The projections are based on Bureau of the Census unpublished population projections by color and on the assumptions that past trends in labor force participation rates will continue, that the size of the Armed Forces will not change significantly, and that the economy will operate at relatively high levels consistent with an unemployment rate of about 4 percent. Recognizing the uncertainty of the projections, it is estimated that between 1965 and 1980—

(1) The total nonwhite labor force will have risen by 41 percent compared with only a 28 percent increase in white workers,

(2) The number of nonwhite workers will increase from 8.7 million to 12.3 million while whites will increase from 69.7 million to 89.1 million,

(3) The expected growth of the total population accounts for 86 percent of the projected labor force increase,

(4) The number of young, ages 14 to 24, nonwhite workers will increase by nearly 30 percent and young white workers by 20 percent, and

(5) Among workers aged 25 to 54, the number of white women will increase by about 31 percent, nonwhite by 27 percent, nonwhite men by 3 percent, and white men will not increase. For both color groups, both sexes, and all age groups, actual figures for the 1960 and 1965 and projected figures for the 1970, 1975, and 1980 population, labor force, and labor force participation rates are given. This document appeared in "Monthly Labor Review," September 1966, and is available from U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C. 20210.
SPECIAL LABOR FORCE REPORT NO. 73

LABOR FORCE PROJECTIONS BY COLOR, 1970-80

UNITED STATES DEPARTMENT OF LABOR  W. Willard Wirtz, Secretary
BUREAU OF LABOR STATISTICS - Arthur M. Ross, Commissioner

SOPHIA COOPER AND DENIS F. JOHNSTON*

Between 1965 and 1980, the relative increase in the number of nonwhite workers is expected to be much greater than that of the white labor force. By 1980, the total nonwhite labor force will have risen by 41 percent compared with only a 28-percent increase in white workers. This projected difference in growth rates is primarily attributable to the expected greater rate of population growth among nonwhite youth. Judgments as to the probable effects of changing social and economic conditions in reducing present differences between white and nonwhite labor force participation rates were also included in these estimations.

The number of nonwhite workers is expected to increase from 8.7 million in 1965 to 12.3 million during the next 15 years; the number of white workers may increase from 69.7 million to 89.1 million by 1980. (See table 1.)

The expected growth of the total population accounts for 86 percent of the projected 1965–80 increase in the labor force. Changes in the labor force participation rates of white men and nonwhite women over the projected period will be minor; for nonwhite men, the assumed changes are expected to contribute about 7 percent to their projected labor force growth. The remaining group—white women—is the only one in which the projection is substantially affected by assumed changes in labor force participation rates. They account for about 38 percent.

Before examining these projections further, a few precautions should be noted. In the first place, recent legislation aimed at providing equality of opportunity and reducing the effects of past disparities in education will, in the long run, have a more effect on the social and economic status of nonwhites than whites. But it is not easy to estimate this effect on future labor force activity of nonwhite men and women.

Second, the reported rates of labor force participation for most of the age and sex groups of the nonwhite population show greater changes than those of the whites. Much of this fluctuation can be attributed to the greater sampling variability associated with the smaller numbers of nonwhites, but it is also likely that sensitivity to changes in the economic situation may be disproportionately strong among nonwhite workers.

Third, these projections have not been developed in the same detail as the overall National projections issued in 1965. A breakdown by color of past trends and projections of school enrollment of persons under 25 years of age, and of marriage and fertility of women in the child-bearing ages, was not available in a form useful in developing detailed projections of labor force participation rates.

Fourth, the size and age distributions of the projected nonwhite population are subject to greater uncertainty than those of the whites, in view of the evidence of serious undercounting, especially of adult nonwhite males. Also, any bias which may exist in age reporting is carried forward in the projection and is therefore reflected in the projected nonwhite labor force.²


<table>
<thead>
<tr>
<th>Age, sex, and color</th>
<th>Total population, July 1 (thousands)</th>
<th>Total labor force, annual averages (thousands)</th>
<th>Labor force participation rates (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both sexes</td>
<td>11,017</td>
<td>11,017</td>
<td>11,017</td>
</tr>
<tr>
<td>14 years and over</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5,244</td>
<td>5,244</td>
<td>5,244</td>
</tr>
<tr>
<td>Female</td>
<td>5,244</td>
<td>5,244</td>
<td>5,244</td>
</tr>
<tr>
<td>14 years and over</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5,244</td>
<td>5,244</td>
<td>5,244</td>
</tr>
<tr>
<td>Female</td>
<td>5,244</td>
<td>5,244</td>
<td>5,244</td>
</tr>
</tbody>
</table>

**Note:** The table continues with similar data for other age, sex, and color categories.
Finally, the projection of labor force by color is subject to the same uncertainties as the projection of total labor force, the primary one being that they are based on judgments as to future changes in labor force participation rates. These judgments are that past trends will continue, that there will be no significant change in the size of the Armed Forces, and that the economy will operate at relatively high levels consistent with an unemployment rate of about 4 percent.

In view of the lack of precision that is necessarily introduced into the projections by the above factors, neither a mathematical nor a judgmental approach can be relied upon to yield a definitive picture of the future growth of the nonwhite labor force. Consequently, divergencies of actual labor force from these projected levels should not be interpreted as a deficiency in the performance of the economy.

Younger Workers

Nearly half of the projected increase in the entire labor force between 1965 and 1970 (3.5 out of 7.6 million) will occur among workers 14 to 24 years old (table 2). Young nonwhite workers are expected to add a disproportionate share to this rise, with an increase of nearly 30 percent compared with a 20-percent increase in white workers (chart 1).

After 1970, the increase among young workers will not be as great as it is at present. Between 1970 and 1980, about 3.7 out of the 15.4 million in total labor force increase will occur among workers under 25 years of age, which means that young workers will maintain their share of the labor force in 1970, or about one-fourth of the total (table 3).

Younger nonwhite workers (14 to 24 years) may show about twice the rate of increase of white youths during the 1970 decade. Their number is projected to increase by nearly a third between 1970 and 1980, while the number of white workers 14 to 24 may increase by only 16 percent.

These projected differences in labor force growth among younger whites and nonwhites are explained by the interaction of several factors. Among these, the most important are the differential rates of fertility during the period since World War II, trends in school enrollment, and differences between the two color groups in labor force participation rates. The fertility rate of nonwhites has been at least one-third higher than that of the whites during most of the years since World War II. This difference implies that a relatively greater number of nonwhite persons will be moving into the labor force during the rest of the 1960's. In recent years, the actual labor force rates of nonwhite teenagers, particularly the girls, have been considerably lower than those of white teenagers, and have been declining much more rapidly. The expected increases in school enrollment of nonwhite teenagers will serve as a dampener to this group's labor force participation rates. On the other hand, part of the recent declines in the rates can be explained by the failure of some nonwhite teenagers to find entry-level jobs, a condition which should not persist under the assumptions of a high level of aggregate demand. On balance, therefore, labor force growth is expected to be greater proportionally among young nonwhite workers than among white workers. By 1980, nonwhite youths are expected to account for 14 percent of the total labor force under 25 years of age, up from 12.3 percent in 1960.

Among both white and nonwhite groups nearly 2 out of every 5 young workers are women, and this proportion is expected to remain fairly constant to 1980.

Adult Women

Between 1965 and 1980, the number of white working women 25 to 54 years old may increase by about 31 percent, compared with an increase of 27 percent among nonwhite women in this age group. The expectation is that rates of these two groups will tend to converge. For example, the projected increase in the labor force rate of white women 45 to 54 years old is from 30 percent in 1965 to 59 percent in 1980, while the rate for nonwhite women rises from 60 percent to 64 percent during the next 15 years (chart 2).

One reason for assuming this convergence is that the labor force rates for adult nonwhite women
TABLE 2. CHANGES IN TOTAL LABOR FORCE, BY AGE, SEX, AND COLOR, ACTUAL 1965 TO PROJECTED 1970, 1975, AND 1930

[Numbers in thousands]

<table>
<thead>
<tr>
<th>Age, sex, and color</th>
<th>Total labor force</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual 1965</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
</tbody>
</table>

**Both sexes**

14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Male
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Female
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Wages
Both sexes
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Norwegians
Both sexes
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Male
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

Female
14 years and over...
14 to 24 years...
25 to 44 years...
45 years and over...
65 years and over...

**SEPTEMBER 1966**
are already very high, mostly because of their need to improve family income. If the expected improvement in employment prospects of nonwhite men is realized, some of the economic reasons for the higher labor force rates of nonwhite women may be removed. A more general assumption which underlies this projection is that existing social and economic differences between whites and nonwhites will be reduced somewhat during the next 15 years, and thus bring about a leveling off of labor force participation of nonwhite women.

Adult Men

Male workers in the central age group (25 to 54 years) will continue to be the most stable part of the Nation's labor force, about 40 percent of it in both 1965 and 1980. In projecting to 1980, the worker rates for white men in this central age group were held constant at or near the levels observed during the 1955-57 period, about 96 percent, when the overall unemployment rate was close to 4 percent. The rates for nonwhite men in this age group were assumed to come nearer to the white rates, moving from 90 to 93 percent between 1965 and 1980.

There are several factors which help to explain the differing labor force participation rates between white and nonwhite males. For example, there is a greater incidence of disability among nonwhites. Also, a higher proportion of nonwhite workers have irregular employment and therefore tend to withdraw from the labor force during periods of seasonal slack work or prolonged unemployment. A third factor is the number of inmates in institutions who are by definition excluded from the labor force. In the 1960 Census, 3.7 percent of the nonwhite males 25 to 54 were reported in institutions, compared with 1.1 percent of the corresponding group of white males.

In assuming a gradual convergence in these rates, with nonwhite rates increasing to meet the fairly constant rates for white workers, we recognize that the factors mentioned above are not easily susceptible to sudden or drastic change. Nevertheless, if the general trend toward greater

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**Chart 1. Percent Change in Total Labor Force, by Age, Sex, and Color, 1965-70 and 1975-80**

![Chart showing percent change in total labor force by age, sex, and color for 1965-70 and 1975-80.](chart.png)
equality of opportunity continues, it should eventually produce some reduction in the present differences between the two color groups with respect to all of these factors.

Older Workers

The projection for men 55 to 64 years old represents the net effect of three assumptions: Labor force participation rates for men 55 to 59 years old will remain approximately constant at or near the levels observed during the 1955-57 period, when overall unemployment was about 4 percent; labor force participation rates for men 60 to 64 years old will decline only moderately, as the trend toward early retirement begins to slightly outweigh the assumed continuing demand for the skills and experience of working men in this age group; and worker rates for nonwhite men age 55 to 64 years will move upward to converge with those of the whites, since the lower nonwhite rates of labor force participation throughout the postwar period may have been associated with lack of equal employment opportunities, or limited education and training. The assumed gradual improvement in the relative status of nonwhites implies a reduction in the white-nonwhite differentials in labor force participation rates.

On balance, the projections yield little change in the labor force participation rate of white males 55 to 64 years old. It is assumed to remain close to 85 percent during the next 15 years. However, the rate for nonwhite men in this age group is expected to rise from about 77 percent in 1965 to about 82 percent by 1980.

The projections for men 65 and over assume a continuation of the steady declines in labor force participation which have been observed throughout the postwar period, but at a reduced rate. Since the worker rates of men in this age group have generally tended to move downward in periods of economic recovery as well as in recessions, it is assumed that these declines are essentially a manifestation of long-term secular trends, similar to those which have been observed in other industrial nations. It is expected that rates for white and nonwhite men 65 and over will move in a nearly parallel manner, the white rate declining from 27 percent in 1965 to 22 percent in 1980, the nonwhite from 27 to about 21 percent.

Projections for women workers 55 to 64 years old, however, indicate a quite different trend than that expected for men. The participation rate for white women in this age group increased from 33 to 50 percent between 1960 and 1965, and is pro-


<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>White</td>
<td>Non-white</td>
<td>Total</td>
<td>White</td>
</tr>
<tr>
<td>BOTH SEXES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 years and over</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number in thousands</td>
<td>72,981</td>
<td>65,057</td>
<td>8,090</td>
<td>78,357</td>
<td>69,776</td>
</tr>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>14 to 24 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number in thousands</td>
<td>17,6</td>
<td>17.3</td>
<td>20.3</td>
<td>19.2</td>
<td>22.3</td>
</tr>
<tr>
<td>Percent distribution</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>25 to 44 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number in thousands</td>
<td>45.2</td>
<td>45.1</td>
<td>45.0</td>
<td>46.7</td>
<td>45.3</td>
</tr>
<tr>
<td>Percent distribution</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>45 to 64 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number in thousands</td>
<td>31.3</td>
<td>31.0</td>
<td>32.7</td>
<td>30.3</td>
<td>31.9</td>
</tr>
<tr>
<td>Percent distribution</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>65 years and over</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number in thousands</td>
<td>4.1</td>
<td>4.3</td>
<td>2.7</td>
<td>3.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Percent distribution</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

MONTHLY LABOR REVIEW, SEPTEMBER 1966

[Annual Averages]

Percent

Males, 14 to 19 years

Females, 14 to 19 years

Females, 45 to 54 years

---

White

Nonwhite

---

TABLE 4. APPROXIMATE STANDARD ERRORS OF ESTIMATES AND PERCENTAGES ASSOCIATED WITH ANNUAL AVERAGE LABOR FORCE PARTICIPATION RATES, BY AGE, SEX, AND COLOR 1948-65

<table>
<thead>
<tr>
<th>Color and sex</th>
<th>Age groups</th>
<th>14 to 19 years</th>
<th>20 to 24 years</th>
<th>25 to 34 years</th>
<th>35 to 44 years</th>
<th>45 to 54 years</th>
<th>55 to 64 years</th>
<th>65 years and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE MALES</td>
<td>Standard error of estimate $^1$</td>
<td>1.2</td>
<td>1.2</td>
<td>0.3</td>
<td>0.5</td>
<td>1.3</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Standard error of percentage $^2$</td>
<td>0.5</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NONWHITE MALES</td>
<td>Standard error of estimate $^1$</td>
<td>3.0</td>
<td>2.0</td>
<td>1.1</td>
<td>1.0</td>
<td>1.1</td>
<td>1.6</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Standard error of percentage $^2$</td>
<td>1.2</td>
<td>0.9</td>
<td>0.4</td>
<td>0.4</td>
<td>0.6</td>
<td>1.1</td>
<td>1.4</td>
</tr>
<tr>
<td>WHITE FEMALES</td>
<td>Standard error of estimate $^1$</td>
<td>1.1</td>
<td>1.0</td>
<td>0.8</td>
<td>0.7</td>
<td>1.1</td>
<td>0.9</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Standard error of percentage $^2$</td>
<td>0.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>NONWHITE FEMALES</td>
<td>Standard error of estimate $^1$</td>
<td>2.0</td>
<td>2.3</td>
<td>1.5</td>
<td>1.3</td>
<td>1.8</td>
<td>1.9</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Standard error of percentage $^2$</td>
<td>1.0</td>
<td>1.3</td>
<td>1.0</td>
<td>1.0</td>
<td>1.1</td>
<td>1.4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

See text for explanation.

1 From Employment and Earnings, Technical Note on Labor Force Data, table D adjusted to reflect annual average data.

Reliability of the Projections

As stated above, certain judgments regarding the anticipated long-run impact of current economic programs and manpower policies were considered in making projections of labor force participation rates. These projections are also tied to those published in 1965, which were themselves developed on the basis of a judgmental model roughly consistent with an overall unemployment rate of 4 percent.² For these reasons, it is impossible to provide a measure of the standard error of estimate that might be associated with the projected rates. However, some idea of the reliability of the rates projected for a particular age-sex-color group can be gained by considering the variability of the observed annual average labor force participation rates for that group over the postwar period, 1948-65. A standard error was estimated by fitting a judgmental trend line to the observed rates, and measuring the deviations of the actual values from that trend. The standard error of estimate was then calculated by the following formula:

$$s_e = \sqrt{\frac{\sum(Y - \bar{Y})^2}{N - 3}}$$

Where:
- $s_e$ is the standard error of estimate;
- $Y$ is the actual annual average labor force participation rate;
- $\bar{Y}$ is the "expected" or trend value of the annual average rate;
- $N$ is the number of observations.³

The standard errors of estimate of the labor force participation rates obtained by this procedure (in percentage points) are shown in table 4. Also shown are the estimated standard errors (sampling variability) of the annual average labor force rates which are derived from the monthly CPS sample.

It is apparent from these results that the reliability of the projected labor force participation rates varies considerably among the several groups. As might be expected, the rates of both the younger and the older nonwhite groups are the least reliable, while the greatest stability is found in the rates of white males in the 25 to 54 age groups.

² See footnote 1.
³ $N - 3$ was used in most cases because the fitted curves employed in determining a trend line usually had the same general sort of curvature as a second-degree polynomial. In some cases, the fitted curve had a more complex kind of curvature, necessitating a further reduction in this denominator.