	21.2
1945	2,858	20.4
1946	3,411	24.1
1947	3,817	26.6
1948	3,637	24.9
1949	3,649	24.5
1950	3,632	24.1
1951	3,823	24.9
1952	3,913	25.1
1953	3,965	25.0
1954	4,078	25.3
1955	4,104	25.0
1956 ¹	4,220	25.2
1957 ²	4,301	25.3

¹ Provisional.

² Estimated.

Source: U. S. Department of Health, Education, and Welfare, National Office of Vital Statistics.

Changes in the death rate have also affected the growth and age composition of our population. The overall death rate in the United States has declined consistently since the turn of the century. The best way to summarize this improvement is through the measure called average remaining lifetime or the average length of life. The average length of life for white males in the United States increased from 48.2 years in 1900 to 67.3 years in 1955.

It is important to note that gains in life expectancy have not been uniform for all ages. Greatest decreases in death rates have occurred at the younger ages. The average remaining lifetime at birth for a white male increased by 19.1 years between 1900 and 1955, while at age 60 the increase was only 1.6 years (table 3).

The dramatic decline in the death rates for infants resulted from declines in deaths which were due to diarrhea and enteritis, pneumonia and influenza, premature birth and other causes. Most of this improvement is attributable to better sanitation, improved milk supply, and other factors associated with our improved standard of living. The rapid rise in the proportion of babies born in hospitals has also helped to lower infant death rates.

In addition to the dramatic reduction in infant mortality, remarkable success has also been achieved in the reduction of death rates for children. For example, under 1900 mortality conditions, about 90 percent of all 1-year-old white males could be expected to live to their 15th birthday, whereas under 1955 conditions, 99 percent could be expected to live to age 15. The reduction in deaths in this age group has resulted mainly from lower death rates for the communicable diseases of childhood--measles, scarlet fever, whooping cough, and diphtheria.

Death rates of adults have also decreased since 1900, but not nearly as markedly as those of infants and children. Higher standards of living, more medical facilities, and improved sanitation methods have all contributed to this decline. Deaths caused by pneumonia and influenza declined from 184 per 100,000 population in 1900-1904 to 28 per 100,000 in 1955. Similarly, the tuberculosis rate declined from 185 per 100,000 to less than 10 per 100,000 over the same time period. In the adult ages, however, certain rising death rates have partially offset the above declines. Deaths from diseases of the heart, for example, increased from 148 to 352 per 100,000 during this period. This increase is due in part to the drop in the death rates for other diseases, which has enabled more people to survive to the ages at which heart diseases take their greatest toll. For white males, the proportion who survive from their 15th to their 50th birthday rose from 73 percent in 1900 to 90 percent in 1955, whereas the proportion surviving from their 50th to their 75th birthday increased only from 37 percent to 46 percent.

Table 3. Average remaining lifetime in years at selected ages, by color and sex, 1900, 1940, 1950, and 1955

Age and year	White		Nonwhite	
	Male	Female	Male	Female
At birth:				
1900-1902.....	48.2	51.1	32.5	35.0
1939-41.....	62.8	67.3	52.3	55.5
1949-51.....	66.3	72.0	58.9	62.7
1955.....	67.3	73.6	61.2	65.9
At age 10:				
1900-1902.....	50.6	52.2	41.9	43.0
1939-41.....	57.0	60.8	48.5	50.8
1949-51.....	59.0	64.3	53.0	56.2
1955.....	59.6	65.6	54.9	59.2
At age 20:				
1900-1902.....	42.2	43.8	35.1	36.9
1939-41.....	47.8	51.4	39.7	42.1
1949-51.....	49.5	54.6	43.7	46.8
1955.....	50.1	55.8	45.5	49.6
At age 40:				
1900-1902.....	27.7	29.2	23.1	24.4
1939-41.....	30.0	33.2	25.2	27.3
1949-51.....	31.2	35.6	27.3	29.8
1955.....	31.7	36.7	28.6	32.0
At age 60:				
1900-1902.....	14.4	15.2	12.6	13.6
1939-41.....	15.0	17.0	14.4	16.1
1949-51.....	15.8	18.6	14.9	17.0
1955.....	16.0	19.3	15.4	18.1
At age 70:				
1900-1902.....	9.0	9.6	8.3	9.6
1939-41.....	9.4	10.5	10.1	11.8
1949-51.....	10.1	11.7	10.7	12.3
1955.....	10.3	12.2	11.7	13.8

Note: Data for 1900-1902 are for the 11 death-registration States of 1900.

Source: U. S. Department of Health, Education, and Welfare, National Office of Vital Statistics, Abridged Life Tables: United States, 1955.

Changes in Age Composition of the Population

Profound changes in the age structure of the population have accompanied its rapid growth. Between 1900 and 1930, the population between the ages of 10 and 45 increased from 44 million to 71 million as many young immigrants entered the country (table 4). Despite a declining birthrate during this period, the number of young people under 10 years of age continued to increase, although less rapidly than the older groups--from 18 to 24 million. The largest relative increases in the population occurred at the oldest ages. The number of persons over 65 years of age more than doubled between 1900 and 1930, rising from 3.1 million to 6.7 million. Some of this increase resulted from improvements in living standards and advances in medical science. In addition, the number of persons 65 years of age and over in 1930 included large numbers of immigrants who had entered the country at younger ages during the late 19th and early 20th centuries.

Between 1930 and 1940, the number of children under 10 actually declined as the depression caused many married couples to postpone having children and discouraged young persons from getting married. Although population growth in the central and older ages was relatively smaller than in the earlier decades because immigration had almost stopped, the decrease in the death rates and other factors brought about substantial increases in these groups.

More than 51 million babies were born between 1940 and 1955. This plus the reduction in mortality rates and some increase in the number of immigrants caused the total population to jump from 132 million to 165 million. As a result, the under 10 age group increased more rapidly than any other--from 21 million in 1940 to 35 million in 1955.

Some Effects of Population Changes

The rapid growth and the changing composition of our population have affected our economic and social structure in many ways. A mass demand for goods and services has been created, which in turn has stimulated specialization and the development of techniques of mass production and distribution. These changes have affected every aspect of our economic and social structure. Most people now live in cities instead of rural areas; much of the manual labor is being replaced by machines and the need for trained manpower has increased enormously. The fact that our population has increased continuously undoubtedly stimulated economic growth and enhanced our faith in the future.

The large number of immigrants who entered the country early in this century--many of whom were young men in the prime of life--aided the country in overcoming its labor shortage and enabled it to develop an industrial structure much more rapidly than would otherwise have been possible.

Table 4. Age distribution of the population of the United States
1900-75

Age	Actual					Projected	
	1900	1930	1940	1950	1955	1965	1975
	Number (thousands)						
All ages	76,094	123,077	132,122	151,683	165,248	193,643	225,552
Under 10 years	18,061	23,962	21,227	29,619	35,455	39,976	45,538
10-14 years	8,086	12,041	11,715	11,144	13,340	19,216	20,402
15-19 years	7,565	11,572	12,343	10,680	11,186	17,267	20,587
20-24 years	7,383	10,915	11,690	11,620	10,766	13,502	19,331
25-34 years	12,162	19,039	21,446	23,926	24,136	22,527	31,213
35-44 years	9,271	17,270	18,422	21,569	22,809	24,288	22,727
45-54 years	6,439	13,096	15,555	17,413	18,900	22,130	23,648
55-64 years	4,027	8,477	10,694	13,424	14,529	17,099	20,234
65 years and over	3,099	6,705	9,031	12,287	14,127	17,638	21,872
	Percent distribution						
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 10 years	23.7	19.5	16.1	19.5	21.5	20.6	20.2
10-14 years	10.6	9.8	8.9	7.3	8.1	9.9	9.0
15-19 years	9.9	9.4	9.3	7.0	6.8	8.9	9.1
20-24 years	9.7	8.9	8.8	7.7	6.5	7.0	8.6
25-34 years	16.0	15.5	16.2	15.8	14.6	11.6	13.8
35-44 years	12.2	14.0	13.9	14.2	13.8	12.5	10.1
45-54 years	8.5	10.6	11.8	11.5	11.4	11.4	10.5
55-64 years	5.3	6.9	8.1	8.9	8.8	8.8	9.0
65 years and over	4.1	5.4	6.8	8.1	8.5	9.1	9.7

Note: Because of rounding, sums of individual items do not necessarily equal totals.

Source: U. S. Department of Commerce, Bureau of the Census.

There has been a relative shortage of young persons entering the work force in recent years because of the low birthrates during the depression. This may have contributed to the favorable job situation for young people which has existed in recent years and may also have contributed to the increase in job opportunities for women over 35 years of age.

The decline in family size has also affected our social and economic structure. Modern homes are not built to house the very large families of yesteryear. Neither are elderly parents living with their children as formerly, and as a result, they are more dependent on their own savings or pension rights for a livelihood.

The increase in the expectation of life from 47 years to 70 years between 1900 and 1955 has also affected our way of life. Because the average person now can expect to live many more years than he could 50 years ago, he is more willing to accept the need for the longer period of training and education necessary to prepare young people for complex industrial and technical jobs. Furthermore, since the trained person can now contribute more years of work than in the past, the investment in training yields higher benefits. A recent Bureau of Labor Statistics study² shows that the average work life expectancy for men at birth had increased from 32 years in 1900 to 42 years in 1955. The increase in the length of life has had many other repercussions. The number of older persons, many of whom are not able to work, has increased rapidly and the need to provide income after retirement has become a major problem. Also, because of the increase in the number of older persons, a whole new medical field--geriatrics--has been developed. Houses and apartments designed to meet the physical comforts of older persons are being built. Industry and government are making efforts to adapt jobs to the capacities of older workers and to provide pensions for the years of retirement. Adult education which will help older persons to continue in useful and satisfying work is being undertaken.

The birth of about 4 million babies each year in the post-World War II period has created unprecedented demands for processed baby foods, children's toys, and medical care. More children per family has boosted the demand for homes, particularly those with 3 or 4 bedrooms. The effects are also being acutely felt in the schools where elementary school teachers and classrooms are in tight supply. The demand for higher education will continue to create further shortages of college facilities as the large number of babies born in recent years reach college age.

Future Population Trends

Changes in the size and composition of our future population can also be expected to have many direct and indirect effects on our future work force. For this reason, it is important that a reasonable estimate of future

² The Length of Working Life, a paper presented by Seymour L. Wolfbein, Chief, Division of Manpower and Employment Statistics, July 1957, at the Fourth International Gerontological Congress, at Merano, Italy.

population be made before attempting to estimate the future labor force. Population projections are usually made on the basis of historical analyses of birthrates, death rates and the amount of net immigration. Net immigration will continue to be a minor factor in population growth if there are no significant changes in immigration laws. The number of deaths is also predictable if it is assumed that death rates for each age group in the population will continue to change slowly and gradually as in the past. Projecting the number of births is the most difficult aspect of forecasting population growth.

Method of Projecting Population

Population projections are generally made in two steps. The first is to estimate how many people already born will be alive at future periods and to make an allowance for the estimated number of immigrants who will enter the country. The second step is to estimate the number of babies that will be born in future periods. The estimated numbers of babies are added to the population at the youngest ages and are then "survived" to older ages in the same manner as the older population.

Projections of the Number Now Alive

Projecting the number of persons now living who will survive to older ages is a relatively simple matter. It is done by arraying the actual population by sex and by detailed age groups and applying survival rates, which are the complement of death rates, and indicate the proportion of a specific age group that can be expected to survive for a given period of years. Because the survival rates are based on death rates, which have been declining for many years, an allowance for a continuing decline in death rates is usually incorporated in the survival rates for future years.

Net Immigration. Projections of the number now alive include an allowance for net immigration based on recent experience and an assumption of no significant change in our immigration laws. The age-sex distribution is also based on the characteristics of recent immigrants, most of whom are young adults.

Projections of Births

Unlike the trends in death rates, the trends in birthrates have been irregular in the past, making prediction of future levels of birthrates a difficult task. The usual method for preparing estimates of the number of births is to apply birthrates for detailed age groupings of women to the number of women in the childbearing ages.

Past Trends in the Birthrate. Birthrates in this country declined steadily from 1900 to 1935, and it appeared that the United States was approaching the end of its population growth. This decline resulted both from the decreasing proportion of women living on farms, where family size has always been larger than in cities, and from a long-term trend toward family limitation. Differences in family size between rural farm

and urban women were recorded as early as 1910³ when native white women 45 to 49 years of age living in cities had an average of only 3 children compared with an average of 5.1 children for women living in rural farm areas. At that time, all native white women had an average of 3.9 children--about midway between that for urban and rural farm women--since about half of them lived in cities. The urban-rural difference in family size still exists, although both have declined. In 1957 urban women over 45 years of age had an average of only 2.3 children compared with 3.8 children for rural farm women.⁴ However, the dramatic increase since 1900 in the proportion of women living in cities has resulted in bringing the average number of children for all women down to 2.6--only slightly larger than for urban women. The depression of the 1930's accentuated the trend toward family limitation in both farm and urban areas as the sharpest decline in birthrates occurred among women over 35 who were nearing the end of their childbearing years.

The downtrend of the birthrate was reversed at about the beginning of World War II. The birthrate rose sharply after the war and has continued at a high level since then. One important factor is, of course, the high level of economic activity.⁵ In addition, two other major factors which have contributed to the unusually high birthrates are:

(1) Marriage is occurring at a much earlier age. In 1940, about 53 percent of all 20-24 year-old women were married; by 1957, this figure had increased to almost 70 percent.⁶

(2) Newly married couples have had their children earlier. Women 20-24 years of age in 1957 had already given birth to about 5.1 million babies. If pre-1940 patterns of family formation had been in effect in recent years, these women would have had only 2.8 million babies by 1957. At older ages too, acceleration in family formation is keeping the birthrates at very high levels. Women are having 2d, 3d, 4th, and 5th babies earlier than was true in the recent past. Women in the age group 30-34 in 1957 had given birth to 14.1 million babies by the time they reached this age group. If these women had borne children according to pre-1940 patterns of family formation, they would have had only about 10.4 million babies by 1957.

³ 1940 Census Reports, Population, Differential Fertility 1940 and 1910, Women by Number of Children Ever Born, table 10.

⁴ U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, No. 84.

⁵ For a discussion of the relation between levels of prosperity and the birthrate, see The Determinants and the Consequences of Population Trends, Population Studies No. 117, United Nations, pp. 83 and 84.

⁶ U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20; Nos. 50 and 81.

Expected Trends in Birthrates. It is important to recognize that the factors just described are unusual; it is improbable that they will continue to operate for very long in the future, even assuming favorable economic conditions. In the first place, the trend toward earlier marriages that began in 1940 and accelerated after the end of World War II is no longer apparent. The proportions of married women 15-19 and 20-24 years old have not increased since 1952. In the second place, the acceleration in family formation will ultimately be limited by both cultural and physiological factors. In 1957, women 30 to 34 years old already had an average of 2.2 children--about the same as the average number for women 45-49 years old--the age usually considered the end of the childbearing period. The women now 30-34 years old will undoubtedly have larger families at the end of their fertile years because they still have many years ahead of them in which they can bear children. Nevertheless, because so many younger women already have 2 or 3 children, it is unlikely that they will have as many children at older ages as did the older women in recent years. Many of the latter group were completing families postponed by the depression of the 1930's or interrupted by World War II. Thus, the birthrates for older women will probably be reduced in future years.

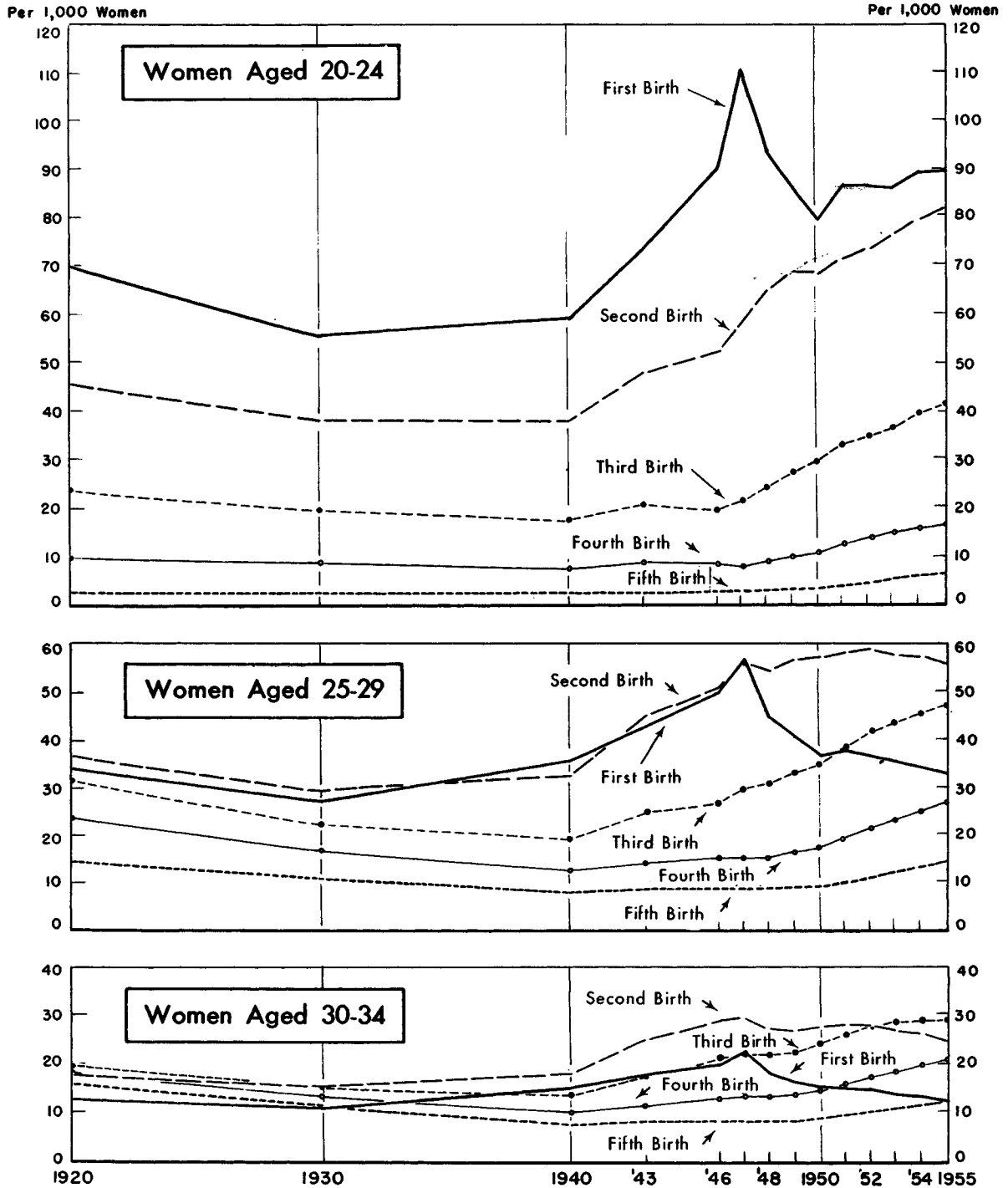
Some of the effects of earlier family formation are evident already from an examination of birthrates by order and age. Because more women are having their first and second children before they reach age 25, a decline has occurred in the proportion of the women over 25 having first and second children (chart 1). Sooner or later, as the proportion of women under 30 having their third and higher order births continues to rise, third and higher order birthrates for women over 30 years of age will also decrease unless family size actually increases beyond what now appears reasonable. If birthrates were to remain at 1955 levels for an indefinite period, an almost unprecedented situation would occur: Women would reach the end of their childbearing years with an average of over 3.5 children per woman. This would be a larger size of completed family than has been experienced by any group of women born since 1865.

The Bureau of Labor Statistics prepared a projection of births which would take specific account of increased family size and accelerated family formation and which could be used to estimate the number of women with children under 5 years of age for purposes of projecting the female labor force. The method of projecting births was adapted from P. K. Whelpton's "Cohort Fertility." A detailed discussion of the method will be found on pages 32 to 38 of this bulletin.

This projection of births implies a sharply decreased time interval between first, second, third, fourth, and higher order births. For example, between 1954 and 1975, it is assumed that the proportion of women aged 20-24 with at least 1 child will rise from 52 to 63 percent. For this same group, the proportion with at least 2 children will rise from 26 to 40 percent. For 25-29 year-old women, the proportion with 3 or more children will rise from 27 to 41 percent.

Chart 1.

Birthrates, by Selected Age Groups and Order of Birth, 1920-55



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Source: U.S. Department of Health, Education, and Welfare,
National Office of Vital Statistics

Allowances were made in the projection not only for the change in the spacing of children but also for an increase in the proportion of women who will have larger families. By 1975, the proportions of all women who are assumed to reach the end of their fertile years with 4 or more and 5 or more children are 35 percent and 25 percent, respectively. These assumed proportions are higher than they have been at anytime since the mid-1920's.

The decrease in the interval between children is the major factor accounting for the expected continuation of the high birthrate between now and 1975. This factor alone accounted for about 22 million births out of the total number projected for the period 1955-1975. An assumption of larger families also has the effect of increasing the expected number of babies that will be born in the future but the effect of this factor is substantially less than that of the assumption of accelerated family formation.

The results of this projection of births up to 1975 were roughly the same as the birth assumptions used in the Census Bureau's Series III⁷ projection of population. Since the assumptions regarding mortality and immigration also seemed reasonable, that Series was selected as the overall population framework for the projections of labor force presented in this bulletin. The projection of births to 1975 was made for two reasons. One purpose was to provide a means of evaluating the 4 population projections of the Census Bureau in order to select the one most reasonable for use as an overall framework for projections of labor force as well as for other Labor Department studies made in carrying out the Labor Department's responsibilities for assessing the Nation's manpower needs and resources, for providing information to be used in vocational guidance and in the development of training programs.

Another purpose in making birth projections was to provide a basis for estimating the number of women with young children in their families. These data were used in projecting the labor force characteristics of the female population.

⁷ The Bureau of the Census has recently published revised population projections to 1980 in Current Population Reports, Series P-25, No. 187. Four sets of projections have been presented, each one using a different assumption of birthrates, but all 4 having the same assumption regarding death rates and immigration. The highest of these estimates assumes that 97 million babies will be born between 1958 and 1975 and the lowest forecasts a total of 68 million babies in the same period. The Census Bureau's highest projection--Series I--implies a very high fertility level for the period 1958-1975, i. e., 10 percent above the 1955-57 level. The Series II projection assumes that the 1955-57 level of fertility remains constant until 1975; Series III assumes that the 1955-57 level declines to the 1949-51 level by 1970 and remains constant to 1975; Series IV assumes that the 1955-57 level will decline to about the 1942-44 level by 1970.

According to Series III, the total population will reach about 225 million by 1975 and about 78 million babies will be born between 1958 and 1975. This population projection assumes the continuation of a relatively high level of prosperity during the next 17 years.

A number of important shifts will take place in the age distribution of the population between 1955 and 1975. One of the more important developments affecting the age distribution of the population will occur between 1955 and 1965 when persons born during the depression when the birthrates were low will be reaching the age group 25-34. As a result, this group will actually decline between 1955 and 1965. The age group 15-24 will increase during the same period by about 9 million as the larger numbers born after the beginning of World War II attain working age. Between 1965 and 1975, persons in the primary working ages (25-44) will increase from 47 million to 54 million. The population group aged 15-24 will continue to increase, rising from 31 to 40 million. During the entire period 1955 to 1975, there will be a steady increase in the number of persons over 65 years of age from 14 to 22 million, and an increase in the number of children under 10 from 35 million to 46 million.

Labor Force Trends

After evaluation of expected shifts in the size and composition of the population (which is the basic determinant of labor force growth), the next step in the preparation of labor force projections is to estimate future changes in the rates of labor force participation, i. e., the proportions of the various population groups in the labor force. These rates have been changing rather slowly over a long period of years in response to social and economic forces. A review of labor force growth and of the factors which affect the work propensities of particular population groups provides the basis for estimating future changes.

The labor force of the United States expanded from about 20 million in 1890 to over 40 million in 1920 and to almost 70 million in 1955, roughly paralleling population growth. The annual average percent increase in the labor force dropped from 2.4 percent for the period 1890-1900 to 1.6 percent for 1920-30, similar to the pattern of increase for the population. (See table 5.) The further drop to 1.2 percent in the following decade was due, in part, to the same economic forces which brought sharp declines in the marriage and birthrates--fewer young people, women, and older people were in the labor force than might have been the case if the depression had not curtailed job opportunities.

In the 1940's, with improving employment opportunities and wartime needs for additional workers, the downtrend in the rate of growth in the labor force was reversed. The manpower requirements of the Armed Forces and of industry between 1940 and 1945 brought into the labor force 8 million workers over and above the number expected on the basis of long-

term trends.⁸ These additions were primarily women, youngsters, and older men, the very groups whose activity had been limited by lack of opportunity during the 1930's. While most of these "extra" workers left the labor force shortly after the end of World War II, an acceleration in the long-term increase in labor force participation of adult women followed, partly as a result of work experience gained during the war by women who had not previously worked. The annual average percent increase in the labor force over the whole decade (1940-50) rose to 1.4 percent.

Population changes were an important factor in the labor force growth in the present decade. Relatively small additions to the population of working age occurred between 1950 and 1955 as the smaller numbers born during the depressed thirties reached working age. As a result, the annual rate of increase of the labor force declined slightly to 1.3 percent.

Table 5. Total labor force, 1890-1955

Year	Total labor force (millions)	Average annual percent increase over preceding date ¹
Decennial census:		
1890 (June).....	21.8	---
1900 (June).....	27.6	2.4
1920 (January).....	40.3	1.9
1930 (April).....	47.4	1.6
1940 (April).....	53.3	1.2
Current population reports:		
1940 (Annual average) ...	56.2	---
1950 (Annual average) ...	64.7	1.4
1955 (Annual average) ...	68.9	1.3

¹ Compounded annually.

Source: Decennial census data from John D. Durand, *The Labor Force in the United States, 1890-1960*; Current population reports data from U. S. Department of Commerce, Bureau of the Census, *Annual Reports on the Labor Force, Series P-50, Nos. 2, 31, and 67.*

⁸ *Recent Trends in the Labor Force* (in *Monthly Labor Review*, December 1947, p. 640).

The growth of the labor force, while reflecting primarily the increase in the population, has also been affected by changes over the years in the degree of labor force participation on the part of men and women in various age groups. Characteristically, nearly all men 25-54 work or seek work, except for a small proportion who are disabled or in institutions. (See chart 2.) Almost as large a proportion of men 55-64 are in the labor force, the small reduction reflecting a greater incidence of disabling illness and some retirements. In none of these age groups has the proportion in the labor force changed significantly over the years. (See table 6 and chart 3.)

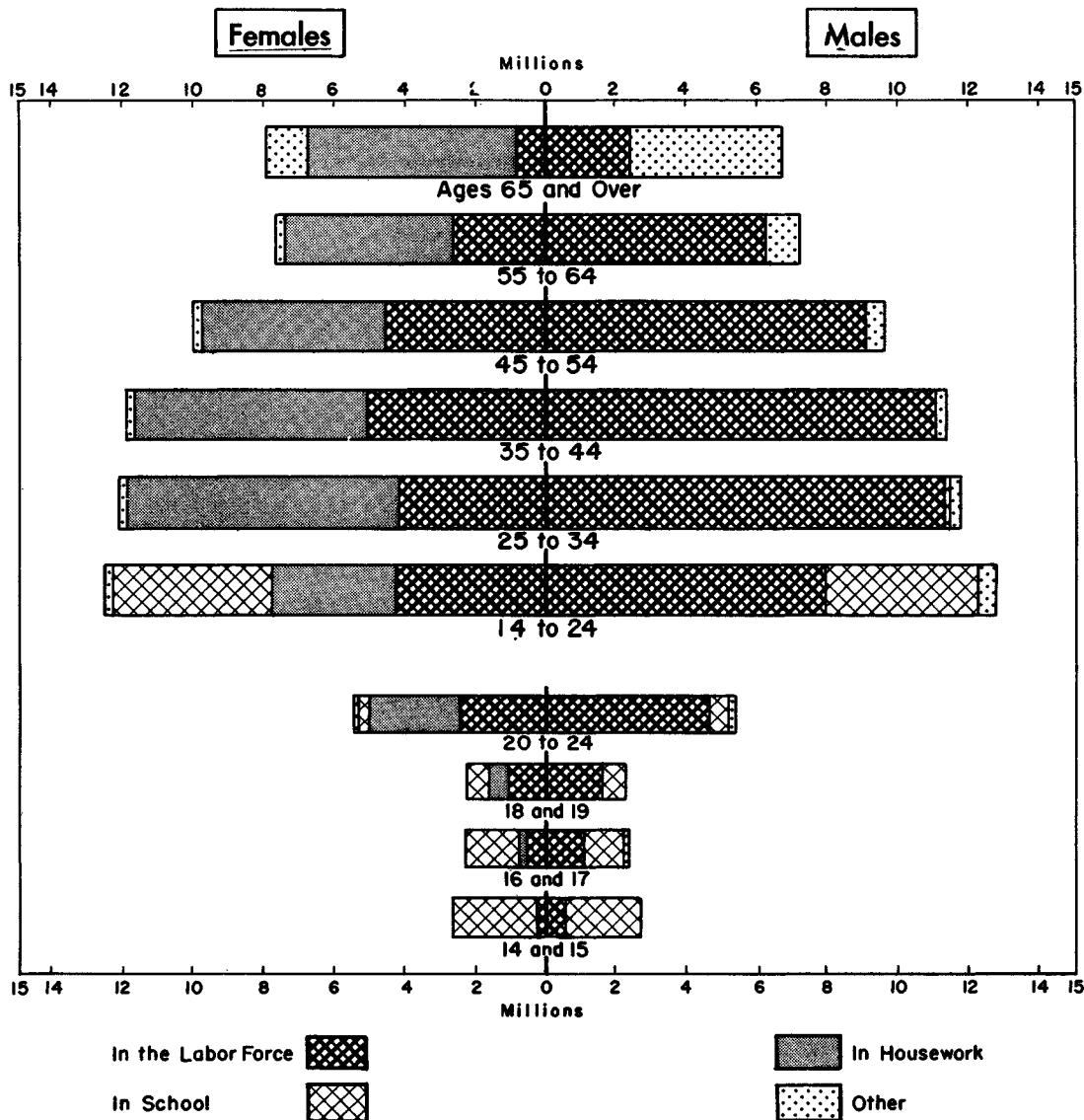
Table 6. Labor force participation rates, by age and sex, April 1920, 1950, and 1957

Age and sex	1920	1950	1957
Both sexes			
14 years and over	55.8	56.8	57.4
Male			
14 years and over	85.9	82.4	81.0
14-19 years	55.9	47.5	45.3
20-24 years	90.7	86.9	86.6
25-34 years	96.2	94.4	96.2
35-44 years	96.6	96.5	96.9
45-54 years	94.5	94.6	95.1
55-64 years	87.4	85.1	86.3
65 years and over	57.1	45.0	36.7
Female			
14 years and over	24.1	31.9	34.8
14-19 years	29.6	26.4	26.4
20-24 years	39.3	44.4	44.7
25-34 years	25.0	33.5	34.7
35-44 years	20.6	38.0	42.6
45-54 years	19.4	36.9	45.9
55-64 years	15.3	27.3	34.2
65 years and over	8.2	9.5	10.6

Source: U. S. Department of Commerce, Bureau of the Census.

Chart 2.

Population and Labor Force By Age and Sex April 1957

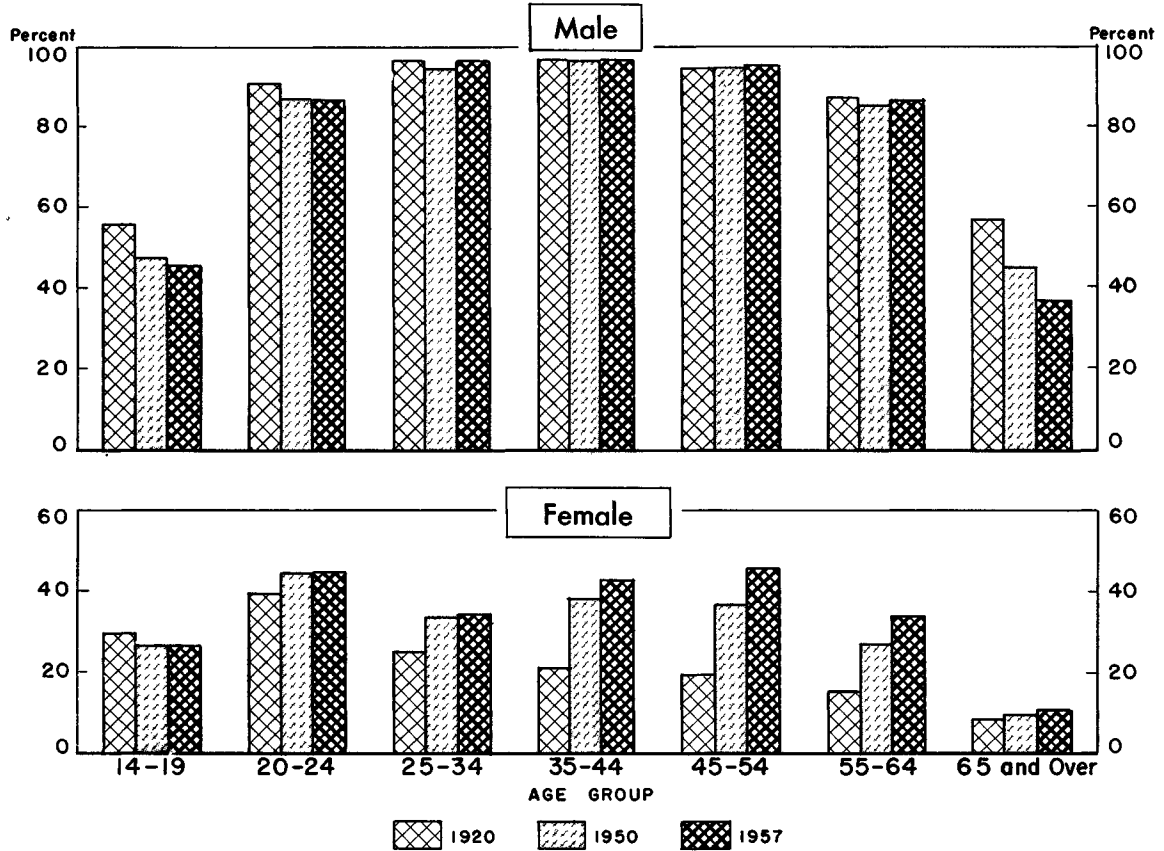


Source: U. S. Bureau of the Census

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Chart 3.

Percent of Men and Women in the Labor Force By Age Groups, April 1920, 1950, and 1957



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Source: U. S. Bureau of the Census

The changes in labor force participation rates have occurred among those groups where the rates are much lower--men under age 25 and over age 64 and among women. Most of the men under age 25 not in the labor force are in school; in ages over 64, the nonworkers are mainly disabled or retired. Among the women, labor force participation reaches a peak in the late teens and early twenties as young women finish school, before marriage and the birth of children bring withdrawals from employment. After about age 35 as their children reach school age, the proportion of women employed outside the home rises. After age 55, however, labor force participation rates for women tend to drop off.

Increasing Labor Force Participation of Women

The most significant continuing change in the extent of labor force activity has been the steady movement of women from the home into the labor market. A combination of factors has been responsible for this trend--some demographic, some socioeconomic.

The shift of population from rural areas to towns and cities has placed more women in geographic locations where job opportunities are expanding in manufacturing and in clerical, sales, and service jobs; care of the home and family has become less time consuming as a result of the availability of readymade clothing, packaged foods, laborsaving home equipment, and many kinds of services. At the same time, or perhaps to some extent because of these developments,⁹ employment of women also has become more acceptable to the community.

The greatly expanded need for manpower during World War II played an important part in accelerating the historical trend toward increased participation of women in the labor force. A great number of women of all ages who had never worked before took jobs during this period. Others changed jobs and learned new skills and still others who would normally have remained at home as housewives returned to work at their old skills. Since the war, the generally high levels of production and employment have provided sufficient job opportunities for the continued rise in the number of women in the labor force.

Most of the increase in labor force participation by adult women has been among married women having no preschool-age children in the home. The care of young children presents a strong deterrent to mothers working outside the home. This is reflected in the low labor force participation

⁹ For a comprehensive discussion of developments, see *Women's Occupations Through Seven Decades*, Women's Bureau Bull. 218, June 1947, U. S. Department of Labor.

rates for women with children under 5 years of age. On the basis of limited data available for recent years, it appears that this group's participation rates showed only a modest increase during a period when there were sharp increases in the rates for married women of the same age who had no young children.

Since a large proportion of women in ages 20-34 have young children, the labor force participation rates for these ages have not risen as much as have those for the older groups.

Declining Labor Force Participation of Young Persons

In contrast to the trend for adult women workers, the labor force participation rates for youths have been declining slowly over a long period of time. The historical movement of population away from farms has diminished employment opportunities for this group. On the farms, young persons provided some of the seasonal manpower needed during the peaks of farm operations; in the cities, employment opportunities were more limited. Moreover, the age of entry into the labor force has been postponed by the steady lengthening in the period of schooling, partly because of compulsory school-attendance laws, and laws barring the employment of children, but also because the skills needed by workers in our complex society require a greater period of formal training.

At present, the effect of the farm-to-urban movement on work activity of young people, is less important. The demographic factor bearing most on the extent of labor market activity of teen-agers and of men aged 20-24 is school enrollment, since attending school necessarily limits labor force participation. With increasing proportions of the young population in school, the overall extent of their work activity has declined, although some uptrend in work activity among college-age students has occurred, undoubtedly related to the general availability of jobs, to the higher cost of education, and to the fact that a considerable number of college students are married.¹⁰

Declining Labor Force Participation of Older Men

A decline in the rate of labor force participation of men 65 years and older has been another major development resulting in part from the shift from farms, where older people tend to work as long as they are physically able, to cities where employment opportunities for this group are more limited. Another important factor in this downward trend has been earlier retirement, made possible by the enactment of social-security laws and

¹⁰In 1956, 43 percent of male college students aged 20-34 years were married, according to the U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, No. 74.

the spread of private pension plans, as well as greater personal savings made during the prosperity of recent years. Moreover, older women's increased propensity to work implies greater numbers of older men will be able to retire in the future with the assurance of more adequate income since their wives will also be eligible for benefits.

Changes in Age Composition of the Labor Force, 1900 to 1955

The changed structure of the population together with the developments in rates of labor force participation have brought about shifts in the composition of the labor force. Between 1900 and 1955, the most significant changes in the age distribution of the labor force were a decline from 31 percent to 18 percent in the proportion of workers aged 14 to 24 and an increase from 20 percent to 31 percent in the proportion who were 45-64 years of age. (See table 7.) These changes followed fairly closely the aging of the population (discussed on page 7) reflecting the underlying long-term decline in the birthrate, the curtailment of large-scale immigration and the increases in longevity. However, the proportion of young people in the work force declined more than in the population. Among the older groups, the labor force grew more rapidly than the population because of the increased tendency for women in ages 45-64 to work outside the home. This increasing work activity of adult women has been reflected in the rising proportion of women in the labor force--in 1900, about 18 percent of all workers were women; in 1955, the ratio was over 30 percent.

Method of Projecting the Labor Force

In the years ahead, the size and the age structure of the population will continue to be the most important factor in determining how large the labor force will be with changes in labor force participation rates having much smaller effect.

The Bureau of Labor Statistics projections of the size and age-sex composition of the labor force make specific allowance for the effects of school enrollment of the young population, the marital status of adult women, the number of women who will have children of preschool-age, and the retirement trends among men 65 years and older.¹¹ These projections also provide an additional dimension--the growth of the labor force in terms of full-time and part-time workers--which has an important bearing on the quality of the work force, on the relationship between the demand and supply of workers in specific industries and occupations, on the need for training, and on labor turnover. The projections by full-time and part-time status are discussed in greater detail on pages 42-49.

¹¹ These labor force projections fall within the range of those published by the U. S. Department of Commerce, Bureau of the Census in Current Population Reports, Series P-50, No. 69 (revised in mimeograph form December 1958).

The labor force was projected separately for each age-sex group by multiplying the population projection (Series III) by the estimated percent of the population who would be in the labor force at a specified future time. Projections were made for the years 1960, 1965, 1970, and 1975 and for each year between 1960 and 1965, when sharp increases in the number of young workers are expected as a result of the large number of births occurring after World War II.

Table 7. Distribution of the labor force, by age and sex, June 1900 and annual averages, 1950 and 1955

Age and sex	Number (millions)			Percent distribution		
	1900	1950	1955	1900	1950	1955
Both sexes						
14 years and over.....	27.6	64.6	68.9	100.0	100.0	100.0
14-24 years.....	8.5	13.3	12.7	30.9	20.5	18.4
25-44 years.....	12.4	29.2	31.4	44.7	45.2	45.5
45-64 years.....	5.6	19.1	21.6	20.4	29.6	31.3
65 years and over.....	1.1	3.0	3.3	4.0	4.7	4.8
Male						
14 years and over.....	22.6	45.9	48.0	100.0	100.0	100.0
14-24 years.....	6.1	8.6	8.2	27.1	18.7	17.1
25-44 years.....	10.6	20.9	22.3	46.6	45.6	46.4
45-64 years.....	5.0	13.9	15.0	21.9	30.4	31.2
65 years and over.....	1.0	2.5	2.5	4.4	5.3	5.3
Female						
14 years and over.....	5.0	18.7	20.9	100.0	100.0	100.0
14-24 years.....	2.4	4.7	4.4	48.2	25.0	21.3
25-44 years.....	1.8	8.3	9.1	35.8	44.3	43.5
45-64 years.....	.7	5.2	6.6	13.4	27.7	31.4
65 years and over.....	.1	.6	.8	2.5	3.1	3.7

Note: Because of rounding, sums of individual items do not necessarily equal totals. Percents are based on unrounded figures.

Source: 1900 data from John D. Durand, *The Labor Force in the United States, 1890-1960*; 1950-55 data from U. S. Department of Commerce, Bureau of the Census, *Current Population Reports, Series P-50, Nos. 31 and 69*.

The projections were made on the basic assumptions that past trends in labor force participation rates will continue into the future and that the Nation's economy will continue to expand and provide job opportunities suitable to the groups entering the labor force. It was also assumed that there would be no major war which might bring significant changes in the size of the Armed Forces and in the proportion of the population in the labor force. Another assumption was that additional school facilities and staff will be available to accommodate the expanding numbers of students who will want to continue their education beyond high school.

Men 25-64 Years of Age

Projections to 1975 of the number of men workers aged 25-54 can be made with reasonable accuracy. Very little change has been observed in the past in the proportions of men of these ages in the labor force. The variations that have occurred in labor force participation rates for these ages have been temporary and usually in response to special circumstances. Two examples will illustrate this point: Labor force participation rates for men of these ages increased somewhat during World War II when manpower needs made possible the employment of some handicapped persons previously regarded as unable to work; the rates for men 25-34 declined in the years immediately after World War II when many more than usual in this age group were attending school full time under the provisions of the GI bill of rights. Since there is no reason to expect any changes so basic as to be reflected in changes in the work propensities of men in these ages, the labor force participation rates were held constant at the 1955 base-point level for ages 25-34, 35-44, and 45-54 (Appendix table A-1).

For men in the age group 55-64 the proportion in the labor force is somewhat smaller than for men in ages 25-54. This lower work propensity is related to greater occurrence of disability and illness and of voluntary retirement, particularly in the 60-64 age group.

The worker rate for men 55-64 has shown some variation in past years but not in a consistent pattern. A small decline occurred between 1930 and 1940, which probably reflected their withdrawal from the labor force because of difficulties in finding jobs during the depression. During World War II, as manpower needs expanded, the proportion of these older men in the labor force increased by several percentage points. The proportion dropped after the war and has remained fairly constant since then.

Because farm employment is much more important for older men than for younger workers, the proportions of the male population 55-64 in farm work and in nonfarm work were charted separately and the trends extrapolated to 1975. Past trends show that as the proportion of the population in farm work declined, the proportion in nonfarm work increased by an equal amount, keeping the overall labor force participation rate fairly

constant . It was decided, therefore, that the overall labor force participation rate for this group should also be held constant to 1975 at the 1955 level.

The population projections in these age groups can be considered reasonably accurate, although mortality rates may be reduced even more than assumed in the projections and the amount of net immigration could, of course, differ from that assumed.

The number of men aged 25-64 in the labor force of the future, therefore, will in all probability reflect almost exclusively changes in the size of the population. The group as a whole will show an increase of 2 1/4 million between 1955 and 1965, with an actual decline in the 25-34 age group as those born in the 1920's are replaced by the much smaller number of men born in the 1930's. Between 1965 and 1975, the increase for the group 25-64 will be about 5 1/2 million and the pattern will be different. The smaller group born in the 1930's will move on to become the 35-44 year-olds in 1975 bringing a decline in that age group compared with 1965. The 45-64 year group will increase by about 1 3/4 million. The really sharp increase will occur among the 25-34 year-olds as the large numbers born during the 1940's move into this age bracket, which in 1965 was occupied by the smaller group born in the 1930's.

Men 65 Years and Over

As indicated in the general discussion of long-term trends, the labor force participation rate of men 65 and over has been declining steadily, dropping from 45 percent in 1950 to 37 percent in 1957. (See chart 3.) For this age group also, agriculture is an important source of employment, accounting for more than one-fourth of men 65 years and older in the labor force. In the past few years, the proportion of men 65 and over in farm employment has tended to level out and the drop in labor force activity has been primarily in the nonfarm sector. Because of the different movements, the percentages of the male population in nonfarm and in farm work were separately extrapolated on the basis of past trends. Extrapolations were also made separately for the 65-69 and for the 70 and over group using data which have been available only in the past few years. This was done because of differences in the rapidity with which the worker rates decline at the older ages, and because the number of persons aged 70 and over is a growing proportion of the older population.

Moreover, data on ages at which old-age and survivors' insurance benefits are awarded indicate a tendency for earlier retirement within the 65-69 age group.¹² For this reason, the labor force rates for the age group 65-69 were projected as dropping more sharply than for the 70-and-over group where the rate is already very low.

¹²U. S. Department of Health, Education, and Welfare, Social Security Bulletin, Annual Statistical Supplement, 1956, table 28.

If the decline projected for these labor force participation rates is achieved in the future, the number of men 65 years and over in the labor force will not increase significantly despite sharply expanding population in this age group.

Of course, the traditional retirement age of 65 may be modified in the future. If it were lowered, the labor force participation rates for men 60-64 years of age would very likely decline. On the other hand, if the age were raised, the labor force participation rates for the men 65-69 years of age would probably not decline as rapidly as projected.

The size of the population and labor force in ages 65 and over would also be greater than projected if marked improvements in mortality rates result from future developments in the field of medicine.

Young People

Among the demographic factors bearing on the extent of labor market activity of teen-agers and of men 20-24, school enrollment is the most important. Labor force participation rates for those in school are much lower than for nonstudents of the same age, but a surprisingly large proportion of students also hold jobs. In October 1956, 39.4 percent of boys 18-19 in school were working, compared with 90.7 percent of non-students of the same age.¹³

The period of schooling for young people has lengthened steadily. Not only are more boys and girls attending high school, but a growing proportion are going on to college. These trends are evident in the higher median years of school completed by the younger population compared with the educational attainment of persons 20 and 30 years their senior (See table 8.)

The tendency toward more schooling is also evident from Census data available for October of recent years which show rising proportions of the population aged 14-17, 18-19, and 20-24 enrolled in school. (See table 9.) Much of the increase among the youngest ages where the attendance rates are quite high resulted from improved school attendance of rural youth. For men 20-24, it is interesting to note that the enrollment rate in 1956 was again almost as high as the 1947 and higher than the 1948 rates, both of which reflected large enrollments of veterans under the GI bill. Other evidence of the tendency is provided by the Office of Education figures on high school and college enrollments.

A continued increase in the proportions of young persons in school will affect the proportions of such persons in the labor force. In order to quantify this factor, projections of the proportions and numbers in school were made for ages 14-17, 18-19, and 20-24, based on decennial census

¹³ U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-50, No. 71.

Table 8. Median years of school completed by civilian population, by age, March 1957

Age	Median school years completed
25-29 years	12.3
30-34 years	12.2
35-44 years	12.0
45-54 years	10.0
55-64 years	8.7
65 years and over	8.3

Source: U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, No. 77.

data for 1920, 1930, and 1940, and other Census Bureau data for October 1947-56. The Census enrollment data by age were also available by type of school, (i. e., high school or college) and it was, therefore, possible to project enrollment by type of school in order to maintain consistency with projections made by the Office of Education, which did not provide the age information necessary for labor force projections.

The proportions enrolled by age and type of school were charted and projected by 5-year intervals to 1975. For boys 14-17, the proportion enrolled in school was projected as rising from about 87 percent in 1956 to 92 percent in 1975. The rate for 18-19 year-old men was assumed to increase from 36 percent in 1956 to 52 percent in 1975, and for 20-24 year-old men from 15 percent to 26 percent. For girls the rates, as projected, rise as follows: Age 14-17, from 87 percent to 90 percent; 18-19, from 27 percent to 35 percent and 20-24, from 7 percent to 10 percent.

These projections assume a continuation of past trends in school enrollment. Whether the expected enrollment will be achieved depends upon the availability of school facilities and teachers, the ability of families to pay for college education, and the availability of part-time work for students. If these factors do not work out as assumed, fewer young people may go on to college and more will enter the labor force on a full-time basis at younger ages than these labor force projections anticipate. On the other hand, fewer 14-17 year-olds, for whom school attendance is compulsory to a large extent, will be in the labor force while still in school.

Labor force participation rates were projected both for persons in school and for those not in school, for each age group 14-17, 18-19 and 20-24.

Table 9. Percent of total population enrolled in school, by age and sex, actual October 1947-56 and projected 1960-75

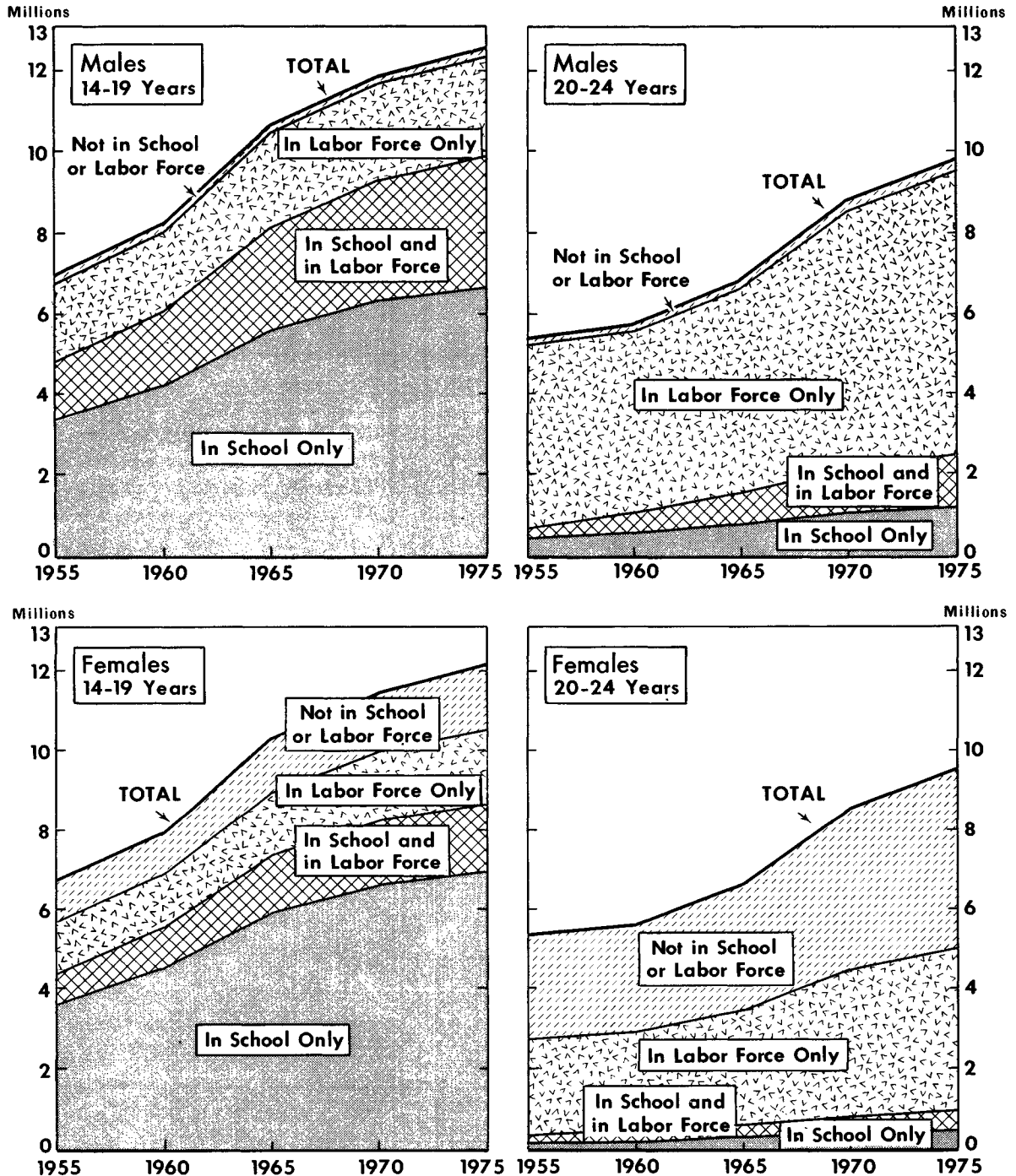
Year	Male			Female		
	14-17 years	18-19 years	20-24 years	14-17 years	18-19 years	20-24 years
Actual						
1947	76.8	25.1	15.8	79.1	18.4	3.9
1948	80.0	29.8	15.0	81.0	20.2	3.4
1949	80.5	26.4	14.0	80.0	19.8	3.7
1950	82.6	31.0	12.5	81.5	24.1	4.6
1951	82.2	25.1	10.4	84.4	21.1	4.3
1952	83.1	29.1	11.1	84.2	21.9	4.9
1953	84.8	30.0	11.4	84.4	25.7	6.3
1954	86.7	33.2	12.3	84.8	25.2	6.0
1955	86.5	34.0	12.7	84.6	22.3	6.1
1956	86.8	35.7	15.4	86.7	27.2	6.8
Projected						
1960	89.0	41.0	19.0	88.5	30.0	8.0
1965	90.5	46.5	22.5	89.5	32.2	9.0
1970	91.5	50.0	24.7	90.0	34.0	9.7
1975	92.0	52.0	26.0	90.0	35.0	10.0

Source: 1947-56 based on data in the U. S. Department of Commerce, Bureau of the Census Current Population Reports, Series P-20, Nos. 40, 52, 54, 66 and 74; 1960-75 projected by Bureau of Labor Statistics.

The projections were made first on the basis of October data, since that is the only month for which estimates of the school status of workers were available for recent years. The October rates were multiplied by the projected population of students and nonstudents and the components were added to obtain the total number in the labor force. (See chart 4.) For women nonstudents, labor force status was projected by further consideration of marital status and presence of young children. The combined labor force total for each age interval was divided by the population in each age group to obtain the labor force participation rate. These October rates were transformed to an annual average basis by adding the projected changes in the worker rates for each age group to the 1955 annual average worker rates for the same age group.

Chart 4.

School Enrollment and Labor Force Status of Population, 14-24 Years of Age, by Sex, October 1955 and Projected 1960-75



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Sources: U.S. Bureau of the Census ;
Bureau of Labor Statistics

These projections indicate that the number of young workers 14-24 years old will increase by more than 4 million between 1955 and 1965 and by about 5 million in the following 10 years. This sharp rise will occur despite a small decline in labor force participation rates, because of the large increase taking place during this period in the population of these ages.

Such large numbers of young people coming into working age in the years ahead will have a tremendous impact on the labor market (discussed on p. 49). At this point, it may be of interest to show how the increased number of births during World War II and the immediate postwar period will affect the annual changes in the number of young workers in the years between 1960 and 1965. (See table 10.) The first big increase in the number

Table 10. Projected total labor force, annual averages 1960-65

		(Thousands)					
Age		Total labor force					
		1960	1961	1962	1963	1964	1965
Total, 14 years and over		73,550	74,752	75,886	77,181	78,412	79,872
14-19 years		6,215	6,637	6,873	7,114	7,401	7,930
14-17 years ..		3,180	3,297	3,430	3,791	4,091	3,997
18-19 years ..		3,035	3,340	3,443	3,323	3,310	3,933
20-24 years		7,570	7,713	7,967	8,386	8,676	8,955
25 years and over		59,765	60,402	61,046	61,681	62,335	62,987
		Net change					
		1959-60	1960-61	1961-62	1962-63	1963-64	1964-65
Total, 14 years and over		945	1,202	1,134	1,295	1,231	1,460
14-19 years		209	422	236	241	287	529
14-17 years ..		78	117	133	361	300	-94
18-19 years ..		131	305	103	-120	-13	623
20-24 years		78	143	254	419	290	279
25 years and over		658	637	644	635	654	652

Source: U. S. Department of Labor, Bureau of Labor Statistics.

of 18- and 19-year-old workers (300,000) will occur between 1960 and 1961. Two years later the size of the 20-24 group will increase sharply. These changes reflect the early wartime increases in the number of births. The even larger increase in births immediately after World War II will bring about a sharp rise in the number of 14-17 year-old workers in 1962-63 and the 18-19 year-olds in 1964-65. These projections of necessity assume that worker rates will change smoothly, although it is realized that worker rates for young persons often move erratically because they are influenced by conditions of the labor market. For example, in 1962-63, when the population 14-17 will rise by several hundred thousand, there may very well be a sharp drop in their worker rates. If this happens, however, they will enter the labor market within a year or two as 16-19 year-olds.

Adult Women

Within each age group of adult women, wide variations exist in labor force participation rates depending upon whether the women are single or married (table 11) and whether the married women have preschool-age children. The rate is highest for single women and lowest for mothers of

Table 11. Labor force participation rates for women in the civilian population, by marital status and age, March 1957

Age	Total	Single	Married, husband present	Other marital status
Total, 14 years and over ..	34.8	46.8	29.6	40.4
14-19 years	26.6	26.8	24.0	--
20-24 years	44.9	74.6	30.2	53.1
25-34 years	34.6	79.5	27.1	62.1
35-44 years	42.3	81.9	35.7	69.4
45-54 years	45.4	78.0	37.2	66.4
55-64 years	34.6	66.7	24.6	47.8
65 years and over	11.2	24.5	6.3	12.3

Source: U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-50, No. 76.

young children.¹⁴ Because marital and child status have an important bearing on the extent of labor force participation of women, these factors were taken into account in projecting the number of women in the labor force.¹⁵ For women in ages 20-44, the labor force was projected by both marital and child status. For ages 45 and over, where the incidence of young children in the home is no longer significant, only marital status was considered.

There are, of course, other factors such as education and training, family income, and husband's occupation, which affect a woman's choice of working or not working outside the home. Sufficient past data are not available on their relationship to the labor force status of women to project the future trends.

Data on the marital status of the projected female population by age were available in unpublished form from the Census Bureau. The projections were prepared by the Census Bureau in developing data for Projections of the Number of Households and Families, 1960 to 1975, Current Population Reports, Series P-20, No. 69.¹⁶ Projections of the number of women with children under 5 years were developed by the Bureau of Labor Statistics.

Women 20-44 Years of Age. For women in each 5-year age group between the ages of 20 through 44, projections of the labor force were made by distributing the population in this age range into 3 groups--single, married with children under 5 years of age, and married with no children under 5 years of age. Labor force rates by age groups were developed for these classifications for each 5-year period to 1975 and applied to corresponding population groups.

¹⁴The effects of marriage and the presence of children on labor force activity of women are discussed in detail in Tables of Working Life for Women, 1950 (BLS Bull. 1204), and in Womanpower, (Columbia University Press, 1957), prepared by the staff of the National Manpower Council.

¹⁵For this purpose, the female population in each age group is classified into single and ever-married, and the latter (referred to as married in the text of this report) is further classified in two ways: First, those living with their husbands (referred to as married, husband present) and all other (other marital status) which includes widowed, divorced and separated; secondly, the ever-married population which is classified into those with and without children under 5 years of age.

¹⁶Just before this bulletin was published, revised projections of the number of households and families were released by the Bureau of the Census in Current Population Reports, Series P-20, No. 90. Nothing in the new release indicates that the marital status distributions used in preparing this bulletin should be revised.

The projections of the married female population 20-44 years of age by presence and absence of children under 5 years of age were made in order to assess the effects of apparently changing patterns of family formation on the future labor force participation of these women. In recent years, particularly since the beginning of World War II, women have been bearing their children at younger ages. For example, in 1940, 30 percent of all 25-29 year-old women had at least 2 children and by 1954, this proportion had risen to 52 percent. Similarly, the proportion of women in this age group with 3 or more children increased from 14 percent in 1940 to 27 percent in 1954. These sharp increases have occurred mainly among women having their first, second, or third babies; only small increases have occurred in the higher order birth categories, indicating that the proportion with large families is not increasing greatly but rather that a greater proportion of women are having 1, 2, or 3 children, and at younger ages. If the trend toward earlier family formation continues and if family size does not increase greatly, fewer women will be available for work in the younger ages but more and more women will have completed their families by about age 30 and a greater number would therefore become available for work as their children reach school age. On the other hand, if the same average size of family is achieved without further speedup of family formation, more women in their thirties would still have young children at home and therefore would not be available for work. However, the total number of women under 30 who would have young children would not change much under these circumstances. That is, not as many would have 2 or 3 young children but the number with at least 1 child under 5 would not be very different.

It was necessary, therefore, to make assumptions about the rate of family formation and average size of completed family as a basis for estimating how many women in each age group would have children under 5 years of age in 1960, 1965, 1970, and 1975.¹⁷ A method for projecting future births which takes into account the ultimate size of family and the

¹⁷An estimate of the number of children under 5 years of age could be obtained for each future 5-year period from the Census projections by applying their projected birthrates, multiplied by 5, to an estimate of the mid-period population for each 5-year age group of women 15-44 years of age. These figures could then be used as a basis for making estimates of the number of women with children under 5. This method, however, would not take into account the number of children already born to the women, or the implied size of the completed family. For example, the Census projections imply that in each year from 1970 to 1975 the same proportion of women aged 35-39 will bear children as did the same age group in the year 1954. This ignores the fact that women 35-39 in 1970 would have had more children when they were 20-24 years old because of accelerated family formation, than did the women who were 35-39 in 1954 when they were 20-24.

earlier ages at which women bear their children has been developed by P. K. Whelpton.¹⁸ Using similar methods, the Bureau of Labor Statistics prepared projections of births which show the number of babies that will be born to each age group of women in each 5-year period from 1960 to 1975. The projected number of births is reasonably consistent with the Census Bureau's Series III¹⁹ projections of the population under age 5.

The method used in preparing the estimates of births and the distribution of women in each age group by presence or absence of young children is described below:

The projections of the number of babies that will be born in each 5-year period from 1955 to 1975 were based on data on the number of children ever born to each mother, which were derived from the Census Bureau's fertility studies for 1910, 1940, 1950, 1952, 1954, and 1957.²⁰ Information was available for each of these periods on the proportions of women in each age group who had given birth to specified numbers of children. From this, it was possible to compute the proportion of women in each age group who had had 1 or more children, 2 or more, 3 or more, 4 or more, and 5 or more children. These proportions were charted and the trends were projected into the future.

Limits were set on the projected proportions of women who will have 1 or more to 5 or more children and estimates made of the ages at which they are expected to have them. The limits, which are described below, were based essentially upon historical data and upon the estimates of P. K. Whelpton.²¹ A further consideration in deciding upon these limits was the assumption of a completed family size of 3.2 children per woman. Although this figure may be too high, it was necessary, in order to reach the level of population in the Census Bureau's Series III projection.

The limits of the proportions of women who will reach the end of their childbearing period (aged 45-49) with 1, 2, or 3 children were set at 86 percent, 73 percent, and 50 percent, respectively, almost exactly those used by Whelpton²² (chart 5). Each represents a substantial increase over

¹⁸ P. K. Whelpton, *Cohort Fertility, 1954*, (Princeton University Press), Princeton, New Jersey.

¹⁹ Reasons for selection of Series III are discussed on pp. 12-14.

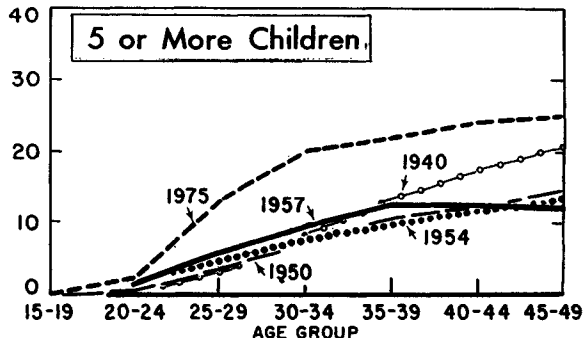
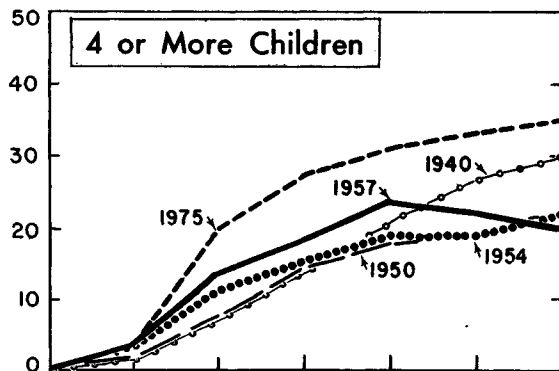
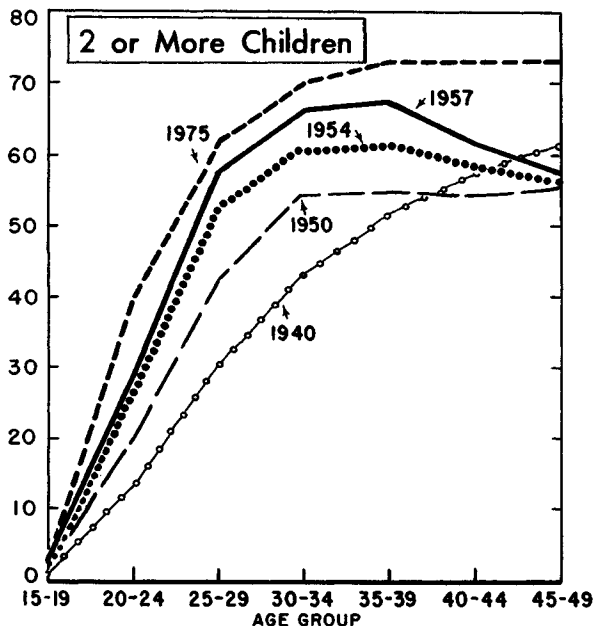
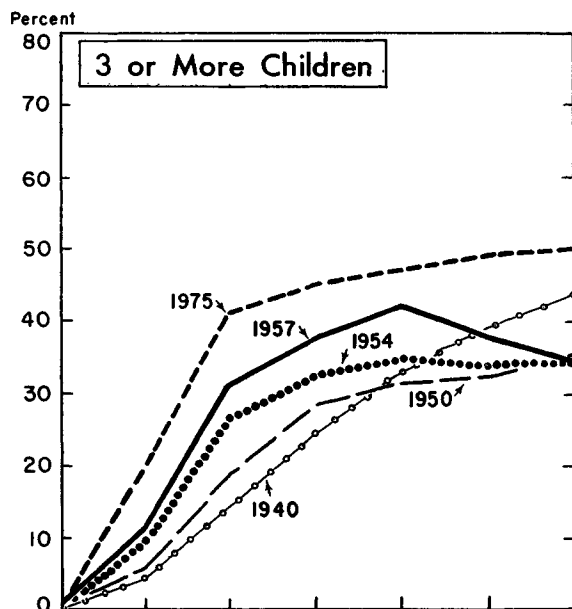
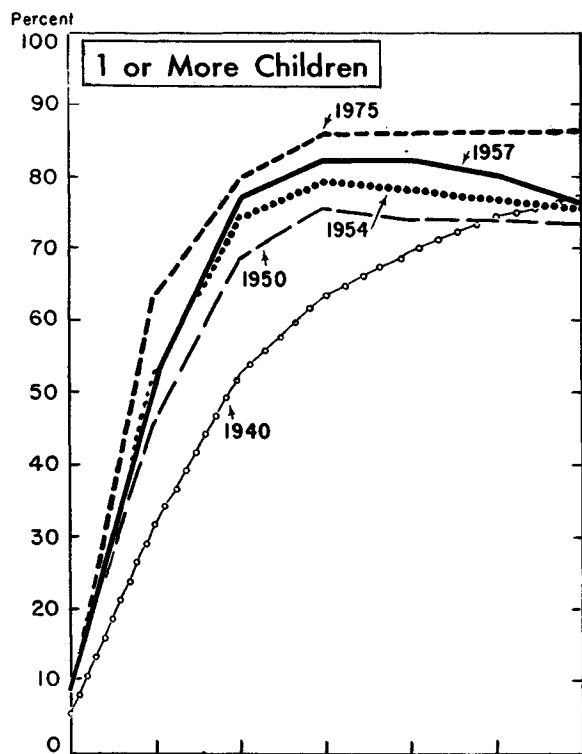
²⁰ The data for decennial years were based on the decennial Censuses, while data for other years were based upon sample data from the Current Population Surveys.

²¹ This estimate is from P. K. Whelpton's medium estimates of completed fertility published in *A New Look at the Postwar Baby Boom in the United States*, a paper presented at the 29th Session of the International Statistical Institute at Petropolis, Brazil.

²² *Ibid.*

Chart 5.

Projected Proportion of Women in Each Age Group With Specified Number of Children



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Sources: U. S. Bureau of the Census;
Bureau of Labor Statistics

the present proportion. The greatest relative increase was allowed in the proportion of women with 4 or more and 5 or more children. The proportion with 4 or more children was raised from 22 percent in 1954 to 35 percent in 1975. Similarly, the projected proportion of women who will have 5 or more children was raised from about 13 percent to 25 percent. Since fourth and higher order birthrates have been increasing only slightly in recent years the projected levels for these rates may be too high.

The projected number of births occurring to each 5-year age group in each 5-year period from 1955 to 1975 were computed from these data in the following manner: The proportion of women in a given age group having a first child during a given 5-year period was obtained as the difference between the proportion having 1 or more children at the beginning of the period and the proportion having 1 or more children at the beginning of the next period when they were 5 years older. This difference was multiplied by the number of women in the age group at the beginning of the next period to obtain the number of first births that had occurred to these women during the previous 5 years. For example, an estimated 54.3 percent of all 20-24 year-old women had 1 or more children in 1955. It is assumed that 77.2 percent of these women will have had 1 or more children by 1960 when they would be 25-29 years of age. The additional 22.9 percent (77.2 percent less 54.3 percent) will have borne first children during the 5 year interval. This proportion, multiplied by the 25-29 year-old female population in 1960, gives the number of first babies that will be born to these women in the 5-year period from 1955 to 1960.

Second, third, fourth, and fifth and higher order births were estimated in the same manner by the use of the projected proportions of women in each age group with 2 or more, 3 or more, 4 or more, and 5 or more children.

The number of babies born in each 5-year period between 1955 and 1975, is equal to the number of children under 5 at the beginning of the next 5-year period except for the 2 or 3 percent who die between the time of their birth and the end of the 5-year period.

The number of women with children under 5, which is needed for the labor force projections, will, of course, be smaller than the total number of children under 5 since many women have more than 1 child under 5 years of age. Therefore, the estimates of the number of children under 5, by age of mothers, were distributed into families having 1 only, 2 only, and 3 or more children under 5 years of age as shown by 1940 and 1950 Census data. The number of mothers was equal to the number of families.

This method could not be used for women under age 30 because of recent changes in family formation in the young ages. For women under 30, therefore, the estimated number with children under 5 years was based upon the proportion with 1 or more children. Census data for 1950 and 1952 showed that about 95 percent of all mothers aged 15-19 (i.e., those with 1 or more children) had children under 5; for women 20-24 and 25-29

the ratios were about 92 percent and 78 percent, respectively. These ratios were applied to the proportion of all women in each of these age groups under 30 having 1 or more children as of 1960, 1965, etc., to obtain the proportion having children under 5. These new proportions were then applied to the projected female population in each age group between 15 and 29 to furnish the number of women with children under 5.

The number of married women with no children under 5 years of age was obtained by subtracting the estimated number with children under 5 from all married women in each age group including those widowed, separated, and divorced. As indicated on page 32, the projected numbers in each marital status were available from unpublished Census Bureau data.

The labor force participation rates for married women with and without children under 5 were projected for each age group on the basis of data available for 1940, 1948, 1951, 1952, and 1955. (The rates for 1951 and 1955 related to women by presence of children under 6 rather than under 5 years of age.) Between 1940 and 1948, the labor force participation rates for women with young children increased substantially in each age group. For example, the rate for these women 20-24 years of age rose from 6.8 percent to 11.9 percent and for those 25-34, from 6.5 percent to 13.0 percent. Between 1948 and 1956, the participation rates continued to increase moderately for the 14-19 and 20-24 year groups of women with young children but not so much for those in the 25-34 and 35-44 age groups.

The rates for the several age groups by presence of children were charted and the trends extrapolated. For women 14-19 years old the rate rose gradually to 15 percent in 1975; for those 20-24, to 25 percent; for 25-34 year-olds to 17.0 percent; and the rate for those aged 35-44 to 20 percent. (The rate for the 20-24 year-olds not only rose more sharply in recent years but was at or above the rates for the other ages in 1940, 1952, and 1955.)

The labor force participation rates for married women with no young children increased very sharply from 1940 to 1948. For example, it rose from 31.9 percent to 52.8 percent for 20-24 year-old women, from 28.3 percent to 46.9 percent for the 25-34 group. Much more modest increases occurred between 1948 and 1955. In extrapolating labor force participation rates for married women with no young children, the rate for the 14-19 year-old group rose to 38 percent by 1975; for those 20-24 to 67 percent; for those 25-34 to 52 percent; and for those 35-44 to 49 percent.

For single women in ages 25-34 and 35-44 the rate was held constant at 83 and at 80 percent, respectively, approximately the recent level. For ages 14-19 and 20-24, separate rates were estimated for those in school and those not in school, on the basis of available information. For the single girls 14-19 not in school, the labor force participation rate was held at 67 percent and for those 20-24 not in school, the rate was held at 80 percent. The projected rates for the group in school in these ages are discussed on pp. 26-31.

All of these labor force participation rates were on an April basis. The rates were multiplied by the population in each marital and child status group, and the resulting labor force for each age was totaled. The overall labor force participation rate for each age group (still on an April basis) was derived by dividing the labor force by the population. To convert to an annual average basis, the amount of change shown by the labor force participation rate from April 1955 to April 1960 and each succeeding 5-year period was added to the 1955 annual average rate. The labor force for each age group on an annual average basis was obtained by multiplying the annual average labor force participation rate by the population.

Women 45 Years and Over. In ages 45 and over, the number of married women having young children at home is quite small and the presence of children is no longer a significant factor in the labor force participation rate. The important demographic factor associated with labor force status in this age group is the incidence of widowhood, separation, or divorce. The labor force participation rates for women who are widowed, divorced, or separated are considerably higher than for married women with husband present. Moreover, the occurrence of widowhood increases considerably in ages over 45. For this reason, the numbers of women 45 and over in the labor force were estimated by separate marital status groups, i. e., single; married with husband present; and "other marital status", which includes widowed, divorced, and separated.

The marital status distribution of the projected population of women in each age group was also available from Census Bureau unpublished materials. Labor force participation rates for these classifications in each age group were projected for the 5-year periods from 1960 to 1975 on the basis of rates available for 1940, 1944, and each year since 1947.²³

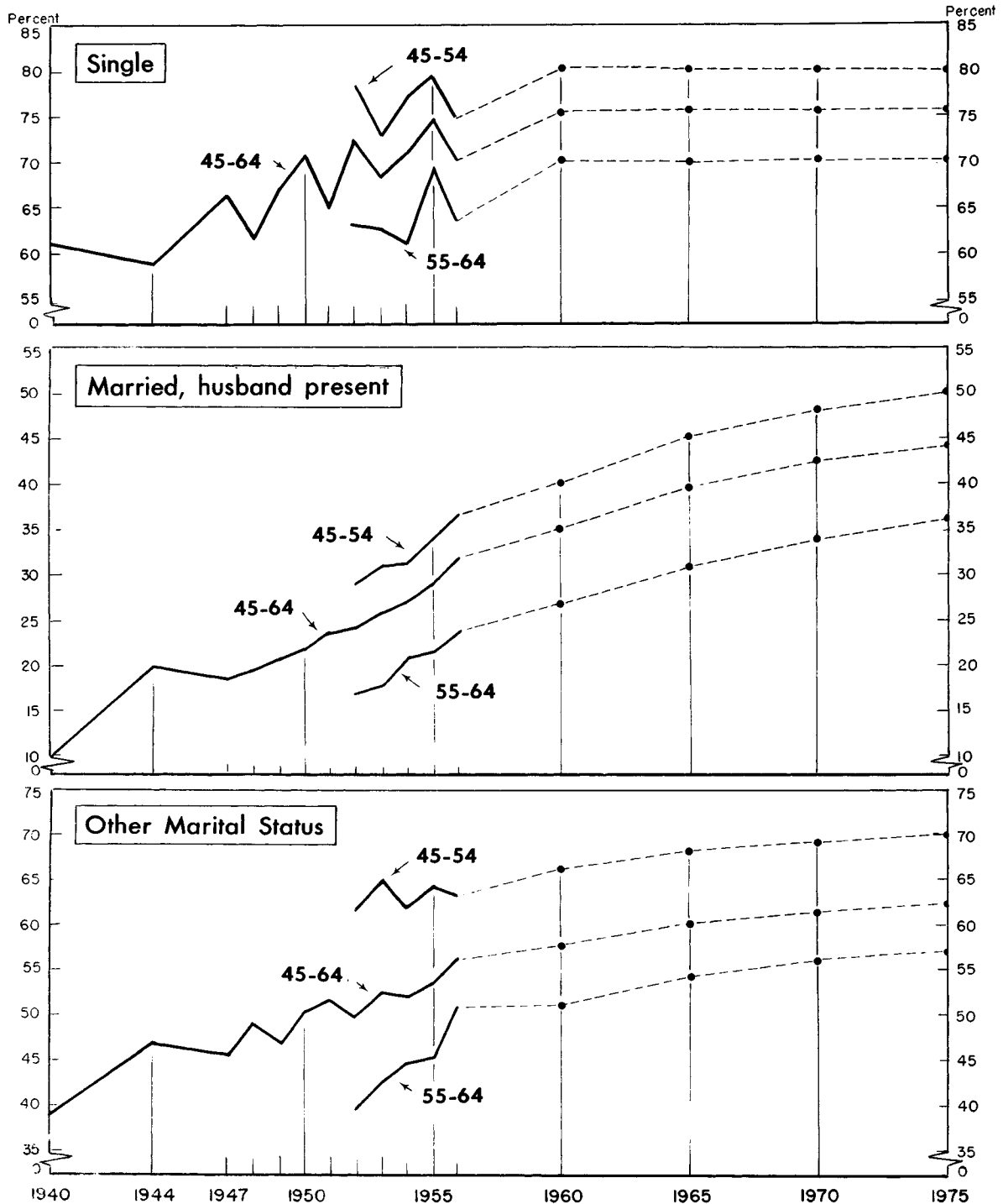
The rates for single women (who comprise less than 10 percent of the population in the age groups 45 and over) were quite high up to age 65 and they have shown little change in recent years. Therefore, the rate for the 45-64 year group was held constant at about 75 percent; and for 65 and over it was held at 25 percent.

For the group of women who are married with husband present; and for the widowed, divorced, and separated; the labor force participation rates advanced considerably since 1940. Continued increases were therefore projected for these worker rates. For example, the rate for married women with husband present, aged 45-64 was increased from 29 percent in April 1955 to 44 percent by 1975; the rate for women in the other marital status category in this age group was advanced from about 53 percent in 1955 to 62 percent in 1975. (See chart 6.)

²³Data for the 45-54 and 55-64 year groups were available only since 1952. Labor force participation rates were therefore projected for the 20-year age group as a guide for projecting the rates for the 10-year age groups.

Chart 6.

Projected Rates of Labor Force Participation for Women 45-64 Years of Age, by Marital Status



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Sources: U.S. Bureau of the Census;
Bureau of Labor Statistics.

The number in the labor force was obtained by multiplying the labor force participation rate for each marital group by the corresponding population and adding the component parts to a total for each age group. Since these were April worker rates, a conversion was made to an annual average basis by adding changes in April labor force participation rates for each age group to the corresponding 1955 annual average rate.

The Age-Sex Composition of the Future Labor Force

Changes Between 1955 and 1965

By 1965, the total labor force is expected to number almost 80 million. This represents a rise of 11 million over 1955. (See table 12.)

Table 1-2. Total labor force, by age and sex, annual averages, 1955 and projected 1965 and 1975¹

(In thousands)

Age and sex	1955	1965	1975	Net change from-	
				1955-65	1965-75
Both sexes					
14 years and over	68,899	79,872	94,775	10,973	14,903
Male					
14 years and over	48,040	53,206	62,353	5,166	9,147
14-24 years	8,210	10,957	14,319	2,747	3,362
25-44 years	22,297	22,380	26,063	83	3,683
45 years and over . . .	17,533	19,869	21,971	2,336	2,102
Female					
14 years and over	20,859	26,666	32,422	5,807	5,756
14-24 years	4,445	5,928	7,685	1,483	1,757
25-34 years	4,266	4,372	6,077	106	1,705
35 years and over . . .	12,148	16,366	18,660	4,218	2,294

¹ Detailed data shown in Appendix table A-1.

Source: U. S. Department of Commerce, Bureau of the Census, and U. S. Department of Labor, Bureau of Labor Statistics.

The number of women workers will increase by more than 5 3/4 million and men by more than 5 million. As in the past, population changes will be an important determinant of the changes in the labor force. The sharp increases in the population 14-24 years of age will result in the addition of over 4 million workers in these ages, despite small declines in their labor force participation rates. There will be almost no change in either the population or labor force for men in ages 25-44. (The number of men workers 25-34 will be about 600,000 smaller in 1965 than 10 years earlier but the 35-44 group will increase by about 700,000.) Population growth will also account for the 2 1/4 million rise among men 45-64. There will be virtually no change in the male labor force 65 years and over despite the rising population, because of the reduced labor force participation rate.

Among adult women, the number of workers 25-34 will remain almost unchanged, with the rising labor force participation rate just about making up for the smaller population in this age group. Population increases in the age groups 35 and over together with greater proportions in the work force will add more than 4 million women in these ages to the labor force between 1955 and 1965.

Changes Between 1965 and 1975.

In the 10 years from 1965 to 1975, the labor force is expected to increase by 15 million workers to nearly 95 million. Unlike the labor force changes in the previous decade, men will provide a greater part of the growth (over 9 million) than will the women (5 3/4 million). The number of young workers under 25 years of age will continue to increase sharply--more than 5 million. There will be a substantial increase of more than 4 million in the number of men workers 25-34 years of age and a drop of 600,000 in the age group 35-44, corresponding to the population changes. About 1 3/4 million men 45-64 years of age will also be added and again the declining rate of labor force participation for men 65 and over will hold down the labor force increase in this age group to only 200,000 even though the population in this group is expected to grow by 1 1/2 million.

At the same time, the increase in the number of adult women in the labor force (4 million) is expected to be somewhat smaller than in the period 1955 to 1965. Their labor force participation rates are expected to rise, but it seems unlikely that the gains will continue at the same rate as in the previous decade. For one thing, it is estimated that their rates will be quite high by 1965 and will have been raised to that point by the addition of many women whose work activity is marginal in the sense of not being full time or full year and depending to some extent upon labor demand rather than on economic necessity alone. How much the proportion of women in the labor force will increase will depend upon many factors such as availability of jobs, location of jobs, and hours of work. Moreover, the competition of larger numbers of young adult men (not true in 1955-65) could well have a dampening effect on the rate of increase in labor force participation for women.

Trends in Part-time and Full-time Employment

Up to this point, the discussion has related entirely to the changes in the number of workers by age and sex. Since the numerical increase will consist to a large extent of younger workers and adult women, among whom part-time²⁴ work is quite prevalent, the trends in part-time and full-time employment were projected to assess the effect on the total amount of labor input to be expected from the future labor force.

The average number of hours worked in a week differ markedly among the various age-sex groups. Less than 10 percent of men in the ages 25-54 work part time, compared with almost 50 percent of teenage boys, and about 25 percent of women over 35 and of men over 65 (table 13).

Table 13. Hours distribution of persons at work, by age and sex, annual average 1955

Age and sex	Number at work (thousands)	Percent distribution by hours worked				
		Total	Full time (35 hours or more)	Part time		
				Total	15-34 hours	1-14 hours
Both sexes						
14 years and over...	60,262	100.0	82.9	17.1	12.9	4.3
Male						
14 years and over...	41,430	100.0	87.4	12.6	9.7	2.9
14-19 years.....	2,581	100.0	51.0	49.0	29.2	19.8
20-24 years.....	2,896	100.0	86.4	13.6	10.7	2.8
25-54 years.....	28,199	100.0	91.7	8.3	7.2	1.1
55-64 years.....	5,501	100.0	88.2	11.8	9.6	2.1
65 years and over..	2,257	100.0	73.3	26.7	18.3	8.4
Female						
14 years and over...	18,829	100.0	73.0	27.0	19.8	7.3
14-19 years.....	1,749	100.0	56.3	43.7	21.7	22.0
20-24 years.....	2,208	100.0	81.1	18.9	14.7	4.2
25-34 years.....	3,836	100.0	76.5	23.5	18.4	5.1
35 years and over..	11,039	100.0	72.7	27.3	20.9	6.4

Note: Because of rounding, sums of individual items do not necessarily equal totals.

Source: U. S. Department of Commerce, Bureau of the Census.

²⁴ Full-time work is defined as consisting of 35 hours or more per week and part-time as less than 35 hours.

There are several reasons for these differences. Attending school is the primary activity of many teen-agers who are in the labor force. As a result, they can work only after school hours or on Saturday. Since young people who are both students and workers comprise almost one-half the number of 14-19 year-olds in the labor force, the age group as a whole has a heavy weighting of part-time workers. Although a majority of women work full time, home responsibilities prevent some from doing so. Moreover, the number of part-time workers has increased steadily in recent years. Between 1947 and 1956, a period when the number of persons at work increased by 6.3 million, part-time workers accounted for almost 3 million of this increase.

The trend toward more part-time worker participation in the labor force will probably continue due to the following factors:

1. The proportion of young workers who are also attending school is expected to increase because many more boys and girls than formerly finish high school and go to college. Since these student workers are primarily part-time workers, the increased weighting of the school group will undoubtedly increase the proportion of young part-time workers.

2. Participation rates of adult women have increased steadily in recent years and in some cases have exceeded their wartime peaks. This has been accompanied by an increase in part-time work. The proportion of women 35 and over in nonagricultural employment who work less than 35 hours a week increased from 23.4 percent in 1947 to 26.4 percent in 1956.²⁵ Moreover, data show that most of the part-time work is by choice. It is therefore reasonable to assume that many of the adult women who are expected to enter the labor force will be able to do so only on a part-time basis.

3. The Social Security Act was recently amended to raise the maximum earnings retired workers are permitted before benefits under social security are suspended. This may induce more older workers to take part-time work instead of dropping out of the labor force altogether.

Method of Projecting Part-time and Full-time Workers

The continuation of the above trends as well as the changes in the age-sex structure of the labor force by 1965 and 1975 will have a direct effect on the hours worked, even assuming no institutional changes in hours of work. In order to evaluate the impact of the changing labor force composition on hours of work, projections of hours worked were made separately for each age-sex group for which labor force projections were made. The proportions of the population working 1-14 hours, 15-34, and 35 hours or more were projected to 1975. Since both labor force participation rates and

²⁵U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-50, No. 75, Women Past Thirty-Five in the Labor Force: 1947 to 1956.

the hours distribution were based on population, it was possible to keep the projections of hours of work consistent with the changes projected in the labor force participation rates.

Data for 1948 to 1956 were used in projecting hours distribution up to 1975. Since information on hours by student status was available only for October, that month was used. The distributions by hours were charted and the trends projected to 1975 as follows:

For men in ages 25 to 64 the proportions working in each category of hours were held constant at 1955 levels since there was no evidence of consistent change in recent years.

The hours distributions for men 65 years and over were charted and projected separately by farm and nonfarm groupings. The hours distributions of those in nonfarm employment in this age group showed that all the nonfarm decline has taken place among full-time workers and that the part-time proportion has increased very slightly. Similarly the decline in the farm sectors has been primarily among full-time workers. (See chart 7.) For the total age group, the projected trends will provide some increase in the number of part-time workers, just about offsetting the declines among full-time workers.

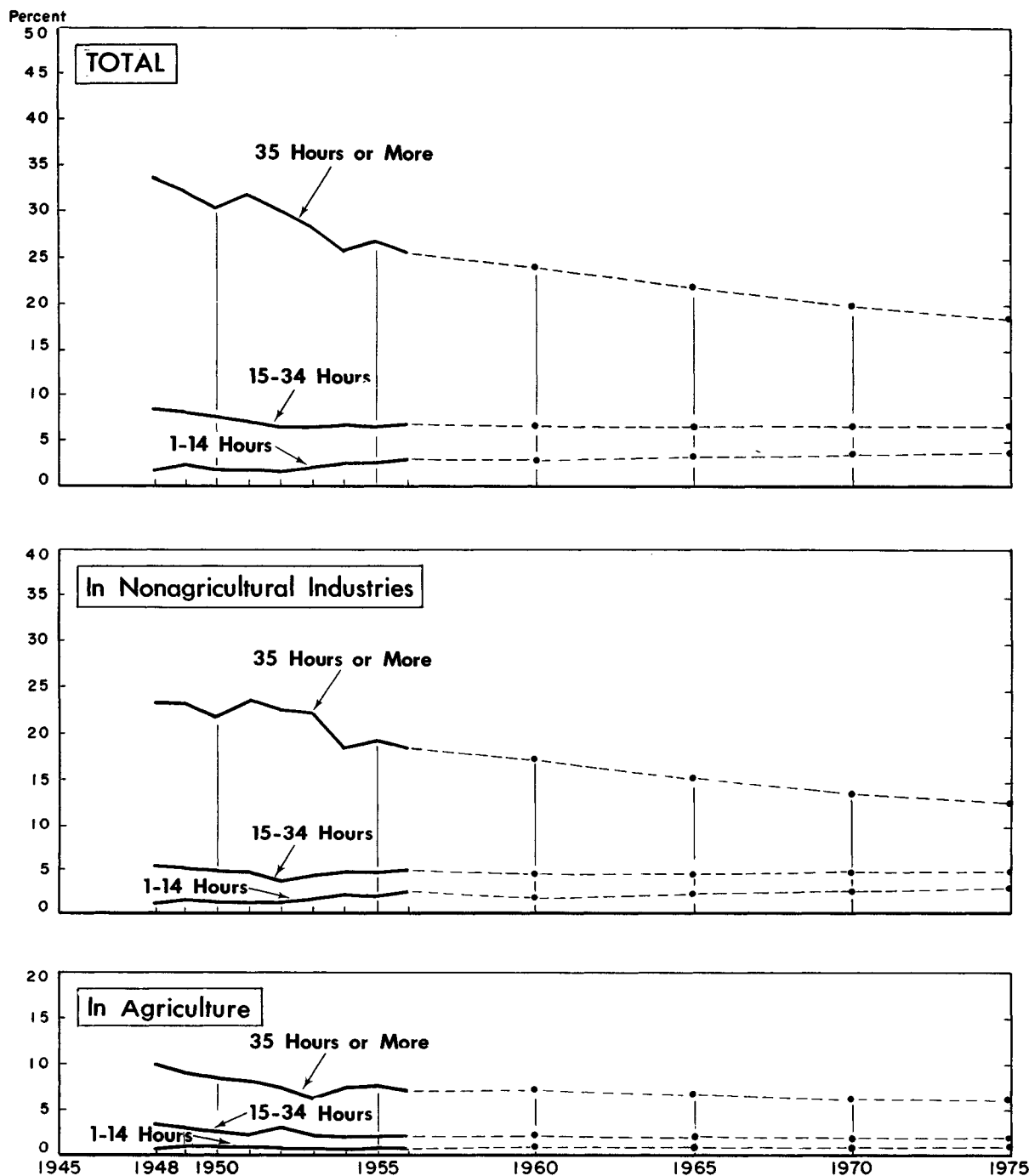
For persons in age groups under 25 years, the hours distributions were charted and projected separately for students and nonstudents. The hours distributions were held constant for nonstudent workers, most of whom have full-time jobs. For student workers, small increases were allowed in the projected proportion of men aged 18-19 working part-time, in the proportions of men 20-24 working part time and full time, and in the proportions of girls 20-24 working part time. The other groups were held constant.

Although much of the increased work activity of adult women has been in the full-time group, there has been some rise in the proportion working part time. Both the full-time and part-time proportions for each age group among adult women were, therefore, allowed to increase. The past trends and the projections for women aged 55-64 are shown in chart 8.

These extrapolations of hours distributions made on an October basis were later converted to annual average levels. The changes in distribution from October 1955 to October 1960 and in each subsequent 5-year period were added to the 1955 annual average hours distribution for each age group. The projected distributions were then applied to the projected population by age and sex to obtain the number in each of the categories, 1-14 hours, 15-34 and 35 hours or more.

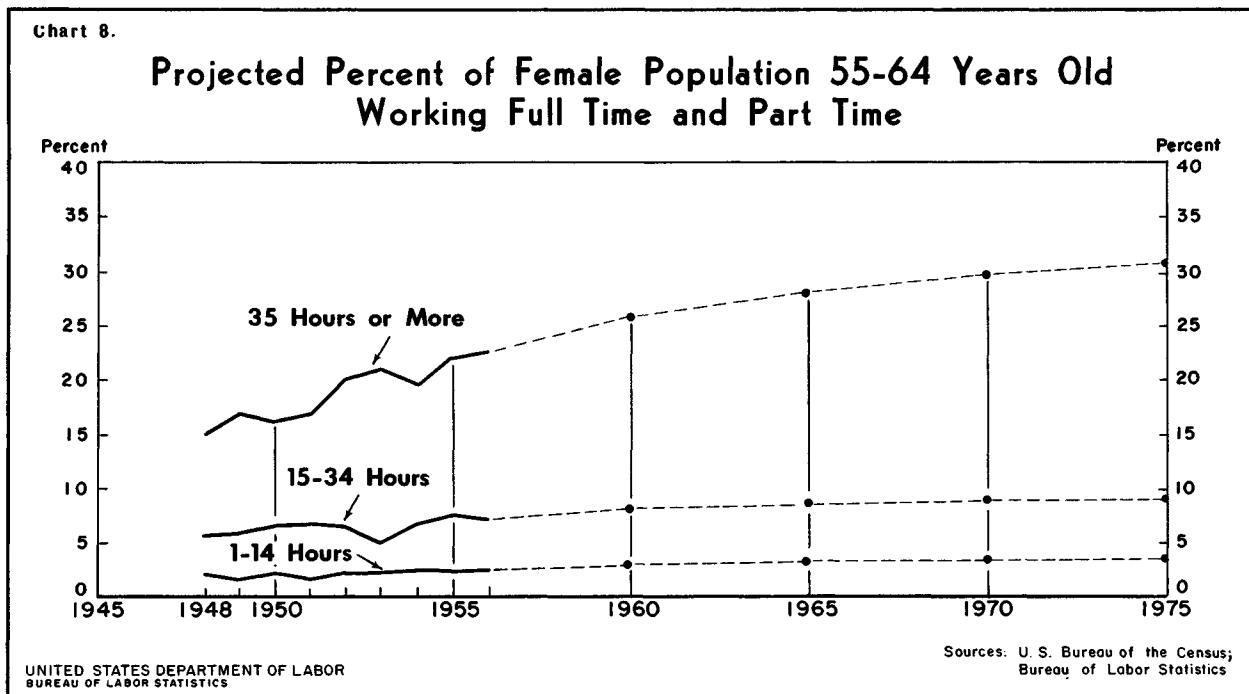
Chart 7.

Projected Percent of Male Population 65 Years and Over Working Full Time and Part Time



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Sources: U.S. Bureau of the Census;
Bureau of Labor Statistics



The projections of hours, then, take account of recent trends in the hours worked by each age-sex group, and the increase expected in each age-sex group in the labor force. No allowance was made for any general change in the workweek such as might result from agreements reached by collective bargaining, or from enactment of legislation.

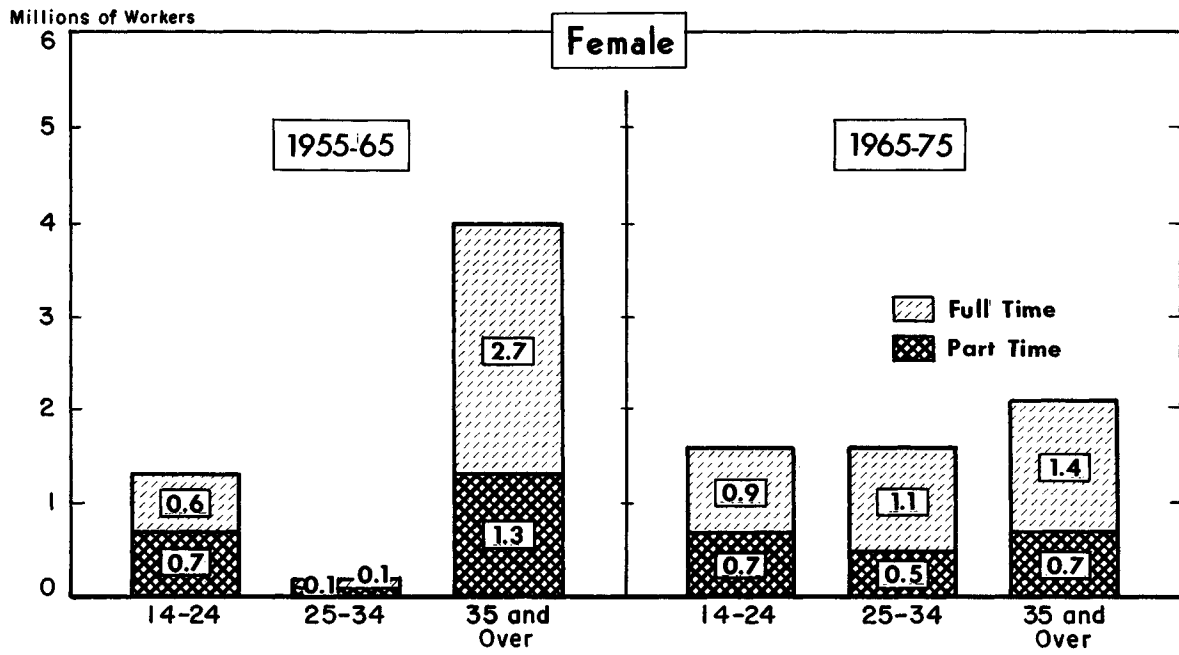
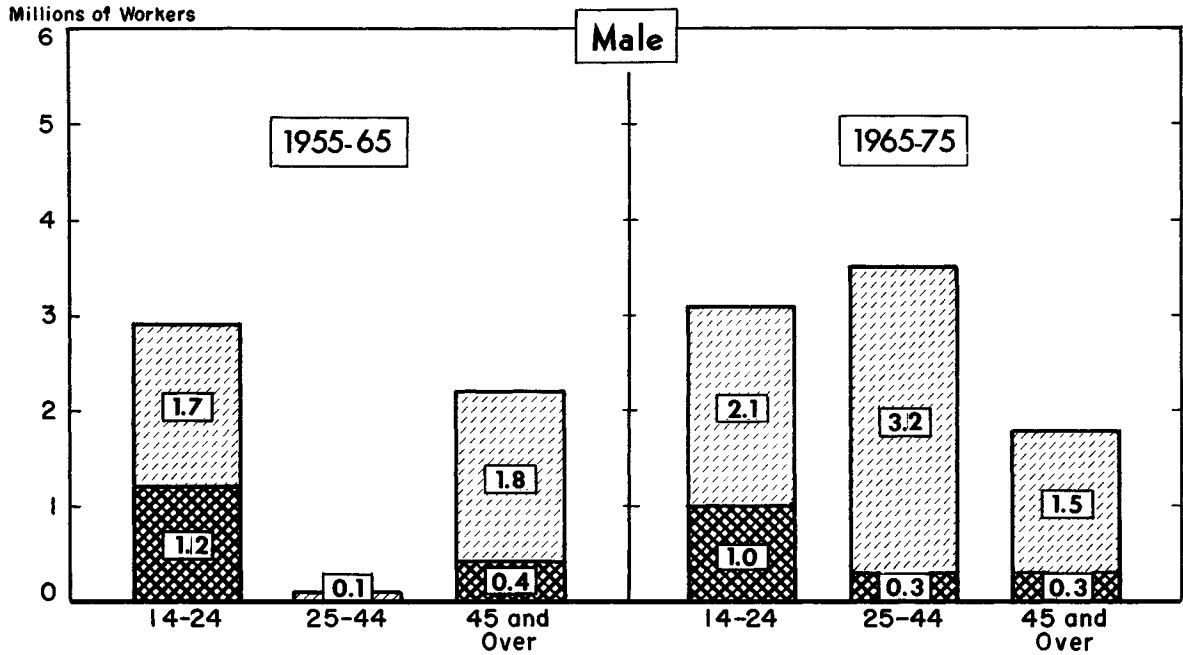
Changes in the Part-time Composition of the Future Labor Force

By 1965, there will be about 15 million part-time workers in the labor force, an increase of 3.8 million over their number in 1955 (table 14). The part-time group, which comprises approximately 15 percent of the total labor force, will account for 35 percent of the 11 million growth in the labor force between 1955 and 1965. Young workers under 25 years of age will make the heaviest contribution to the growth in the part-time labor force--increasing by 1.9 million to 4.8 million in 1965. Women over 35 will provide almost all the rest of the additional part-time workers, increasing by 1.3 million to 4.3 million in 1965 (chart 9).

Between 1965 and 1975, the number of part-time workers will continue to increase substantially but not as much as in the preceding decade. They will expand by 3.4 million to 17.5 million while the total labor force will increase by 15 million. The number of part-time workers under 25 will increase by 1.7 million to 6.5 million. This increase will be smaller than in the preceding decade primarily because the proportion who will be both students and part-time workers is not expected to expand as much as in the

Chart 9.

Projected Changes in Number of Full-Time and Part-Time Workers, by Age Groups and Sex, 1955-65 and 1965-75



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Table 14. Persons at work by full-time and part-time status, by sex, annual averages, 1955 and projected 1965 and 1975¹

(Millions of persons 14 years old and over)

Sex and hours worked	1955	1965	1975	Net change from--	
				1955-65	1965-75
Both sexes					
Total labor force	68.9	79.9	94.8	11.0	14.9
Total at work ²	60.3	71.0	84.6	10.7	13.6
Full time					
(35 hours or more).....	49.9	56.9	67.1	7.0	10.2
Part time	10.3	14.1	17.5	3.8	3.4
15-34 hours	7.8	10.3	12.7	2.5	2.4
1-14 hours	2.6	3.8	4.8	1.2	1.0
Males					
Total labor force	48.0	53.2	62.4	5.2	9.2
Total at work ²	41.4	46.7	55.1	5.3	8.4
Full time					
(35 hours or more).....	36.2	39.8	46.6	3.6	6.8
Part time	5.2	6.9	8.5	1.7	1.6
15-34 hours	4.0	5.2	6.4	1.2	1.2
1-14 hours	1.2	1.7	2.1	.5	.4
Females					
Total labor force	20.9	26.7	32.4	5.8	5.7
Total at work ²	18.8	24.3	29.5	5.5	5.2
Full time					
(35 hours or more).....	13.7	17.1	20.5	3.4	3.4
Part time	5.1	7.2	9.0	2.1	1.8
15-34 hours	3.7	5.1	6.3	1.4	1.2
1-14 hours	1.4	2.1	2.7	.7	.6

¹ Detailed data shown in Appendix table A-2.

² Excludes members of the Armed Forces, unemployed persons, and those with a job but not at work for reasons such as vacation or illness.

Note: Because of rounding, sums of individual items do not necessarily equal totals.

Source: U. S. Department of Commerce, Bureau of the Census and U. S. Department of Labor, Bureau of Labor Statistics.

earlier period. The increase in part-time workers among women 35 years and over (700,000) will also be less than in the previous decade. This will result largely from a smaller overall labor force increase in this age group. However, women 25 to 34 will provide 500,000 additional part-time workers.

A larger number of full-time workers will be added to the labor force between 1965 and 1975 than in the preceding 10 years. This will reflect primarily the greater number of adult male workers who are primarily full-time workers.

Implications

How will the changes in the age-sex structure of the labor force and the greater number of part-time workers affect the quality of the workforce, labor input, and labor force turnover in the years ahead? Despite a substantial increase in total labor force between 1955 and 1965, there will be a scarcity of workers in some ages and an ample supply in others. There will be a shortage of male workers in the important age groups from 25 to 44 years, which normally supply the skilled workers required to replace losses created by death and retirement and to fill expanding needs created by advancing technology. This situation should be favorable to the older worker. Because the overall need for workers will be rising while the number of men in the central ages will not be increasing, older workers will be in greater demand. Employers will try to keep their experienced older workers who will generally be more qualified to fill the gap in skilled jobs created by the relatively short supply of men in the central ages. Moreover, employers will have to find the additions to their skilled staffs among the large numbers of young workers and adult women who will be entering the labor force during the same period. The incoming group will be adequate in number but many of them will be inexperienced and will therefore require training. Employers may have to consider using women workers in a variety of jobs not previously open to women. This too will mean job training. Some of the women returning to the work force will have usable job experience and skills acquired in earlier periods of employment, but others will require training or at least retraining in previous skills.

Compared with the relative shortage of skilled workers, a great many unskilled workers will be competing for jobs because the number of women entering the labor force and the number of young people reaching working age in the next decade will be so large. Moreover, some retired workers will be seeking part-time, less skilled jobs and they will also add to the competition. Therefore, the amount and quality of education and vocational training will be very important in this competitive situation.

Although a majority of the women and young workers entering the labor force between 1955 and 1965 will be seeking full-time jobs, a substantial number will want only part-time work. From the employers' point of view, it may mean the rescheduling of many jobs to a part-time basis. This would be an extension of the trend that has been developing in

many trade and service establishments, where much of the recent increase in part-time employment has occurred.

In turn, the number of part-time jobs that will be available may influence the supply of workers. The recent increases in labor force participation rates of married women have undoubtedly been partially due to expanding part-time job opportunities in suburban stores and service establishments. If sufficient additional part-time jobs are not available, there may not be as much continued increase as projected in the labor force participation rates for this group.²⁶

The extent of labor force participation on the part of students is also dependent upon the availability of part-time jobs. Therefore, the proportion of students in the labor force may decline, if the number of short-hour jobs does not keep pace with the supply of student labor offered. Another aspect of the situation is that many young people need jobs to help pay the high costs of college education, i. e., having a job makes the difference between being able to go to school or not. Therefore, if part-time jobs are not available, the number of college students may not increase as much as indicated in these projections, and those who cannot afford to continue in school will become full-time workers.

The increased proportion of part-time workers in the labor force will, of course, affect the average number of hours worked per week by all persons. A rough computation indicates that in 1965 average weekly hours of work may be about one-half hour less than in 1955 as a result of the increased proportion of part-time workers in the labor force. Between 1965 and 1975 average weekly hours will not be affected much because the increase in part-time workers will be offset by an increase in the number of adult male workers, particularly in ages 25-34, almost all of whom work full time.

The addition of so many young workers and married women to the labor force during the years ahead will undoubtedly result in an increase in the number of workers who change jobs or who work only part of the year. Young workers tend to try more than one job before settling into a permanent career. Moreover, both young workers and married women frequently move into and out of the labor force as their personal circumstances change. For example, some married women work during the

²⁶ The question of availability of this large additional number of part-time jobs is being studied by the Bureau of Labor Statistics, in connection with its research program on industrial and occupational trends and outlook.

school year but leave the labor force during the summer months when their school-age children are home. Some students work only part of the year depending upon the pressure of their school activities. This contrasts sharply with the customary pattern for adult men to work all year on a full-time basis.²⁷

Some of the women who are part-year workers will continue their pattern of intermittent labor force attachment throughout their working years. For young men, on the other hand, the part-year or part-time pattern represents only a temporary situation preceding their permanent, full-time labor force activity. While movement into and out of the labor force implies some loss of training and efficiency, actually these workers provide a flexible source of labor supply. If employers select workers with care, taking into account the individual's probable future work patterns and capabilities, they can find workers to fill many of their manpower needs among these part-year and part-time groups. For example, some can be used for temporary expansion of the work force to meet seasonal needs; others can be used for year-round part-time work that requires little training; and still others can be trained for eventual permanent full-time employment.

²⁷ Census Bureau data on monthly movements into and out of the labor force indicate that only about 1 out of every 100 male workers between ages 25 and 64 enters or leaves the labor force each month. Even for those in ages over 64, less than 10 percent leave or reenter the work force. In contrast, an average of almost 20 percent of teen-agers who were in the work force in one month were not in the labor force in the previous month, and about the same proportion of this age group withdraw each month. Although the proportionate movement for adult women is not quite so high as that of the teen-age group--about 10 percent--it still represents a very large labor force turnover.

Table A-1. Population, total labor force, and labor force participation rates, by age and sex, actual 1955 and projected 1960-75

Age and sex	Total population, July (thousands)				
	1955	1960	1965	1970	1975
Both sexes					
14 years and over.....	118,846	126,528	138,127	150,691	163,704
Male					
14 years and over.....	58,344	61,765	67,239	73,247	79,540
14-19 years.....	6,896	8,218	10,676	11,878	12,574
14-17 years.....	4,696	5,700	7,304	8,089	8,365
18-19 years.....	2,200	2,518	3,372	3,789	4,209
20-24 years.....	5,399	5,703	6,808	8,791	9,794
25-34 years.....	11,878	11,309	11,229	12,614	15,671
35-44 years.....	11,182	11,731	11,913	11,351	11,290
45-54 years.....	9,336	10,180	10,726	11,278	11,480
55-64 years.....	7,094	7,505	8,144	8,936	9,471
65 years and over.....	6,559	7,119	7,743	8,399	9,260
Female					
14 years and over.....	60,502	64,763	70,888	77,444	84,164
14-19 years.....	6,682	7,957	10,267	11,437	12,105
14-17 years.....	4,542	5,504	7,028	7,786	8,049
18-19 years.....	2,140	2,453	3,239	3,651	4,056
20-24 years.....	5,367	5,608	6,694	8,552	9,537
25-34 years.....	12,258	11,515	11,298	12,608	15,542
35-44 years.....	11,627	12,252	12,375	11,639	11,437
45-54 years.....	9,564	10,666	11,404	12,028	12,168
55-64 years.....	7,435	8,105	8,955	10,030	10,763
65 years and over.....	7,568	8,660	9,895	11,150	12,612

Table A-1. Population, total labor force, and labor force participation rates, by age and sex, actual 1955 and projected 1960-75--Continued

Age and sex	Total labor force, annual averages (thousands)				
	1955	1960	1965	1970	1975
Both sexes					
14 years and over.....	68,899	73,550	79,872	87,092	94,775
Male					
14 years and over.....	48,040	49,971	53,206	57,443	62,353
14-19 years.....	3,378	3,939	5,034	5,534	5,896
14-17 years.....	1,696	2,035	2,549	2,783	2,861
18-19 years.....	1,682	1,904	2,485	2,751	3,035
20-24 years.....	4,832	5,024	5,923	7,587	8,423
25-34 years.....	11,462	10,913	10,836	12,173	15,123
35-44 years.....	10,835	11,367	11,544	10,999	10,940
45-54 years.....	8,879	9,681	10,200	10,725	10,917
55-64 years.....	6,129	6,484	7,036	7,721	8,183
65 years and over.....	2,525	2,563	2,633	2,704	2,871
Female					
14 years and over.....	20,859	23,579	26,666	29,649	32,422
14-19 years.....	1,987	2,276	2,896	3,180	3,374
14-17 years.....	899	1,145	1,448	1,588	1,642
18-19 years.....	1,088	1,131	1,448	1,592	1,732
20-24 years.....	2,458	2,546	3,032	3,866	4,311
25-34 years.....	4,266	4,364	4,372	4,905	6,077
35-44 years.....	4,814	5,268	5,631	5,470	5,478
45-54 years.....	4,160	5,141	5,941	6,555	6,814
55-64 years.....	2,394	3,031	3,636	4,313	4,779
65 years and over.....	780	953	1,158	1,360	1,589

Table A-1. Population, total labor force, and labor force participation rates, by age and sex, actual 1955 and projected 1960-75--Continued

Age and sex	Labor force participation rates annual averages (percent)				
	1955	1960	1965	1970	1975
Both sexes					
14 years and over.....	58.0	58.1	57.8	57.8	57.9
Male					
14 years and over.....	82.3	80.9	79.1	78.4	78.4
14-19 years.....	49.0	47.9	47.2	46.6	46.9
14-17 years	36.1	35.7	34.9	34.4	34.2
18-19 years	76.5	75.6	73.7	72.6	72.1
20-24 years.....	89.5	88.1	87.0	86.3	86.0
25-34 years.....	96.5	96.5	96.5	96.5	96.5
35-44 years.....	96.9	96.9	96.9	96.9	96.9
45-54 years.....	95.1	95.1	95.1	95.1	95.1
55-64 years.....	86.4	86.4	86.4	86.4	86.4
65 years and over	38.5	36.0	34.0	32.2	31.0
Female					
14 years and over.....	34.5	36.4	37.6	38.3	38.5
14-19 years.....	29.7	28.6	28.2	27.8	27.9
14-17 years	19.8	20.8	20.6	20.4	20.4
18-19 years	50.9	46.1	44.7	43.6	42.7
20-24 years.....	45.8	45.4	45.3	45.2	45.2
25-34 years.....	34.8	37.9	38.7	38.9	39.1
35-44 years.....	41.4	43.0	45.5	47.0	47.9
45-54 years.....	43.5	48.2	52.1	54.5	56.0
55-64 years.....	32.2	37.4	40.6	43.0	44.4
65 years and over	10.3	11.0	11.7	12.2	12.6

Note: Because of rounding, sums of individual items do not necessarily equal totals.

Source: 1955 data from the U. S. Department of Commerce, Bureau of the Census; 1960-75 population from Census Bureau's Current Population Reports, Series P-25, No. 187 Series III; 1960-75 labor force projected by the U. S. Department of Labor, Bureau of Labor Statistics.

Table A-2. Persons at work,¹ by full-time and part-time status, by age and sex, annual averages, 1955 and projected 1960-75

(Millions)					
Sex, age, and hours worked	1955	1960	1965	1970	1975
Both sexes					
Total at work.....	60.3	65.3	71.0	77.6	84.6
Full time (35 hours or more) .	49.9	53.2	56.9	61.7	67.1
Part time.....	10.3	12.1	14.1	15.9	17.5
15-34 hours	7.8	9.0	10.3	11.6	12.7
1-14 hours	2.6	3.1	3.8	4.3	4.8
Male					
14 years and over.....	41.4	43.8	46.7	50.6	55.1
Full time (35 hours or more) .	36.2	37.8	39.8	42.8	46.6
Part time.....	5.2	6.0	6.9	7.8	8.5
15-34 hours	4.0	4.6	5.2	5.8	6.4
1-14 hours	1.2	1.4	1.7	1.9	2.1
14-24 years.....	5.5	6.7	8.5	10.4	11.5
Full time (35 hours or more) .	3.8	4.5	5.5	6.9	7.6
Part time.....	1.7	2.2	2.9	3.5	3.9
15-34 hours	1.1	1.5	2.0	2.4	2.7
1-14 hours .....	.6	.7	.9	1.1	1.2
25-44 years.....	20.0	20.0	20.1	20.9	23.6
Full time (35 hours or more) .	18.4	18.4	18.5	19.2	21.7
Part time	1.6	1.6	1.6	1.7	1.9
15-34 hours	1.4	1.4	1.4	1.4	1.6
1-14 hours .....	.2	.2	.2	.2	.3
45 years and over	15.9	17.1	18.1	19.3	20.0
Full time (35 hours or more) .	14.0	14.9	15.8	16.7	17.3
Part time	2.0	2.2	2.4	2.6	2.7
15-34 hours	1.6	1.7	1.8	2.0	2.1
1-14 hours .....	.4	.5	.5	.6	.7

See footnote at end of table.

Table A-2. Persons at work,¹ by full-time and part-time status, by age and sex, annual averages, 1955 and projected 1960-75--Continued

(Millions)

Sex, age, and hours worked	1955	1960	1965	1970	1975
Female					
14 years and over.....	18.8	21.5	24.3	27.0	29.5
Full time (35 hours or more) ..	13.7	15.4	17.1	18.9	20.5
Part time.....	5.1	6.1	7.2	8.1	9.0
15-34 hours	3.7	4.4	5.1	5.8	6.3
1-14 hours	1.4	1.7	2.1	2.4	2.7
14-24 years.....	4.0	4.3	5.3	6.3	6.8
Full time (35 hours or more) ..	2.8	2.9	3.4	4.0	4.3
Part time.....	1.2	1.4	1.9	2.3	2.6
15-34 hours .....	.7	.8	1.1	1.3	1.5
1-14 hours .....	.5	.6	.8	1.0	1.1
25-34 years.....	3.8	4.0	4.0	4.5	5.6
Full time (35 hours or more) ..	2.9	3.0	3.0	3.3	4.1
Part time.....	.9	1.0	1.0	1.2	1.5
15-34 hours .....	.7	.8	.8	.9	1.1
1-14 hours .....	.2	.2	.2	.3	.4
35 years and over.....	11.0	13.2	15.0	16.2	17.1
Full time (35 hours or more) ..	8.0	9.5	10.7	11.5	12.1
Part time.....	3.0	3.7	4.3	4.7	5.0
15-34 hours	2.3	2.8	3.2	3.5	3.7
1-14 hours .....	.7	.9	1.0	1.2	1.3

¹ Excludes members of the Armed Forces, unemployed persons, and those with a job but not at work for reasons such as vacation or illness.

Note: Because of rounding, sums of individual items do not necessarily equal totals.

Source: U. S. Department of Commerce, Bureau of the Census, and U. S. Department of Labor, Bureau of Labor Statistics.