This paper describes the Bureau of Labor Statistics' projections to 1985. Specifically, it focuses on: (1) expected changes in the size and composition of the labor force and the impact of these changes on career opportunities, (2) projected patterns of industrial employment, and (3) future employment prospects by occupation. The paper also examines the overall projected supply/demand situation for college graduates and examines the 1960 and 1970 census data for some startling changes in the occupational choices of men and women over the last decade: Many female workers entered traditionally male fields such as engineering, medicine, and the crafts, while an increasing number of men took jobs as elementary school teachers, telephone operators, and typists. (Author)
THE CHANGING JOB SCENE TO 1985*

AS MOST OF YOU KNOW, THE BUREAU'S PROJECTIONS ARE ALWAYS MADE WITHIN CERTAIN FUNDAMENTAL ASSUMPTIONS ABOUT THE FUTURE. THESE ASSUMPTIONS ARE:

(1) MAINTENANCE OF HIGH LEVELS OF EMPLOYMENT AND UTILIZATION OF AVAILABLE MANPOWER IN 1985. SPECIFICALLY, AN UNEMPLOYMENT RATE OF 4.0 PERCENT OF THE CIVILIAN LABOR FORCE IS ASSUMED;

(2) THAT NO MAJOR EVENT SUCH AS LONG DURATION OR WIDESPREAD ENERGY SHORTAGES WILL ALTER SUBSTANTIALLY THE RATE OF ECONOMIC GROWTH;

(3) THAT ECONOMIC, SOCIAL, AND EDUCATIONAL TRENDS WILL CONTINUE TO CHANGE ACCORDING TO PATTERNS OF THE RECENT PAST;

(4) THAT SCIENTIFIC-TECHNOLOGICAL ADVANCEMENT WILL CONTINUE AT ABOUT THE SAME RATE AS IN RECENT YEARS;

(5) THAT THE UNITED STATES WILL NOT BE AT WAR, BUT THAT THERE WILL BE NO SUBSTANTIAL REDUCTION IN THE DEFENSE BUDGET BEYOND THAT ALREADY IN EFFECT.

FOR THOSE WHO ARE INTERESTED, MORE DETAILED ASSUMPTIONS UNDERLYING THE PROJECTIONS ARE SET FORTH IN THE DECEMBER 1973 MONTHLY LABOR REVIEW, WHICH IS PUBLISHED BY THE BUREAU.

THE "BABY BOOM" OF THE LATE 1940'S WILL CONTINUE TO EFFECT THE COMPOSITION OF THE LABOR FORCE IN THE YEARS AHEAD. THREE-FOURTHS OF THE PROJECTED 1972-80 INCREASE IN THE LABOR FORCE IS EXPECTED TO OCCUR AMONG THE GROUP 20-34 YEARS OLD. THIS GROUP, WHICH OBVIOUSLY INCLUDES THOSE COMPLETING HIGHER EDUCATION, WILL GENERATE DEMAND FOR PERMANENT CAREER OPPORTUNITIES. ON THE OTHER HAND, THE INCREASE IN THE RATIO OF YOUNG ADULT WORKERS (20-34 YEARS) TO OLDER WORKERS (THOSE 34 TO 54 YEARS) MAY LIMIT PROMOTIONAL OPPORTUNITIES FOR THE YOUNGER WORKERS.


ALTHOUGH THE BUREAU'S PROJECTION OF INDUSTRIAL EMPLOYMENT INDICATE CONTINUATION OF PAST TRENDS, I SHALL MENTION THE HIGHLIGHTS BECAUSE, GENERALLY SPEAKING, TOMORROW'S INDUSTRY PATTERNS DETERMINE TOMORROW'S JOBS. BETWEEN 1972 AND 1985, THE TOTAL NUMBER OF JOBS IS EXPECTED TO RISE BY ABOUT 22 MILLION. JOB GROWTH THROUGH 1980 IS EXPECTED TO AVERAGE ABOUT 2.3 MILLION A YEAR, AND ABOUT 1.2 MILLION A YEAR BETWEEN 1980 AND 1985. WHEN YOU CLASSIFY INDUSTRIES AS EITHER GOODS PRODUCING OR SERVICE PRODUCING, YOU SEE THAT THE NATION'S ECONOMY IS DRAMATICALLY SERVICE ORIENTED. WHEN THE NUMBER OF JOBS IN TRANSPORTATION, TRADE, GOVERNMENT, FINANCE, HOSPITALS, AND OTHER SERVICES ARE COMBINED, WE SEE THAT MORE THAN 70 PERCENT OF ALL JOBS IN 1985 WILL BE IN SERVICE INDUSTRIES. THE PROPORTION IN 1972 WAS LESS THAN 68 PERCENT AND ABOUT 50 PERCENT IN THE 1920'S. BECAUSE SERVICE EMPLOYMENT IS GENERALLY LESS SENSITIVE THAN MANUFACTURING TO ABRUPT SWINGS IN ECONOMIC ACTIVITY, WE CAN EXPECT GREATER EMPLOYMENT STABILITY AS A LARGE PROPORTION OF THE WORK FORCE FINDS JOBS IN THE SERVICE SECTOR. LOOKING AT THE SITUATION ANOTHER WAY, IT IS RATHER DRAMATIC TO OBSERVE THAT, BY 1985, FEWER THAN 3 OF EVERY 10 PERSONS WILL BE WORKING IN GOODS PRODUCING INDUSTRIES, INCLUDING FARMING. SPEAKING OF FARMING, IT IS INTERESTING TO NOTE THAT JOBS IN FARMING ARE EXPECTED TO CONTINUE TO DECLINE. BY 1985, THE BUREAU PROJECTS LESS THAN 2 MILLION JOBS IN FARMING, WHICH WILL ACCOUNT FOR LESS THAN 2 PERCENT OF ALL JOBS. A NOTE OF CAUTION, PLEASE. I AM TALKING ABOUT JOBS ON FARMS. OPPORTUNITIES IN WHAT IS COMMONLY REFERRED TO AS
"AGRBUSINESS" RELATED OCCUPATIONS IS EXPECTED TO INCREASE IN THE YEARS AHEAD.

ALTHOUGH JOBS IN MINING, MANUFACTURING AND CONSTRUCTION, COMBINED, WILL ACCOUNT FOR A DECLINING PROPORTION OF TOTAL JOBS THROUGH 1985, THE NUMBER OF JOBS WILL RISE BY ABOUT 5 MILLION. MINING EMPLOYMENT IS EXPECTED TO STABILIZE AFTER SEVERAL YEARS OF STEADY DECLINE, PRIMARILY BECAUSE OF THE RESURGENCE OF COAL AS AN ENERGY SOURCE.

AMONG THE SERVICE INDUSTRIES, GROWTH IN BUSINESS, PROFESSIONAL, AND MEDICAL SERVICES WILL BE PRONOUNCED THROUGH THE MID-1980'S. THE NUMBER OF JOBS IN TRADE IS EXPECTED TO RISE BY ABOUT 4 MILLION BY 1985, BUT THERE WILL BE SUBSTANTIALLY SLOWER GROWTH IN THIS SECTOR BETWEEN 1980 AND 1985 THAN DURING THE 1970'S. RETAIL TRADE HAS BEEN A JOB SOURCE FOR MANY, PARTICULARLY WOMEN SEEKING ONLY PART-TIME EMPLOYMENT.

AS THIS SECTOR SLOWS SOMewhat MORE THAN THE ECONOMY IN THE 1980'S, JOB ENTRANTS MAY HAVE TO SEEK FULL-TIME WORK IN OTHER SECTORS OF THE ECONOMY, OR "OT ENTER THE LABOR FORCE AT ALL, IF THEY ARE ONLY INTERESTED IN PART-TIME WORK.

STATE AND LOCAL GOVERNMENT IS EXPECTED TO PROVIDE ABOUT 5 MILLION NEW JOBS BY 1985. ALTHOUGH THIS INDICATES SUBSTANTIAL GROWTH, IT REPRESENTS A SLOWDOWN IN THE RATE OF GROWTH COMPARED WITH THAT OF THE 1960'S. THE SLOWDOWN IS DUE PRIMARILY TO THE REDUCTION IN THE NEEDS OF PUBLIC EDUCATION, WHERE ABOUT HALF OF ALL STATE AND LOCAL GOVERNMENT EMPLOYMENT IS EXPECTED TO INCREASE ONLY MODERATELY OVER THE 1972-85 PERIOD.
OF PRIMARY INTEREST TO THIS GROUP IS THE BUREAU'S PROJECTIONS OF OCCUPATIONAL OPPORTUNITIES. TRADITIONALLY, THE BUREAU, FOR ANALYTICAL PURPOSES, GROUPS OCCUPATIONS INTO FOUR MAJOR CATEGORIES--WHITE-COLLAR, BLUE-COLLAR, FARM, AND SERVICE WORKERS. THIS YEAR, FOR THE FIRST TIME WE HAVE PRESENTED THE INFORMATION IN THE OCCUPATIONAL OUTLOOK HANDBOOK IN 17 CAREER CLUSTERS. THESE CAREER CLUSTERS HELP RELATE OUTLOOK IMPACTS ON SCHOOL CURRICULUM AND OCCUPATIONAL TRAINING PROGRAMS, CAREER LADDERS AND LATTICES, AND FIELDS OF INTEREST FOR YOUNG PEOPLE ENGAGED IN CAREER EXPLORATION.

It is interesting to note that among service occupations, a steady decline in the number of private household workers is expected, as this type of work appeals to fewer and fewer workers.

Looking next at the new occupational clusters, the projections indicate that, among industrial production occupations, the greatest number of job openings will be for blue-collar supervisors (whom we used to call foremen), as well as inspectors, assemblers, and welders.

Among clerical occupations, the largest number of opportunities will be for secretaries—more than 400,000 openings each year on the average—followed by bookkeeping workers, typists, cashiers, and receptionists.

Service occupations will provide many jobs through the mid-1980's. The largest number of openings will be for building custodians, food service personnel (waiters and waitresses), cooks and chefs, and cosmetologists. However, the most rapid increase in employment will be for firefighters and state police officers.

Employment prospects in teaching present an interesting picture. The number of kindergarten and elementary school teachers is expected to rise by about one-fourth by 1985 and provide job openings for about 105,000 workers annually on the average. Employment of secondary school teachers will increase only slightly, but average annual job openings could be over about 40,000 when replacement needs are considered. And employment of college teachers is expected to increase by about one-fifth.
THERE WERE OVER 5 MILLION SALESWORKERS IN 1972 AND, THROUGH 1985, THERE WILL BE MORE JOB OPENINGS ANNUALLY FOR RETAIL TRADE SALESWORKERS THAN IN ALL OTHER SALES OCCUPATIONS COMBINED.

IN CONSTRUCTION ACTIVITIES, THE LARGEST NUMBER OF JOB OPENINGS WILL BE FOR CARPENTERS, FOLLOWED BY LABORERS, OPERATING ENGINEERS, PLUMBERS AND PIPE FITTERS, PAINTERS AND PAPER HANGERS, AND ELECTRICIANS.

AMONG THE SCIENTIFIC AND TECHNICAL OCCUPATIONS, AVERAGE ANNUAL JOB OPENINGS ARE EXPECTED TO NUMBER OVER 50,000 FOR ENGINEERS, NEARLY 40,000 FOR ENGINEERING AND SCIENCE TECHNICIANS, AND ABOUT 25,000 FOR SCIENTISTS.

MAINTENANCE AND REPAIR OCCUPATIONS WILL CONTINUE TO PROVIDE MANY CAREER OPPORTUNITIES. THE GREATEST NUMBER OF OPENINGS WILL BE FOR INDUSTRIAL MACHINERY REPAIR WORKERS AND AUTOMOBILE MECHANICS. THE LARGEST PERCENT INCREASE IN EMPLOYMENT, HOWEVER, WILL BE FOR COMPUTER SERVICE TECHNICIANS, WHERE EMPLOYMENT IS EXPECTED TO EXPAND OVER 100 PERCENT. HOWEVER, SINCE IT IS A RELATIVELY SMALL OCCUPATION, IT WILL PROVIDE ONLY ABOUT 4,000 JOB OPENINGS ANNUALLY.
I will not take time here to cover each remaining cluster, since there are no dramatic changes from recent trends. I would like, however, to discuss health occupations, because this category will provide many career opportunities. Increased emphasis on medical care is expected to create the need for nearly 500,000 more hospital attendants over the 1972-85 period, as well as about 400,000 licensed practical nurses. In terms of annual average job openings, the health occupations rank as follows:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Annual Average Job Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses Aides, Orderlies, and Attendants</td>
<td>100,000</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>75,000</td>
</tr>
<tr>
<td>Licensed Practical Nurses</td>
<td>70,000</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>25,000</td>
</tr>
<tr>
<td>Physician's and Osteopathic Physicians</td>
<td>19,000</td>
</tr>
<tr>
<td>Medical Record Technicians and Clerks</td>
<td>10,500</td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>4,800</td>
</tr>
</tbody>
</table>

Smaller numbers of workers in other health categories also will be needed.

THE SURPLUS OF COLLEGE GRADUATES DOES NOT SUGGEST LARGE-SCALE UNEMPLOYMENT AMONG THESE WORKERS. IT DOES MEAN, HOWEVER, THAT DUE TO INCREASED COMPETITION AND RISING EDUCATIONAL REQUIREMENTS, MANY WILL BE FORCED TO ACCEPT SECOND-CHOICE JOBS. AS EMPLOYERS RAISE THEIR HIRING STANDARDS, COLLEGE GRADUATES WILL CONTINUE TO HAVE A COMPETITIVE ADVANTAGE OVER THOSE WITH LESS EDUCATION. CONSEQUENTLY, WE WILL SEE MORE GRADUATES TAKING JOBS FORMERLY HELD BY WORKERS WITH LESS THAN FOUR YEARS OF COLLEGE, AND THIS IS LIKELY TO OCCUR IN CERTAIN SALES JOBS, SUCH AS INSURANCE AGENT. ONE DISTRESSING RESULT OF ALL THIS MAY BE A LARGE NUMBER OF DISAPPOINTED COLLEGE GRADUATES WHOSE EMPLOYMENT EXPECTATIONS CANNOT BE MET, AT LEAST IN THE SHORT-REN. FURTHERMORE, MANY WORKERS WITH LESS THAN A COLLEGE EDUCATION WILL BE FRUSTRATED BY DISCRIMINATION FROM COLLEGE GRADUATES FOR PROMOTION TO MORE IMPORTANT, BETTER-PAYING JOBS.
Although our estimates show an oversupply of college graduates in total, some imbalances can be expected. For example, if past trends continue, personnel shortages can be anticipated in some professions, notably chemistry and engineering, while the need for family doctors in rural areas should remain strong. However, the severe oversupply in fields such as teaching and the life sciences is expected to continue.

The college graduate will be at a disadvantage in some occupations and face keen competition in others. In the skilled crafts, for instance, demand will be strongest for those with vocational training. College graduates also will face stiff competition for some paraprofessional and technical jobs from graduates of junior colleges and other postsecondary schools. These schools have demonstrated their ability to train workers for these occupations and the number of students completing these programs is expected to outpace college graduates.

A significant point to remember, I believe, is that the majority of job openings to 1985 will not require a college degree. Projections indicate that less than one-fourth of all openings will require four years of college or more. This means that opportunities for workers with less than a bachelor's degree will be extensive and varied. For example, many opportunities for satisfying and well-paid careers will exist in the skilled trades, and in the technical, sales and clerical fields.

Perhaps the most dramatic shift that has occurred between 1960 and 1970 is the large influx of women into the skilled trades. Employment of all female skilled workers grew from 277,000 to 495,000, increasing women's share of employment from 3.1 percent to 5.0 percent. Employment of women increased eight times faster than men; in fact, one of every four entrants to the crafts was female.

The most significant gain came in the employment of women carpenters, which grew over 300 times faster than men. Nearly 8,000 women entered this occupation over the period, and the female share of employment tripled (.4 percent-1.3 percent). Other skilled trades registering notable increases in female workers were plumbers, in which women also tripled their share of employment (.3 percent-1.1 percent); and electricians (2.7 percent-3.8 percent); auto mechanics (.4 percent-1.4 percent); and painters (1.9 percent-4.1 percent), where the proportion of females was that doubled.
Women also have made significant gains in two predominately male professions, law and medicine. Employment of women lawyers (which grew from 5,000 to 12,300) increased six times as fast as for men and women doubled their share of all lawyer employment (2.4 percent–4.7 percent).

Similar gains have been made in the medical professions. New female doctors outpaced their male counterparts by three to one over this period, growing from 16,000 to 26,000. The significance of this becomes more evident as we look at absolute numbers. Between 1960 and 1970, one out of every four new doctors was a woman. Importantly, employment of women dentists rose from 1,900 to 3,100 over the period. Female employment grew eight times faster than men's and the proportion of dentists who are women increased from one out of every fifty to one out of every thirty.

Women appear to have made substantial inroads into other predominately male pursuits. Women in engineering, for example, increased quite rapidly over the 1960 to 1970 period (from 7,000 to 19,600), growing by more than four times the rate for men. Shifts in entry patterns also were observed for accountants and architects. Employment of women accountants grew from 80,400 to 183,000, quadrupling the growth rate for men, while women entered the architecture profession (1,216 over the decade) at a rate three times faster than men.
WOMEN ALSO HAVE MADE NOTICABLE INROADS INTO SEVERAL TRADITIONALLY MALE SELLING OCCUPATIONS. THE RATE OF GROWTH FOR WOMEN INSURANCE AGENTS AND BROKERS (EMPLOYMENT ROSE FROM 35,300 TO 56,600) TRIPLED THAT FOR MEN DURING THE 1960'S, WHILE SALESWOMEN IN REAL ESTATE (WHICH GREW FROM 46,100 TO 83,600) AND WHOLESALE TRADE (RI ding FROM 20,300 TO 41,000) EACH OUTFACED MEN BY FOUR TO ONE. THE IMPORTANCE OF THESE FIGURES, OF COURSE, IS THAT WOMEN ARE MAKING SUCCESSFUL ENTRY INTO COMPETITIVE AND REWARDING SALES JOBS IN INCREASING NUMBERS.

IN ADDITION, EMPLOYMENT OF WOMEN BANK OFFICERS AND FINANCIAL MANAGERS INCREASED FROM 2,100 TO 54,500 AND THEIR SHARE OF EMPLOYMENT DOUBLED. THE NUMBER OF FEMALE SALES MANAGERS, EXCEPT RETAIL TRADE, ALSO GREW DRAMATICALLY, INCREASING FROM 51 TO 8,800.

PROTECTIVE SERVICE OCCUPATIONS SHOWED SUBSTANTIAL INCREASES IN FEMALE EMPLOYMENT DURING THE 1960'S. WOMEN EMPLOYED AS GUARDS INCREASED THEIR NUMBERS BY THREE FOLD (FROM 4,900 TO 16,300), WHILE MALE EMPLOYMENT GREW BY ONLY ONE-QUARTER (FROM 240,100 TO 302,200). THE OCCUPATION THAT MOST CLEARLY ILLUSTRATES THE CHANGING ROLE OF WOMEN, HOWEVER, IS THE POLICE OFFICER. BETWEEN 1960 AND 1970, THE NUMBER OF POLICEWOMEN ALMOST DOUBLED, RISING FROM 6,800 TO 13,100. THE SIGHT OF UNIFORMED WOMEN "WALKING THE BEAT" AND RIDING IN PATROL CARS HAS BECOME COMMONPLACE IN MANY LARGE CITIES.
YET, IT'S A TWO WAY STREET--FOR EXAMPLE, BETWEEN 1960 AND 1970, MEN ALSO ENTERED OCCUPATIONS DOMINATED BY WOMEN. THE RATE OF INCREASE OF MALE LIBRARIANS (WHICH GREW FROM 10,800 TO 22,000) NEARLY DOUBLED THE GROWTH RATE FOR WOMEN IN THIS OCCUPATION, AND MALE ELEMENTARY SCHOOL TEACHERS (EMPLOYMENT ROSE FROM 139,733 TO 231,483) ALSO MADE FURTHER INROADS, OUTPACING FEMALE TEACHERS AND GAINING A LARGER SHARE OF ALL EMPLOYMENT IN THE OCCUPATION. EMPLOYMENT OF MALE TELEPHONE OPERATORS INCREASED BY HALF (FROM 15,100 TO 22,700) BY 1970, ABOUT FOUR TIMES THE GROWTH RATE FOR WOMEN. MEN WORKING AS TYPISTS ALSO GREW AT A FASTER RATE THAN WOMEN, MORE THAN DOUBLING THEIR 1960 EMPLOYMENT FIGURE (INCREASING FROM 25,500 TO 57,300 IN 1970).

INDICATIONS ARE THAT TRENDS THAT EMERGED OVER THIS PERIOD WILL CONTINUE AND PERHAPS INTENSIFY. AS BARRIERS TO TRAINING AND EMPLOYMENT ARE REMOVED, INCREASING NUMBERS OF WOMEN ARE EXPECTED TO ENTER CAREERS PREVIOUSLY DOMINATED BY MEN AND VICE VERSA. PERHAPS THE GREATEST INFLUENCE ON THE ATTITUDES OF YOUNG PEOPLE CONCERNING WHAT IS AN APPROPRIATE JOB FOR THEM WILL COME FROM MEN AND WOMEN ALREADY WORKING IN NON-TRADITIONAL OCCUPATIONS. AS THESE WORKERS DEMONSTRATE THEIR ABILITY TO GET THE JOB DONE, THEY WILL SET HIGHLY VISIBLE EXAMPLES FOR YOUNG PEOPLE.
I WOULD NOW LIKE TO REMOVE MY ECONOMISTS' HAT AND PUT ON MY PUBLIC RELATIONS HAT.

I AM HAPPY TO ANNOUNCE THAT THE LATEST EDITION OF THE OCCUPATIONAL OUTLOOK HANDBOOK WAS RELEASED MARCH 29.

THE FORTHCOMING ISSUE OF THE OCCUPATIONAL OUTLOOK QUARTERLY WILL CONTAIN A SUMMARY OF THE OUTLOOK FOR SOME 300 OCCUPATIONS IN AN ARTICLE CALLED, "THE HANDBOOK IN BRIEF."

ALSO, IN 3 TO 4 MONTHS WE HOPE TO HAVE AVAILABLE THE REVISED EDITION OF OCCUPATIONAL MANPOWER AND TRAINING NEEDS. THIS PUBLICATION SUMMARIZES, BY OCCUPATION, INFORMATION ON EXPECTED GROWTH, ANNUAL OPENINGS, TRAINING REQUIREMENTS, AND, WHERE POSSIBLE, THE RELATIONSHIP BETWEEN OCCUPATIONAL SUPPLY AND DEMAND.

THANK YOU.