

Projections 2000

Overview and implications of the projections to 2000

Bureau of Labor Statistics moderate projections show 21 million new jobs over the 1986–2000 period, mostly in service-producing industries; the black and Hispanic labor force is estimated to increase much faster than that of whites

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The Bureau of Labor Statistics has prepared projections of the U.S. economy to 2000. Three alternative projections were developed, based on a range of assumptions which result in high, moderate, and low rates of economic growth. The projections encompass the future demographic structure of the labor force, economic rate of growth and composition of demand, and industrial and occupational composition of employment. The Bureau prepares projections biennially; this latest outlook replaces the projections to 1995, published in 1985.¹ This article summarizes the moderate projections of the labor force, economic growth, and industry and occupational employment, and discusses some important implications of the projections. The four articles that follow present the projections in considerably more detail.

Labor force overview

According to the moderate growth projections, the labor force is expected to expand by nearly 21 million, or 18 percent, over the 1986–2000 period. This represents a slowdown in both the number to be added to the labor force and in the rate of growth achieved in the previous 14-year pe-

riod, 1972 to 1986, when the labor force increased by almost 31 million, or 35 percent. The projected growth also represents a slowing from the more recent 1979–86 period. Consequently, the projected slower growth is a continuation of a trend that started in the late 1970's. The rapid increases in the past were the result of the very large baby-boom generation (those born between 1946 and 1964) entering the labor force, accompanied by rapid increases in women's labor force participation rates. The recent slowdown and that projected for the remainder of the century reflect the entry of the smaller numbers from the "birth dearth" generation (those born over the 1965–78 period) along with the slower rate of projected growth in the participation rates of women. (See table 1.)

Not only is the labor force expected to continue to slow its rate of increase over the 1986–2000 period, but it is projected to become increasingly minority and female. For example, the white labor force is projected to increase less than 15 percent, while the black labor force is expected to grow by nearly 29 percent, or 3.7 million workers, more than 17 percent of the projected total labor force increase. The Hispanic labor force is projected to grow by about 6 million, or more than 74 percent, and to account for nearly 29 percent of labor force growth over this period. The Asian and other races group (American Indians, Alaskan Natives,

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Asians, and Pacific Islanders) is projected to grow by nearly 2.4 million, or 70 percent, and account for more than 11 percent of labor force growth. Blacks, Hispanics, and Asians and other races are projected to account for 57 percent of labor force growth; if non-Hispanic white women are included, the combined share of future growth reaches more than 90 percent.

Women are projected to account for 64 percent of the net increase in the labor force—slightly more than their share of the 1972–86 labor force growth. Consequently, by 2000, women are expected to make up more than 47 percent of the labor force, up from 39 percent in 1972 and 45 percent in 1986.

The age composition of the projected work force is expected to continue some of the current trends at least through the mid-1990's, after which a number of these trends will begin to reverse—some sharply. After the very large baby-boom generation was born, a period of significantly lower numbers of births prevailed until the late 1970's. From 1978 to the present, births increased (even though the birth rate was stable or declining) as women of the baby-boom generation began having children. As a result of the fewer births during the 1965–78 period, the number of 16-year-olds in the population as well as in the labor force began a decline in 1976, which is expected to continue until about 1992. The number of 17-year-olds began a decline in about 1977 which is expected to continue until about 1993. Each group 1 year older is expected to follow the same pattern, but 1 year later—for example, the number of 18-year-olds is expected to continue to decline until about 1994.

The differing birth cohorts moving into older age groups have two important consequences for the age composition of the labor force. (1) By the year 2000, the share of the labor force age 16 to 34 and over age 55 is projected to decline, and the share of 35- to 54-year-olds is expected to increase. (2) For some age groups in the labor force, sharp changes are expected to take place during the 1986–2000 period. For example, the number of

- 16- to 24-year-olds is projected to decline until the mid-1990's, then reverse and begin to increase;
- 25- to 34-year-olds is projected to increase through the early 1990's, then show a very sharp decline; and
- 55- to 64-year-olds is projected to decline through the mid-1990's, then increase very rapidly.

Economic growth and structural changes

According to the moderate projections, the rate of economic growth, as measured by real GNP, is expected to increase by 40 percent, or 2.4 percent a year over the 1986–2000 period. This is only slightly less than the 2.5-percent annual growth rate over the 1972–86 period, but slightly more than the 2.0 percent achieved over the 1979–86 period, which included two recessions. The rate of economic growth through the year 2000 results from an acceleration

Table 1. Civilian labor force, by sex, age, race, and Hispanic origin, 1972–86, and moderate growth projections 2000

(Numbers in thousands)

Group	Actual			Projected, 2000	Change, 1986–2000	Growth rate, 1986–2000
	1972	1979	1986			
Total, 16 and older . . .	87,037	104,960	117,837	138,775	20,938	1.2
Men, 16 and older	53,556	60,727	65,423	73,136	7,713	.8
16 to 24	11,243	13,645	12,251	11,506	-745	-.4
25 to 54	33,133	37,926	44,406	53,024	8,618	1.3
55 and older	9,180	9,156	8,766	8,606	-160	-.1
Women, 16 and older	33,481	44,233	52,414	65,639	13,225	1.6
16 to 24	8,943	11,760	11,117	11,125	8	.0
25 to 54	19,192	26,594	35,159	47,756	12,597	2.2
55 and older	5,346	5,879	6,138	6,758	620	.7
White, 16 and older	77,275	91,922	101,801	116,701	14,900	1.0
Black, 16 and older	8,748	10,665	12,684	16,334	3,650	1.8
Other, 16 and older ¹	-	2,373	3,352	5,740	2,388	3.9
Hispanic origin, 16 and older	-	5,215	8,076	14,086	6,010	4.1

¹ Includes American Indians, Alaskan Natives, Asians, and Pacific Islanders.

NOTE: Detail for race and Hispanic groups may not add to total because Hispanics are included in both the white and black population groups. Dash indicates data not available.

SOURCE: Historical data are from the Current Population Survey.

projected for productivity, even as the rate of labor force growth is projected to slow. Many factors account for the faster productivity growth incorporated in these projections: a more mature, educated, and experienced labor force; greater stability in projected energy prices over the 1986–2000 period than prevailed in the 1972–86 period; and more favorable growth in the projected capital-labor ratio, in particular, a slowing of labor force growth and a somewhat larger increase in the share of investment in producers' durable equipment.

Changes also are projected in demand structure of GNP over the 1986–2000 period. Among the most important are:

- Stabilization of the share of consumer durables, which increased considerably during the 1972–86 period.
- A modest increase in the share of GNP allocated to producers' durable equipment.
- An increase in the export share of GNP, a reversal from the trend of the 1979–86 period.
- No change in the import share of GNP, even though the import share of GNP increased nearly 5 percentage points over the 1972–86 period.
- A decline in the share of GNP devoted to defense expenditures—a reversal of the 1979–86 trend.
- An increase in the growth rate of State and local government spending, larger than the rate over the 1979–86 period, but not enough to halt the declining share of GNP allocated to spending by States and localities.

On the income side of GNP, the projections show a relatively constant share going to disposable personal income. Real disposable personal income per capita is projected to grow 1.6 percent per year, about the same as in the 1972–86 period, but more than the 1.3-percent a year gain over the

1979–86 period. The greater growth rate reflects primarily the projected faster rate of productivity growth.

Employment changes

Of the 21 million new jobs projected for the 1986–2000 period, 20.1 million are expected to be nonagricultural wage and salary jobs, and 1.7 million nonagricultural self-employed and unpaid family jobs. These gains are expected to be offset slightly by a decline in agricultural employment. The projected employment increase—more than 19 percent between 1986 and 2000, or 1.3 percent a year—represents a slowing of employment growth, reflecting, in large part, slower labor force growth. In terms of absolute growth, nonagricultural wage and salary workers increased by nearly 26 million over the 1972 to 1986 period, an expansion of almost 35 percent, or 2.2 percent a year. The projected slowdown in employment growth is not quite so dramatic when compared to the more recent 1979–86 period in which nonagricultural wage and salary jobs grew 1.5 percent a year.

By industry. Goods-producing industries are projected to experience almost no change in employment over the 1986–2000 period. Service-producing industries, therefore, will account for nearly all of the projected growth. Among major groups in the goods-producing industry, the projections show increasing employment only in construction—nearly 900,000 jobs. (See table 2.) Although agriculture is projected to increase its wage and salary jobs, that increase is expected to be more than offset by declines among the self-employed, so that total agriculture is projected to decline by more than 300,000 jobs.

Manufacturing employment is projected to decline by more than 800,000 jobs over the 1986–2000 period. Declines are projected even though output is expected to increase 2.3 percent a year. However, productivity in manufacturing is projected to grow even faster. Large job growth is projected for both wholesale and retail trade; more than 1.5 million wage and salary jobs are expected in wholesale trade and almost 4.9 million in retail trade. This is consistent with the long-term trend of this industry growing the same or slightly faster than the economy. The finance, insurance, and real estate industry also is projected to add more than 1.6 million jobs. However, this represents a considerable slowing in this sector when compared with the nearly 2.4 million jobs added over the previous 14 years. The service industries will expand by more than 10 million jobs, with health care services and business services important contributors as they continue to produce new services that greatly add to their overall demand and employment growth. Government is expected to expand by about 1.6 million jobs—nearly all at the State and local level.

Although manufacturing employment as a whole is projected to decline through 2000, many of its industries are projected to grow, quite rapidly in some cases. It is important to note that in 2000, manufacturing is projected to

Table 2. Employment by major sector, 1972, 1986, and projected to 2000 low, moderate, and high alternatives
[In thousands]

Industry	1972	1986	Projected, 2000		
			Low	Moderate	High
Total	84,549	111,623	126,432	133,030	137,533
Nonfarm wage and salary ¹	73,514	99,044	113,554	119,156	123,013
Goods-producing	23,668	24,681	23,148	24,678	25,906
Mining	628	783	672	724	779
Construction	3,889	4,904	5,643	5,794	6,077
Manufacturing	19,151	18,994	16,833	18,160	19,050
Service-producing ¹	49,846	74,363	90,406	94,478	97,107
Transportation and public utilities	4,541	5,244	5,410	5,719	5,903
Wholesale trade	4,113	5,735	7,015	7,266	7,361
Retail trade	11,835	17,845	21,795	22,702	23,079
Finance, insurance, and real estate	3,907	6,297	7,508	7,917	8,159
Services ¹	12,117	22,531	30,778	32,545	33,708
Government	13,333	16,711	17,900	18,329	18,897
Agriculture	3,523	3,252	2,784	2,917	3,009
Private households	1,693	1,241	1,122	1,215	1,234
Nonfarm self-employed and unpaid family workers	5,819	8,086	8,972	9,742	10,277

¹ Excludes sic 074, 5, 8 (agricultural services), and 99 (nonclassifiable establishments); therefore data are not directly comparable with those from the Current Employment Survey.

provide more than 18 million wage and salary jobs, or 15.2 percent of all wage and salary employment. Generally, manufacturing industries that are expected to experience employment declines are those that have been declining for years, such as basic steel, leather goods, shoes, tobacco, some of the textile and most of the basic metal processing industries, and many of the food processing industries. Employment gains are expected among printing and publishing, drugs and pharmaceutical products, computers, plastic products, and instruments industries. Some occupations within manufacturing are projected to grow, even as the overall employment in manufacturing industries declines. For example, the engineering and related occupations are projected to increase by more than 165,000 jobs and managerial jobs, by 85,000.

By occupation. Five occupational groups are projected to experience faster than average employment growth over the 1986–2000 period—technicians, service workers, professional workers, salesworkers, and executive and managerial employees. (See table 3.) Only two groups—farming, forestry, and fishing workers and private household workers—are expected to have absolute declines. Three broad occupational groups are expected to experience below-average growth: precision production, craft, and repair workers; administrative support workers, including clerical; and operators, fabricators, and laborers.

When employment by major occupational group is distributed in 1986 and 2000 by the most prevalent 1986 educational level, the projections show a growth in the share of jobs requiring most workers to have at least 1 year of college. The share of jobs requiring high school completion as the predominant educational level declines slightly. How-

ever, there is a sharper decline in the share of jobs where less than a high school education is currently the most prevalent educational requirement.

If projected employment growth by major occupational group is compared with jobs currently held by blacks and Hispanics, a disparity is shown—neither group is well represented in the fast-growing occupations and both groups are overrepresented in the slow-growing or declining occupations. When a similar analysis is done for women, a disparity also is shown, although it is not nearly as great as that for blacks and Hispanics. Still, women are not well represented in some fast-growing occupations such as natural scientists and the architectural occupations.

High and low projections

The high and low alternatives show a relatively broad band around the moderate alternative. The annual growth rate of real GNP ranges from 1.6 percent in the low alternative to 3.0 percent in the high. For the labor force, the difference between the low and high is nearly 6.6 million workers in 2000. The unemployment rate in 2000 is 7.7 percent in the low alternative, 6 percent in the moderate, and 4.5 percent in the high. In 2000, the low alternative has a level of employment 6.6 million lower than the moderate level; the high alternative is 4.5 million higher than the moderate. The employment range in 2000 is 11.1 million.

Labor force implications

A slower growing labor force along with the changes expected in its age, sex, and racial composition has several important implications. For instance, the projected decline of jobseekers age 16 to 19 offers an opportunity for lowering the unemployment rate for a labor force group that historically has had a high rate. This is particularly true in light of the projected large employment increases in eating and drinking places, retail sales, and many service industries which typically employ first-time jobseekers. As noted, the share of labor force growth among blacks and Hispanics is also projected to increase. These groups traditionally have had higher unemployment rates than those for whites, which may make the lowering of the overall unemployment rate more difficult. This follows unless, of course, past problems of jobs for minorities can be dealt with, including educational requirements and geographic location of jobs.

Other important implications are drawn from the changes expected for the 20 to 24 age group, whose number is expected to continue to decline until the late 1990's. In addition to employers who are looking for first-time jobseekers, many others who have a primary interest in this age group—for example, community and 4-year colleges and the military—will see the population from which they primarily seek students and recruits shrink throughout most of the 1986–2000 period. Also, producers of goods and services primarily targeted at 16- to 24-year-olds, from specialized magazines, cassette tapes, and clothing to motorcycles

Table 3. Employment by broad occupational group, 1986 and moderate growth projections 2000

[Numbers in thousands]

Major occupational group	1986	Projected, 2000	Percent change, 1986–2000
Total employment	111,623	133,030	19.2
Technicians and related support workers	3,726	5,151	38.2
Service workers, except private household workers	16,555	21,962	32.7
Salesworkers	12,606	16,334	29.6
Executive, administrative, and managerial workers	10,583	13,616	28.7
Professional workers	13,538	17,192	27.0
Precision production, craft, and repair workers	13,924	15,590	12.0
Administrative support workers, including clerical	19,851	22,109	11.4
Operators, fabricators, and laborers	16,300	16,724	2.6
Private household workers	981	955	-2.7
Farming, forestry, and fishing workers	3,556	3,393	-4.6

NOTE: Estimates of 1986 employment, the base year for the 2000 projections, were derived from data collected in the Occupational Employment Statistics Surveys.

and compact discs, can expect their market base to continue to decline.

Considerable attention already has been focused on a potential shortage of workers. Often, this does not reflect an overall lack of workers, but the declining numbers in the younger age groups. As a result, in a number of instances, employers have turned to other sources of workers, such as immigrants or the recently retired.

The implications of the large baby-boom generation have been widely discussed. Less well-known and, consequently, not often discussed is the younger birth dearth group. The maturation of the birth dearth group already has caused a decline, first in the number of 16- to 19-year-olds in the population and in the labor force, and then in 20- to 24-year-olds. In the late 1980's, that decline will extend to older groups. Other results will likely occur from the decline in these age groups. Because they are beyond the age for first-time jobseekers might mean faster promotions for this age group, as firms compete for a shrinking labor pool of managers or skilled technicians and professionals. However, it is important to remember that this group is following on the heels of the very large baby-boom group, and such scarcities may never materialize.

Immigrants are projected to account for more than 23 percent of the change in the labor force over the 1986–2000 period. Several important considerations with regard to the large projected immigrant share of labor force growth are: (1) to the extent they are not English-speaking, their integration into the work force is considerably more difficult, (2) given the skill shifts which are implied by the occupational projections, many immigrants may not possess the job skills which are in high demand in the U.S. economy, and (3) the geographic distribution of immigrants is more concentrated than that for the total labor force and, consequently, may complicate immigrants' search for jobs.

The growing share of blacks and Hispanics in the projected labor force poses two important considerations. First,

both groups historically have had higher unemployment rates than those for whites. Thus, the opportunity for a lower unemployment rate with the shrinkage of the youth cohort (with its significantly higher unemployment rates) could be negated if solutions cannot be found for the high unemployment among blacks and Hispanics. The second consideration raised by the faster labor force growth for blacks and Hispanics is the disparity between their current occupation and the projected growth in occupational employment. Policymaking will need to focus on ensuring that all youth, particularly minorities, are given sufficient education to ease their entry into the job market and to equip them with the skills needed to advance to better jobs. While education alone is not the solution to all labor market problems, it is clearly important in the solution. Information on future job growth and the education and training necessary for the new jobs are important for all labor force aspirants.

The increasingly larger role that women are projected to play in the future labor force raises some of the same considerations as those noted for blacks and Hispanics. The gap between the male and female unemployment rates has narrowed—more from an increase in the male rate than from lowering of the female rate. While in the 1960's and 1970's, unemployment rates for women were typically 1 to 2 percentage points higher than those for men, that gap has narrowed in the 1980's. During the 1984–86 period, female unemployment rates ranged from 0.2 to 0.4 percentage points higher than those for men. However, the occupational distribution of jobs still shows some disparities, even though the differences have narrowed over the last decade. An opportunity exists for future improvements, in that an important source of job growth over the 1986–2000 period is professional, technical, and managerial jobs, and women are projected to constitute more than three-fifths of net additions to the labor force.

Economic implications

Several implications can be drawn from the projected overall economic growth and the changes expected in the structure of demand over the 1986–2000 period. The projections call for an increase in the rate of productivity growth. It should be noted that the projected productivity growth is more uncertain than the projected labor force growth. Therefore, the economic growth projections can be viewed as having a higher degree of uncertainty. Consequently, users should carefully examine all three projection alternatives and their implications. For example, the low projection alternative, which has a rate of real GNP growth of 1.6 percent per year over the 1986–2000 period, results from a productivity growth rate consistent with the 1972–86 productivity trend. One very important implication of this projected trend is that real disposable income per capita (one measure of well-being in the economy) only increases 0.7 percent per year under this alternative, much slower than the 1.7-percent growth during the 1972–86 period, and less

than one-half the rate of increase projected in the moderate alternative. Of course, if a faster rate of productivity increase should prevail, it would be more favorable for the economy because that is the primary factor leading to gains in living standards of the population.

Perhaps the most significant change in trend projected in the composition of demand for the 1986–2000 period is in foreign trade. As a result of changes in exchange rates, exports are projected to increase faster than imports. This is important both to exporting industries as well as other industries which have been pressured by the very rapid growth of imports over the last decade, in particular. However, the extent of the slowdown in import growth and the increase in export growth varies considerably among industries. The projections of exports and imports are uncertain, with trends more volatile than most other demand categories because numerous factors in many countries influence trends for U.S. exports and imports. Another difficulty in developing foreign trade projections is the capacity of some U.S. industries to recover their export markets once they have been lost—even though a significant turnaround in the value of the dollar has occurred.

The projected shifts in the structure of demand result in several other important relationships. The projected lack of any growth of the younger age groups in the population and the resulting modest slowdown in household and family formation will affect expenditure patterns. This is most noticeable in consumer durables, particularly in automobile purchases and new housing construction. Another impact related to demographic changes in the population is the health care expenditures of older age groups, particularly the expected very rapid growth between now and 2000 in the over age 85 population—projected to increase 3.7 percent annually, compared with 0.8 percent for the overall population. Not only is this older group expected to keep health care expenditures among the most rapidly growing demand categories, but the distribution of health care purchases also is projected to shift toward nursing homes and home health care expenditures.

Another important change in trend included in the projections is the expected slowing of defense expenditures. Real defense expenditures declined over the 1972–79 period, but then reversed over the 1979–86 period and have shown an appreciable increase of 6.2 percent a year. In these projections, defense spending is projected to slow in the late 1980's, and then gradually decline in the 1990's such that by 2000, the level of real defense expenditures is projected to return to near the 1986 level. These projected trends are particularly important to industries such as aircraft, missiles, ships, and electronics which sell a high proportion of their output to the U.S. Department of Defense.

Industry employment impact

Employment is projected to grow, albeit slower than it has in the past. Most of the growth is expected among

service-producing industries. Further employment declines are projected for many industries including agriculture, many mining industries, a significant number of manufacturing industries, and a few service industries. Consequently, workers are expected to continue to be displaced. Further, because of the geographic concentration of many of the declining industries, some localities will be hard hit from these displacements. Although some displaced workers may obtain related jobs and maintain their standard of living, others may require further training or education, or both, or may have to relocate geographically to do so.

Some of those displaced from their jobs, of course, may not find similar employment, given the occupational shifts that are projected to occur between now and 2000, particularly if they lack the education and training required for the emerging jobs. Jobs for displaced workers are a problem for which an easy solution has not been found. Although much occupational mobility exists in this economy, it is concentrated primarily among the young. Thus, while it is important that entry level workers be provided with as high a level of education as possible, this helps little in finding the best mechanism for providing the right mix of education and training needed for displaced workers, particularly if those displaced are over age 40 and have relatively low educational attainment.²

High tech employment in manufacturing is projected to slow from the above-average growth of the past decade, as these industries mature and as several of them continue to face stiff competition in foreign markets. The computer manufacturing industry, in particular, accounted for a significant proportion of total high tech employment growth in the 1970's and early 1980's, but a projected slowing in this industry's employment growth is expected to be a major factor in the high tech future for the rest of this century.

The expected continuation of employment changes in service-producing industries has several important implications. Firms in some of these industries are likely to be small. Because small firms have a higher turnover rate, they may, as a consequence, be less likely to provide a lifetime employment opportunity for workers. Consequently, workers will need to be prepared through education and training for more frequent changes of employers and occupations. Also, many smaller firms are often less able to provide other benefits, such as health care, that large firms may provide.³ A benefit of the increasing share of employment in the service-producing industries is that the effect of any future business cycle downturn is likely to be moderated because the variability of employment is lower in services than in goods-producing industries such as manufacturing and construction.

Another trend is developing that will, in all likelihood, require adjustments in the future. As the work force declines among the younger age groups and as women increasingly seek full-time work, a conflict emerges between industries which traditionally demand a large number of part-time

workers and the economy's ability to supply those workers. This conflict could be resolved by these industries moving back to providing a larger share of full-time jobs, expanding self-service stores, or drawing older workers into the work force. If these changes do not occur, one consequence could be that some seekers of full-time work might be able to find only part-time employment. Another likely implication is a slowing, or possibly even a reversal, in the decline of average hours of work, because the share of part-time employment was the primary factor behind past declines in average hours.

Occupational employment implications

Shifts in industry employment and changes in the staffing patterns of industries are expected to affect the occupational structure of employment. Generally, occupations in which current participants have the most education are projected to have the most rapid growth rates, even if their relative growth is slower. Jobs are expected to continue to be available for those with only a high school education. However, persons with less than a high school education will find it more difficult to find a job—particularly a job with good pay and chances for advancement—than those with more education. Those with less education will continue to have more labor market problems and less opportunity for advancement because they frequently do not have the education or training needed to adapt to the continuing changes in employment resulting from technology advances and changes in the structure of demand, and to the employment displacement which may follow these changes. The fact that large numbers continue to drop out of high school clearly signals that an important problem remains.⁴ As pointed out earlier, blacks and Hispanics are disproportionately represented among those with less education and are projected to account for an increasing share of workers. Given this trend, the recent data on declining college enrollment of blacks are unfortunate.⁵

Despite the faster than average employment growth for occupations requiring at least a bachelor's degree, the surplus of college graduates that began in the early 1970's is expected to continue through the end of the century. However, the balance between supply and demand for new college graduates is expected to narrow considerably as we enter the 1990's, partly because of the decline of college graduates stemming from the shrinkage in college-age population.⁶

Occupations that are generally filled by young workers, such as food service, retail sales, and construction labor, are projected to continue to generate many jobs and, as discussed earlier, the declining number of young workers could offer the opportunity to improve the youth labor market situation. At the same time, given the expected sharp decline in the number of youths, it could also provide employment opportunities for others not often employed in those jobs, such as those recently retired who desire some work.

Further, this also could offer the opportunity to increase the labor market participation of some groups such as black men who currently have much lower labor force participation rates than do white men of the same age.

Women and blacks traditionally have been highly concentrated in certain occupations. Although some improvements

have occurred in the past decade in changing this occupational segregation, the future offers a chance for further improvement because employment growth is projected to be most rapid in occupations not traditionally filled by Hispanics, blacks, and, to some extent, women—and labor force growth will be predominantly from these groups. □

—FOOTNOTES—

¹ For the last report on the 1995 projections, see the following articles in the November 1985 *Monthly Labor Review*: Betty W. Su, "The economic outlook to 1995: new assumptions and projections," pp. 3–16; Howard N Fullerton, Jr., "The 1995 labor force: BLS' latest projections," pp. 17–25; Valerie A. Personick, "A second look at industry output and employment trends through 1995," pp. 26–41; and George T. Silvestri and John Lukasiewicz, "Occupational employment projections: the 1985–95 outlook," pp. 42–57.

² See *Displaced Workers, 1979–83*, Bulletin 2240 (Bureau of Labor Statistics, July 1985). For results of 1986 surveys on displaced workers, see the following articles in the June 1987 *Monthly Labor Review*: Francis

W. Horvath, "The pulse of economic change: displaced workers of 1981–85," pp. 3–12; and Sharon P. Brown, "How often do workers receive advance notice of layoffs?" pp. 13–17.

³ See Employee Benefit Research Institute's tabulations of the May 1983 Current Population Survey.

⁴ *Elementary and Secondary Education Indicators in Brief* (Office of Educational Research and Improvement, 1987).

⁵ *Elementary and Secondary Education*.

⁶ See *Trends in Education, 1975–76–1995–96* (U.S. Department of Education, Center for Education Statistics, 1987).

Research fellowships

The American Statistical Association and the Bureau of Labor Statistics, under a grant from the National Science Foundation, are sponsoring a Senior Research Fellow and Associate Program for 1988–89. The terms of appointment range from 1 semester to 1 year and are part or full time. Research will be conducted at BLS in Washington, DC.

Fellowship applicants should have a recognized research record and considerable expertise in their area of proposed research. Senior Research Fellows will be selected by a review board consisting of representatives of ASA, BLS, the American Economic Association, the Committee on National Statistics, and the Social Science Research Council. Associates will assist the Fellows on their projects. Associate applicants should have a Ph.D in an appropriate field or have made significant progress toward the degree (at least 2 years of graduate study). Substantial computer experience will, in most cases, be required of Associates. Associates will be selected by the Senior Research Fellows with the approval of the review board.

The program is coordinated by the BLS Office of Research and Evaluation. Current research being conducted by this office includes index number theory and measurement, price measurement, cost-of-living and demand studies, survey response error, workers' compensation, compensating wage differentials, productivity analysis, relationship of union membership to employment variability, model-based seasonal adjustment, prediction properties of index estimators, measures of central location based on censored data, upper and lower probability inferences for outliers, and variance estimation.

For further information, contact Dr. Cathryn Dippo or Dr. Marilyn Manser, Bureau of Labor Statistics, Office of Research and Evaluation, Room 2126, 441 G Street, NW, Washington, DC, 20212; (202) 523–1874 or (202) 523–1347.