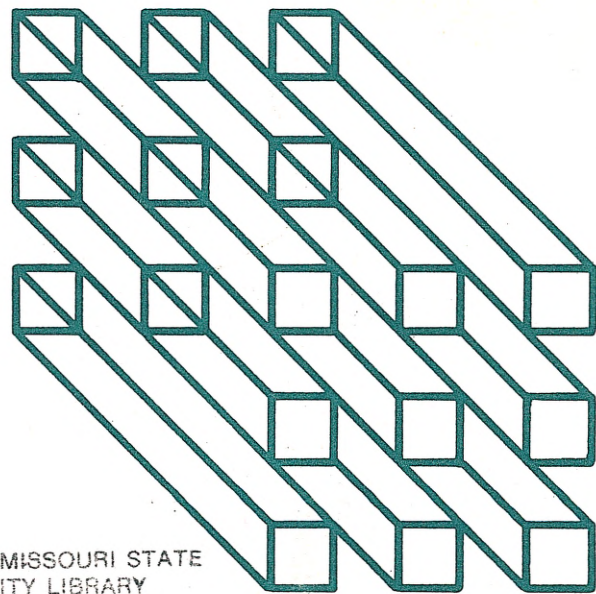
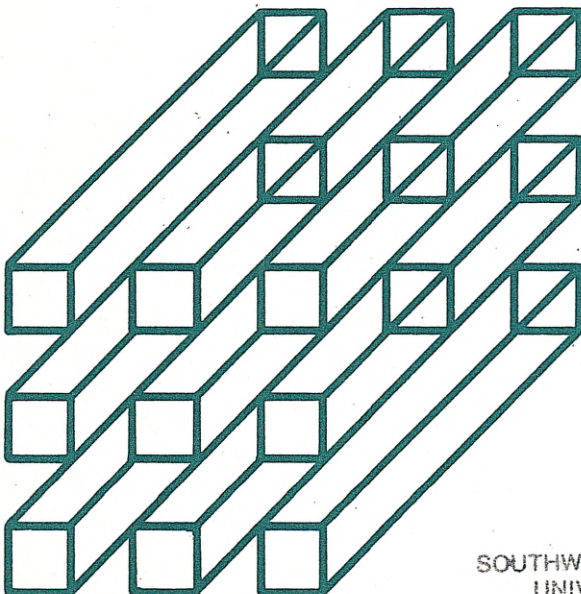
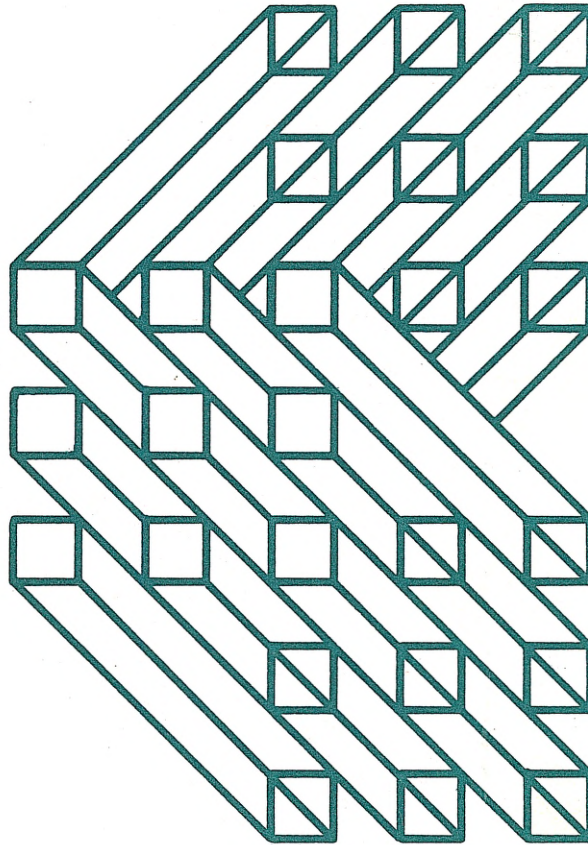


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# Employment Projections for 1995



U.S. Department of Labor  
Bureau of Labor Statistics  
March 1984  
Bulletin 2197



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# Employment Projections for 1995

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U.S. Department of Labor  
Raymond J. Donovan, Secretary

Bureau of Labor Statistics  
Janet L. Norwood, Commissioner

March 1984

Bulletin 2197



# Preface

The bulletin presents the latest Bureau of Labor Statistics employment projections for the year 1995, including the economic and labor force estimates on which they are based. It consists of four articles from the November 1983 issue of the *Monthly Labor Review* and supplementary tables containing additional data that are frequently requested.

These projections are part of a program initiated 20 years ago to study alternative patterns of economic growth and their effects on employment. Earlier employment projections in this series cover the years

1970, 1975, 1980, 1985, and 1990. Further background data and descriptions of the models and analytical systems used can be obtained from the Office of Economic Growth and Employment Projections.

The authors are cited at the beginning of each article. The appendix tables were compiled and prepared for publication by David Frank using photocomposition systems developed by the Bureau of Labor Statistics. Material in this publication is in the public domain and, with appropriate credit, may be reproduced without permission.

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# The 1995 labor force: a second look

*About 131.4 million persons are expected to be in the 1995 labor force, 3.8 million more than projected earlier; alternative projections use various demographic and, for the first time, economic assumptions about the labor force*

HOWARD N FULLERTON, JR. AND JOHN TSCHETTER

During the 1982–95 period, the number of persons of prime working age (25–54) in the labor force is expected to grow considerably faster than the total labor force. Young workers will decline in absolute numbers as the rate of growth of the total labor force slows markedly. These growth trends reflect the aging of the baby-boom generation and a subsequent sharp decline in birth rates.

The Bureau of Labor Statistics has revised its labor force projections for the 1982–95 period.<sup>1</sup> For the middle scenario, which assumes that labor force participation of women will accelerate then taper off, the civilian labor force is projected to reach 131.4 million persons by 1995, 3.8 million more than projected earlier.<sup>2</sup> The labor force is expected to grow 1.6 percent per year over the 1982–90 period, slowing to 1.0 percent per year during 1990–95, thus continuing the slow growth which began in the late 1970's. Nearly two-thirds of the growth will be among women; nearly one-fourth will be among the black and other group.<sup>3</sup>

This article presents new projections for the 1995 labor force with alternative demographic and, for the first time, economic assumptions. The demographic alternatives illustrate the sensitivity of the size of the projected labor force to various assumptions regarding the behavior of age, sex, and racial groups.<sup>4</sup> The economic alternatives explore the

sensitivity of labor force changes to assumptions about real earnings and the employment rate.

## Methodology

Labor force projections require population projections. The latter have been prepared by the Bureau of the Census by age, sex, and race, based on trends in birth rates, death rates, and net migration.<sup>5</sup> Once the population projections are prepared, BLS can project labor force participation rates—the percent of each group in the population who will be working or seeking work—for 64 age, sex, and race groups.

To develop labor force participation rates for each group, rates of growth over the 1962–81 period (or subperiods) are analyzed using the most appropriate time period for each group. If past trends are deemed not likely to continue throughout the projection period, the rates are modified. The rate of change in labor force participation was modified for several groups: women ages 20–44 and 45 and over, and men ages 55 and over. The rates of change in participation for all groups are tapered so that the annual changes would be zero after the year 2004.

For women ages 20 to 44, it is assumed that the rate of change in participation will accelerate during the 1982–85 period to allow some partial recovery from the 1980–82 economic slowdown. These projections assume that some of the 1980–82 slowdown in female participation rates are permanent, particularly when compared with the trends of the early and mid-1970's.

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Howard N Fullerton, Jr. and John Tschetter are economists in the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics.

For the older labor force, the participation rates have been declining over the 1962–81 period. It is assumed that these declines will moderate. If the historical trends for some older groups continue, the resulting participation rates would approach zero. These modifications for women and older workers were made to each age group within these broad groups. The historical rates of change in participation for all remaining labor force groups are assumed to continue.

The levels of anticipated labor force are calculated by applying projected participation rates to the Bureau of the Census' population projections.

### Middle growth scenario

The overall growth in the labor force over the next 8 to 12 years will be influenced by the baby-boom generation, which will attain those ages at which both men and women have their highest participation; and by the continued, but

slower, rise in participation among women ages 20 to 44. (See tables 1 and 2.) In contrast, the increases in the labor force during the 1970's were influenced by the initial entrance of the baby-boom generation, and by the very rapid increases in the labor force activity of women, particularly married women ages 20 to 44. As a consequence of these changing influences, labor force growth is expected to slow in the late 1980's and the 1990's.

The following tabulation shows labor force growth from 1950 to 1982 and projected growth from 1983 to 1995, by age group:

	1950– 60	1960– 70	1970– 82	1982– 90	1990– 95
Age 16 and over ..	1.3	1.7	2.4	1.6	1.0
16 to 24 .....	.0	4.5	2.7	–1.3	–.8
25 to 54 .....	1.3	1.0	2.3	2.9	1.6
55 and over .....	1.6	1.4	.3	–.7	–.2

### The uncertainty of projections

Knowledge or insights concerning future employment trends is very valuable. . . . Such information is used to plan careers and training programs, and develop business expansion plans and public policy. However, information about future employment growth is clouded by uncertainty. . . . It is very important for users to understand the imprecise nature of projections so they can deal with the information properly.

Although virtually no data about changes in the economy over a 10-year period can be anticipated with absolute certainty, there are differing degrees of uncertainty. To illustrate, I would say with relative certitude that the younger labor force is going to decline in this decade. The population which will be 16 years or older in 1990 is born and unless there are truly revolutionary changes in labor force participation rates for young people along with dramatic infusions through immigration of young people, the young labor force will decline. Perhaps, at the other end of the scale the uncertainty would be a projection of employment in the oil and gas well drilling industry. If I knew what the price of oil would be in 1990 or 1995, perhaps I could come close to projecting the level of employment in that industry. But the factors that will determine the price of oil in 1990 are themselves subject to great variances and uncertainty.

For much of the information on projections, the uncertainty lies between these two extremes. For example, the occupation "computer service technician" is projected to grow very rapidly. From 1982 to 1995, its projected growth is 97 percent. I am confident that employment in this occupation will grow rapidly, certainly much faster than the average growth of the economy over this period. However, I am not certain that the growth rate will be 97 percent or even fall within the 94–98 percent range shown in our alternatives. The growth rate could be significantly greater. Some occupations of this size, 55,000 in 1982, have grown much faster in the past. Still, a growth rate of only 50 percent is not beyond the realm of impossibility.

Concerns received from the public have led us to think and probe further in terms of asking questions about our projections. For example, in the last 6 months, the De-

partment of Defense and some of the defense industries have said there is a critical shortage of engineers that should be reflected in our publications. During the same period, we have had three groups representing the engineering professions say that BLS has been painting such a rosy picture for engineers that we are causing a flood in the market and that their member engineers cannot find jobs.

Which of these groups is correct? We examined this dilemma and concluded that there probably are two distinct markets for engineers. One is new college graduates who are currently in short supply—in at least some engineering disciplines—and these are principally among the engineering categories used by defense contractors. But 45 year-old engineers who are working on a product or product line that has been cancelled are in a tough job market because they are not always able to compete with the young engineer. The important point here is that if this situation is true for engineers, it may also be true for accountants and auditors, lawyers, and many other occupations.

Economists and others involved in forecasting economic activity understand the uncertain nature of projections. However, others, including those who are primary users of the information, may not. Thus, the development of numerical projections is only the first task in presenting information on economic trends or employment growth. It is just as important to present the data in a meaningful way. Unfortunately, this task is neither simple nor straight forward. Despite BLS' experience with and concern about the subject, we still are not sure our users understand the uncertainty attached to our projected data. The Bureau hopes that by indicating the factors underlying growth, preparing evaluation of previous projections, and discussing alternatives and assumptions, we will provide users with some idea of the uncertainties.

—Ronald E. Kutscher

Associate Commissioner

Bureau of Labor Statistics.

Remarks before a Labor Market Information  
Conference in Atlanta, Ga., June 1983

**Table 1. Civilian labor force, by sex, age, and race, 1970–82, and middle growth projection to 1995**

Labor group	Labor force (in thousands)					Participation rate				
	1970	1980	1982	1990	1995	1970	1980	1982	1990	1995
Total, age 16 and over	82,771	106,940	110,204	124,951	131,387	60.4	63.8	64.0	66.9	67.8
Men	51,228	61,453	62,450	67,701	69,970	79.7	77.4	76.6	76.5	76.1
16 to 24	9,725	13,606	13,074	11,274	10,573	69.4	74.4	72.6	74.7	74.5
16 to 19	4,008	4,999	4,470	4,123	4,043	56.1	60.5	56.7	62.3	62.9
20 to 24	5,717	8,607	8,604	7,151	6,530	83.3	85.9	84.9	84.4	84.1
25 to 54	32,213	38,712	40,357	48,180	51,358	95.8	94.2	94.0	93.8	93.4
25 to 34	11,327	16,971	17,793	19,569	18,105	96.4	95.2	94.7	93.7	93.1
35 to 44	10,469	11,836	12,781	17,469	19,446	96.9	95.5	95.3	95.6	95.3
45 to 54	10,417	9,905	9,784	11,142	13,807	94.3	91.2	91.2	91.3	91.1
55 and over	9,291	9,135	9,019	8,247	8,039	55.7	45.6	43.8	37.4	35.3
55 to 64	7,126	7,242	7,174	6,419	6,311	83.0	72.1	70.2	65.5	64.5
65 and over	2,165	1,893	1,845	1,828	1,728	26.8	19.0	17.8	14.9	13.3
Women	31,543	45,487	47,755	57,250	61,417	43.3	51.5	52.6	58.3	60.3
16 to 24	8,121	11,696	11,533	10,813	10,557	51.3	61.9	62.0	69.1	71.6
16 to 19	3,241	4,381	4,056	3,778	3,761	44.0	52.9	51.4	56.8	58.2
20 to 24	4,880	7,315	7,477	7,035	6,796	57.7	68.9	69.8	78.1	82.0
25 to 54	18,208	27,888	30,149	40,496	44,852	50.1	64.0	66.3	75.6	78.7
25 to 34	5,708	12,257	13,393	16,804	16,300	45.0	65.5	68.0	78.1	81.7
35 to 44	5,968	8,627	9,651	14,974	17,427	51.1	65.5	68.0	78.6	82.8
45 to 54	6,532	7,004	7,105	8,718	11,125	54.4	59.9	61.6	67.1	69.5
55 and over	5,213	5,904	6,073	5,941	6,008	25.3	22.8	22.7	20.5	19.9
55 to 64	4,157	4,742	4,888	4,612	4,671	43.0	41.3	41.8	41.5	42.5
65 and over	1,056	1,161	1,185	1,329	1,337	9.7	8.1	7.9	7.4	7.0
White	73,556	93,600	96,143	107,734	112,393	60.2	64.1	64.3	67.3	68.1
Men	46,035	54,473	55,133	59,201	60,757	80.0	78.2	77.4	77.4	77.0
16 to 24	8,540	11,902	11,371	9,854	9,271	70.2	76.7	74.9	78.5	79.1
25 to 54	29,000	34,224	35,565	41,864	44,232	96.3	95.0	94.9	94.8	94.5
55 and over	8,494	8,345	8,197	7,483	7,254	55.8	46.1	44.2	37.8	35.6
Women	27,521	39,127	41,010	48,533	51,636	42.6	51.2	52.4	58.1	60.0
16 to 24	7,141	10,179	10,013	9,285	9,025	52.1	64.4	64.7	72.5	75.4
25 to 54	15,690	23,723	25,619	34,081	37,433	48.9	63.4	66.1	75.6	78.7
55 and over	4,690	5,226	5,378	5,167	5,178	24.9	22.4	22.4	20.1	19.5
Black and other	9,218	13,340	14,062	17,217	18,994	61.8	61.7	61.6	64.8	65.7
Men	5,194	6,980	7,317	8,500	9,213	76.5	71.5	71.0	71.0	70.6
16 to 24	1,185	1,702	1,702	1,420	1,302	64.5	61.6	60.0	55.9	52.7
25 to 54	3,212	4,488	4,792	6,316	7,126	91.9	88.6	88.0	87.6	87.2
55 and over	796	790	822	764	785	54.7	40.8	40.5	34.3	32.6
Women	4,024	6,359	6,745	8,717	9,781	49.5	53.6	53.9	59.7	61.7
16 to 24	982	1,516	1,520	1,528	1,532	46.3	49.3	48.8	53.7	55.3
25 to 54	2,517	4,164	4,529	6,415	7,419	59.2	67.0	67.9	75.8	78.7
55 and over	524	678	695	774	830	30.0	26.4	25.5	23.5	22.8

The slowdown actually began in 1979. The peak labor force growth, 3.0 percent per year, occurred between 1976 and 1979. Over the 1979–82 period, growth was only 1.6 percent per year, reflecting the slowing of long-term growth, as well as the repercussions of 3 years of flat economic growth.

Over the 1982–95 period, there will be a pronounced shift in the age structure of the labor force. The 25- to 54-year-old labor force is expected to grow considerably faster

than the total labor force, 1.3 percentage points per year faster during the 1982–90 period. At the same time, the number of 16- to 24-year-old participants is projected to decline in absolute numbers. During the 1960's and 1970's, the labor force growth of younger workers was by far the fastest of any age group, reflecting the baby-boom generation initially entering and then maturing in the labor force. As this young generation ages in the 1990's, the number of persons ages 25 to 34 will decline. A shift from a young

**Table 2. Black civilian labor force, by sex and age, 1972–82, and middle growth projection to 1995**

Labor group	Labor force (in thousands)					Participation rate				
	1972	1980	1982	1990	1995	1972	1980	1982	1990	1995
Blacks, age 16 and over	8,707	10,865	11,331	13,600	14,833	59.9	61.0	61.0	64.5	65.4
Men	4,816	5,612	5,804	6,687	7,297	73.7	70.6	70.1	70.4	70.5
16 to 24	1,214	1,414	1,401	1,156	1,055	63.9	62.0	60.3	55.9	54.0
25 to 54	2,917	3,551	3,745	4,939	5,549	90.0	88.4	87.7	87.4	87.0
55 and over	687	647	660	592	583	49.1	39.3	39.0	33.2	31.3
Women	3,890	5,253	5,527	6,913	7,646	48.7	53.2	53.7	59.0	61.2
16 to 24	967	1,279	1,272	1,210	1,180	45.0	48.9	48.4	51.8	53.2
25 to 54	2,421	3,387	3,660	5,073	5,805	60.0	67.6	68.8	75.7	78.6
55 and over	503	588	595	630	661	27.8	26.1	25.3	23.6	22.9



to a prime working-age population in itself induces an increase in the overall participation rate, as prime-age persons are more likely to be in the labor force.

The population ages 55 and older will continue to increase. However, the participation rates for this group are projected to continue declining. For men, the increased population and declining participation have resulted in absolute declines in their number in the labor force. For women, this combination is expected to result in a relatively constant number in the labor force over the next decade. It is assumed that the new social security laws will not affect the trend of labor force participation for the population 55 and older between now and 1995.

These variations in growth rates by age groups mean that persons ages 25 to 54 will account for a much greater share of the 1995 labor force than the 1982 labor force. Prime working-age persons (25 to 54) are expected to account for about 73 percent of the 1995 labor force, up from 61 percent in 1970, and 64 percent in 1982. The growing proportion of prime-age participants could favorably affect productivity because of the greater continuity of participation by women and because of the higher educational attainment of all participants. This continuity and educational attainment imply that the future labor force will be more experienced and better trained, compared with the 1970's when younger workers (ages 16 to 24) accounted for a large share of labor force growth. The maturing of the labor force in the 1980's and 1990's means that employers may have difficulties finding young workers. The decline in the number of youths will be particularly important to the Armed Forces, the single largest employer of young men.

*Median age.* The median age of the labor force will rise slightly over the next 10 to 15 years. The median age was fairly constant between 1950 and 1970, but dropped sharply between 1970 and 1980 when the baby-boom generation entered the labor force. The following tabulation shows the median age of the labor force for 1950 to 1980 and the projected median age for 1990 and 1995, by sex and race:

	1950	1960	1970	1982	1990	1995
All participants ..	38.6	40.5	39.0	34.8	35.9	37.3
Men .....	39.3	40.5	39.4	35.3	36.4	37.8
Women .....	36.7	40.4	38.3	34.2	35.3	36.8
White .....	—	40.7	39.3	35.0	36.1	37.5
Black and other...	—	38.2	36.6	32.8	34.8	36.3

The differences in median age between men and women and between whites and black and other minorities reflect the age mix of the respective labor forces. For example, in 1982, men ages 55 and over accounted for 14.4 percent of the male labor force; women ages 55 and over accounted for only 12.7 percent of the female labor force. These median age differences between the two groups are projected to continue.

*Women and minorities.* During the 1982–95 period, the number of women and minorities in the labor force are projected to grow faster than the overall labor force. The following tabulation shows total labor force growth and growth for women, blacks, and black and other minorities for the 1950–82 period, and projected growth, 1982–95:

	1950– 60	1960– 70	1970– 82	1982– 90	1990– 95
Total .....	1.3	1.7	2.4	1.6	1.0
Women .....	2.4	3.1	3.5	2.3	1.4
Black and other ..	—	1.8	3.6	2.6	2.0
Blacks .....	—	—	—	2.3	1.8

Women, both white and black, will account for about two-thirds of the labor force growth during the 1980's and 1990's, about the same proportion as in the 1950's. During the 1960's and 1970's, when men of the baby-boom generation entered the labor force, the proportion of growth attributed to women dropped despite rapid increases in their participation rates. With the young men of the baby-boom generation now in the labor force, the share of labor force growth attributed to women will be greater over the next decade.

The black and other group, should account for slightly more than 21 percent of the additions to the labor force during the 1982–90 period, increasing to nearly 28 percent in the 1990–95 period. Since 1960, this group's proportion of overall growth has been growing despite the continuing drop in participation by black men. The black labor force is projected to grow at almost twice the white rate, reflecting the younger age structure of the black population.

The two groups just discussed overlap. White women and black and other men and women together will account for 72.4 percent of the 1982–90 labor force growth, and 75.8 percent of the 1990–95 growth. These two groups accounted for only 66.8 percent of the 1970–82 labor force growth.

*Economic dependency.* Around 1986, more of the population should be in the labor force than not in the labor force. The economic dependency ratio, the number of persons not in the labor force divided by those in the labor force, was high in the 1960's, but declined sharply through the 1970's as the baby-boom generation and women entered the labor force in large numbers. During the 1980's and 1990's, the ratio should continue to decline, but at a considerably more moderate pace, reflecting only the continued increases in participation rates for women.

The numerator of the economic dependency ratio can be disaggregated into all persons who are (1) under age 16, (2) between ages 16 and 64, and (3) age 65 and over. The denominator of the ratio in each instance is the total labor force. The following tabulation shows the economic dependency ratio for 1960 to 1982 and projected for 1990 and 1995 for these age groups.

	1960	1970	1982	1990	1995
Total population ..	150.4	138.5	106.5	96.4	94.1
Under age 16 .....	81.45	72.1	48.9	45.2	45.2
Age 16 to 64 .....	50.2	46.8	36.0	28.4	26.0
Age 65 and over ..	18.7	19.6	21.6	22.5	22.9

The drop (from 50 to 36 persons per hundred workers) in the ratio attributed to the 16- to 64-year-olds reflects the steady entry of women into the work force. The economic dependency ratio for persons under age 16 has declined over the 1960 to 1980 period, as the baby-boom generation and women entered the labor market. During the next decade, the ratio should be unchanged despite the "echo" of the baby boom, that is, the increase in the population attributed to the children of the baby-boom generation. The ratio for older workers is expected to rise slightly over the next decade, and should continue to rise into the middle of the next century; currently, their ratio is the lowest of the three groups.

These projected economic dependency ratios have several implications. There will be fewer children per labor force participant in the future, hence providing for primary and secondary education should be less of a burden. On the other hand, there will be more older persons not in the labor force per labor force participant, therefore, providing for retirement and the care of older workers should be slightly more of a burden.

### Alternative assumptions

The middle scenario just discussed reflects underlying assumptions and could be significantly affected by changes in these assumptions. BLS developed alternative projections to examine the range of outcomes attached to any projection. Two sets of alternative projections were developed for the current projection: demographic alternatives and economic alternatives. The following tabulations show the size of the civilian labor force during 1970, 1980, and 1982

	Civilian labor force (in millions)		
	1970	1980	1982
Total .....	82.8	106.9	110.2

and the projected size under each scenario for 1990 and 1995:

	Civilian labor force (in millions)	
	1990	1995
High demographic ..	131.3	141.0
High economic .....	125.3 to 125.4	131.9 to 132.8
Middle .....	125.0	131.4
Low economic .....	123.7 to 124.9	130.0 to 131.0
Low demographic ...	120.3	125.1

*Demographic alternatives.* One assumption in the middle scenario is that the growth in participation rates of women ages 20 to 44 will accelerate in the near term (that is, recover from the effects of the 1980 and 1981–82 recessions) before tapering off. If the rate of female labor force participation continues to accelerate through the late 1980's (rather than

only through the mid-1980's) the 1995 participation rate and labor force for these women would be considerably higher than in the middle scenario, about 9.6 million *more* persons, or 7.3 percent. (See table 3.)

On the other hand, it is possible that the participation rates for women ages 20 to 44 will not accelerate and instead will continue the modest upward trend shown during the 1979–82 period. If this occurs, there would be 6.3 million *fewer* persons (4.8 percent) in the 1995 labor force.

The two differences between the low, middle, and high assumptions concerning female participation rates, are substantial. The high scenario reflects female participation rates nearly converging to the higher male participation rates. The low scenario reflects a sharp deceleration from the trends of the 1970's. Over the 1979–82 period, the growth of female rates slowed, possibly in response to the 1980 and 1981–82 recessions. However, it might also reflect a change in the long-run trend. The low scenario, in essence, assumes that the recent trends reflect new secular trends for women.

The low-growth path assumes a more modest growth which is *not* a reversal of the upward growth in female participation rates or shifts in marital status. For example, regardless of which scenario is used, women should account for 65 to 66 percent of increases in the labor force. This stability occurs because increases in female participation will be the greatest source of labor force growth over the next decade.

A second demographic assumption in the middle scenario concerns the relative trends in black-white participation. Over the past two decades, the rates for black and white men have been diverging. (The rates for black and white women, on the other hand, appear to have converged, if not crossed.) The low and middle scenarios assume these respective trends will continue. The high scenario assumes that the rates for black and white men will converge to the higher white male rates. In the low scenario, black and other minorities account for 25.8 percent of the increase in the labor force over the 1982–95 period; in the high scenario, 23.9 percent; and in the middle scenario, 23.3 percent.

*Economic alternatives.* Labor force projections are only one segment of the BLS projections program. The program includes gross national product projections, in total and by major demand and income components; industry output and employment projections; and occupational requirements projections. To emphasize the uncertainty of these varied projections, BLS traditionally develops several scenarios which cover a number of alternative assumptions yielding a reasonably broad span of employment and gross national product level. The alternative projections of the economy as a whole use different assumptions for fiscal policy, productivity growth, the unemployment rate, and the price level.

At issue in these alternatives is the relationship between earnings and unemployment rates and labor force trends. Would alternative economic trends imply substantially or

modestly different labor force trends? According to the models, modest changes in the unemployment rate for all workers and in real earnings of workers lead to relatively small changes in the total labor force. (See table 4.)

Alternative projections of labor force trends have been made with two econometric models. One, labeled the marital status model, focuses on the behavior of detailed labor force trends.<sup>6</sup> The second model, labeled the macro labor force model, focuses solely on total labor force trends in the context of a broader economic model.<sup>7</sup> The methodology for these economic scenarios is substantially different from that used in other BLS labor force projections. The assumptions here are based on econometric models, while the other alternatives were based on a demographic methodology.

The *marital status model* relates participation rates for 16 age, sex, and marital status groups to real earnings of full-time workers by sex, and the overall unemployment rate. The model was estimated with Standard Metropolitan Statistical Area data for 34 cities during the 1973–80 period. The data are constructed from the micro files of the Bureau of the Census' Current Population Survey. The following tabulation shows the unemployment rate and annual earnings data used in the model.

	1982	1990	1995
Unemployment rate:			
All workers			
High .....	9.7	5.4	5.2
Middle .....	9.7	6.3	6.0
Low .....	9.7	6.5	6.8
Real annual earnings			
(1972 dollars):			
Men			
High .....	\$7,497	\$8,698	\$9,074
Middle .....	7,497	8,905	9,804
Low .....	7,497	8,941	10,148
Women			
High .....	4,441	5,152	5,375
Middle .....	4,441	5,275	5,807
Low .....	4,441	5,296	6,011

Developing the alternative scenarios with the marital status model required two steps. First, a middle scenario of labor force growth was developed for the 16 groups. This middle scenario for the 16 marital status groups was constrained to replicate the middle scenario described earlier. It was developed as in previous projections—extrapolating historical trends. Second, the differences in the two explanatory variables among scenarios were multiplied by the

**Table 3. Projections of the civilian labor force in 1995, by alternative demographic scenarios**

Labor group	Labor force (in thousands)			Participation rate		
	High scenario	Middle scenario	Low scenario	High scenario	Middle scenario	Low scenario
Total, age 16 and over .....	140,973	131,387	125,058	72.7	67.8	64.5
Men .....	73,005	69,970	67,541	79.4	76.1	73.5
16 to 24 .....	11,321	10,573	10,013	79.8	74.5	70.6
25 to 54 .....	52,545	51,358	50,130	95.5	93.4	91.2
55 and over .....	9,139	8,039	7,398	40.1	35.3	32.5
Women .....	67,968	61,417	57,517	66.7	60.3	56.5
16 to 24 .....	11,155	10,557	9,792	75.7	71.6	66.4
25 to 54 .....	49,525	44,852	41,964	86.9	78.7	73.6
55 and over .....	7,288	6,008	5,761	24.2	19.9	19.1
White .....	119,560	112,393	107,170	72.5	68.1	65.0
Men .....	62,451	60,757	58,839	79.2	77.0	74.6
16 to 24 .....	9,463	9,271	8,755	80.8	79.1	74.7
25 to 54 .....	44,815	44,232	43,406	95.7	94.5	92.7
55 and over .....	8,173	7,254	6,678	40.2	35.6	32.8
Women .....	57,109	51,636	48,331	66.4	60.0	56.2
16 to 24 .....	9,330	9,025	8,316	77.9	75.4	69.5
25 to 54 .....	41,384	37,433	35,097	87.0	78.7	73.8
55 and over .....	6,395	5,178	4,918	24.1	19.5	18.6
Black and other .....	21,413	18,994	17,889	74.8	65.1	61.9
Men .....	10,554	9,213	8,709	80.0	70.2	66.7
16 to 24 .....	1,858	1,302	1,253	75.9	52.7	50.9
25 to 54 .....	7,730	7,126	6,725	94.6	87.1	82.3
55 and over .....	966	785	722	40.3	32.8	29.9
Women .....	10,859	9,781	9,182	68.7	61.2	58.0
16 to 24 .....	1,825	1,532	1,471	65.7	55.4	53.2
25 to 54 .....	8,141	7,419	6,863	86.8	78.7	72.9
55 and over .....	893	830	847	24.5	22.9	23.1
Black .....	16,517	14,833	13,984	72.5	65.6	61.7
Men .....	8,125	7,297	6,775	79.4	70.7	66.4
16 to 24 .....	1,432	1,055	984	73.9	54.3	50.4
25 to 54 .....	5,974	5,549	5,246	93.4	87.1	82.2
55 and over .....	719	583	549	38.2	31.0	29.1
Women .....	8,392	7,646	7,217	67.0	61.7	57.8
16 to 24 .....	1,407	1,180	1,148	63.8	53.8	51.8
25 to 54 .....	6,311	5,805	5,413	85.7	78.1	73.2
55 and over .....	674	661	650	23.6	22.3	22.7

**Table 4. Civilian labor force by alternative economic scenarios, 1982 and projected to 1995**

Labor group	Labor force (in thousands)				Participation rate			
	1982	High scenario	Middle scenario	Low scenario	1982	High scenario	Middle scenario	Low scenario
<b>Marital status model:</b>								
Total	110,204	131,887	131,387	130,977	64.0	68.0	67.8	67.6
Men	62,450	70,101	69,970	69,867	76.6	76.2	76.1	75.9
16 to 19	4,470	4,032	4,043	4,047	56.7	62.8	62.9	63.0
20 to 34	21,385	24,647	24,635	24,619	90.8	90.5	62.9	90.4
Married	14,212	11,071	11,071	11,062	97.1	95.6	90.4	95.6
Other	12,185	13,576	13,564	13,557	85.3	86.7	95.6	86.6
35 to 44	12,781	19,497	19,446	19,401	95.3	95.5	86.6	95.1
Married	10,321	14,971	14,956	14,937	96.8	97.0	95.3	96.8
Other	2,460	4,527	4,490	4,463	89.4	90.9	96.9	89.6
45 to 54	9,784	13,847	13,807	13,784	91.2	91.4	90.2	90.9
Married	8,320	11,553	11,531	11,523	93.4	93.8	91.1	93.5
Other	1,464	2,295	2,276	2,261	80.8	81.0	93.6	79.8
55 and over	9,019	8,076	8,039	8,017	43.8	35.5	80.3	35.2
							35.3	
Women	47,755	61,786	61,417	61,110	52.6	60.7	60.3	60.0
16 to 19	4,056	3,777	3,761	3,749	51.4	58.5	58.3	58.1
20 to 34	17,128	23,224	23,096	22,975	68.8	82.3	81.8	81.4
Married	10,592	11,160	11,087	11,021	61.6	80.8	80.3	79.8
Other	10,279	12,064	12,009	11,954	77.7	83.6	83.2	82.9
35 to 44	9,651	17,526	17,427	17,350	68.0	83.2	82.8	82.4
Married	6,723	11,968	11,932	11,902	64.1	81.8	81.5	81.3
Other	2,928	5,557	5,495	5,448	79.0	86.5	85.6	84.8
45 to 54	7,105	11,282	11,125	11,015	61.6	70.5	69.5	68.8
Married	4,993	7,927	7,798	7,708	57.9	68.4	67.3	66.5
Other	2,111	3,356	3,327	3,307	72.3	76.0	75.3	74.9
55 and over	6,073	5,976	6,008	6,017	22.7	19.9	20.0	20.0
<b>Macro labor force model:</b>								
Total	110,204	132,800	131,387	130,000	64.0	66.9	67.8	67.1

respective coefficients; then the products were added to obtain the differences from the middle scenario.

For the marital status model, the range between the high and low scenarios is only 900,000 persons in the total labor force and .4 percentage points in participation rates. (See table 4.) The groups most affected by the changes between the scenarios are married women ages 45 to 54, nonmarried women ages 35 to 44, married women ages 20 to 34, and nonmarried men ages 45 to 54 and ages 35 to 44. The finding that these groups are more sensitive than others to the changes in economic trends is consistent with the slower trends in participation rates during the 1979–82 period. The projected labor force participation rates for these five groups are all projected to change by between 1.0 and 1.7 percentage points between the high and low economic scenario.

The *macro labor force model* relates the labor force participation rate of all workers to the unemployment rate and real wages. As noted, the macro labor force model is part of a large-scale quarterly macroeconomic model that allows for interaction of labor force trends with employment, labor productivity, and other trends.

For the macro labor force model, the range between the high and low scenarios is 2.8 million persons and 1.4 percentage points in the total participation rates. The difference between the high and low scenarios for the macro labor force model, when compared to the marital status model, reflects, in part, the interaction of labor force trends with economic trends in the context of a macroeconomic model

and, in part, the structural differences between the two labor force models.<sup>8</sup>

A comparison of the low and high economic scenarios with the middle scenario indicates that changes in economic assumptions do not result in substantial changes in labor force projections.

The most important finding across the four economic scenarios is that projections with two strikingly different labor force models yield *small* differences between the scenarios. By contrast, the difference between the high and low demographic scenarios is 15.9 million in 1995. Thus, the key factors in the size of the future labor force are demographic in nature.

### Revisions reflect 1980 census

Several factors necessitated updating the projections published in 1980: revisions in the historical labor force estimates, revisions in the projected population (which are used in determining the size of the future labor force), and availability of labor force participation rates for the 1979–82 period.<sup>9</sup> The historical labor force data were revised to incorporate the 1980 census. The revised population projections reflect incorporation of the 1980 population estimates and new, *higher* assumptions about life expectancy and net migration, and new, *lower* assumptions about fertility levels. These changes resulted in a larger projected population for 1995, with 8.8 million more persons over age 16. The new population projection alone would have raised the 1995

labor force projections by 5.3 million persons (after accounting for population shifts by age, sex, and race).

Offsetting the population growth is a lower projected change in labor force participation rates. This reflects the 1979–82 changes in participation which were lower than those of 1962–79. The 1979–82 changes reflect both cyclical factors and trend factors, such as an increased fertility after years of steady decline. If the previously projected participation rates were applied to the new population projections, the 1995 labor force would have been 132.4 million persons, 1 million more than the current projection. The most notable change in projected participation rates occurred for women ages 25 to 34, a group for which BLS has consistently underprojected participation. The rate for this group was lowered 2 percentage points in the current projection to 81.7 percent, compared with 83.7 percent in the previous projection. Still, participation for this group is expected to grow 13.7 percentage points over the 1982–95 period, the largest projected increase for any labor group. Projected participation rates for several groups have been revised upward, notably for men ages 35 to 54, and women 35 and older.

The following tabulation compares the previous and the revised projections of the 1995 labor force:

	1980 projection	1983 projection	Difference
Civilian labor force (in thousands) .....	127,542	131,387	3,845
Men .....	67,611	69,970	2,359
Women .....	59,931	61,417	1,486
White .....	109,292	112,393	3,101
Black and other .....	18,250	18,994	744

	1980 projection	1983 projection	Difference
Participation rate .....	68.6	67.8	-.8
Men .....	76.8	76.1	-.7
Women .....	61.2	60.3	-.9
White .....	68.8	68.1	-.7
Black and other .....	67.0	65.7	-1.3

BASED ON BLS' PROJECTIONS, several significant changes in labor force trends are expected during the next decade:

- The total labor force will grow more slowly during the next decade than during the past decade.
- Women will account for a greater proportion of labor force growth in the decade ahead (nearly two-thirds) than they did over the past decade;
- Blacks and other minority groups will account for a greater proportion of overall labor force growth, about one-quarter during the next decade;
- The younger members of the labor force, ages 16 to 24, will decline in absolute numbers.
- The number of prime-age members of the labor force, those ages 25 to 54, will grow faster than the total labor force, 1.0 percentage point per year faster.

These projections reflect the changing demographic structure of the U.S. population: the aging of the baby-boom generation and the growth of the black population. These general conclusions hold for several scenarios concerning future trends in labor force participation for detailed groups, although the specific projections differ. □

—FOOTNOTES—

<sup>1</sup> These projections replace those in Howard N Fullerton, Jr., "The 1995 labor force: a first look," *Monthly Labor Review*, December 1980, pp. 11–21. For an evaluation of earlier projections, see Howard N Fullerton, Jr., "How accurate were the 1980 labor force projections?" *Monthly Labor Review*, July 1982, pp. 15–21.

<sup>2</sup> The labor force (civilian labor force and resident Armed Forces) is projected to be 126,577,000 in 1990 and 133,018,000 in 1995. Of these, 57,415,000 will be women in 1990 and 61,582,000 will be women in 1995. Because there is no age or race detail in the resident Armed Forces measure of the labor force, this article is based on the civilian labor force.

<sup>3</sup> As with other current BLS presentations of data by race, this article presents data for blacks; however, for historical comparison, data are also presented for the black and other group, which also includes American Indians, Eskimos, and other minorities.

<sup>4</sup> For a short description of the BLS demographic labor force projection methodology, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), Chapter 18; for a complete description, see *BLS Economic Growth Model System Used for Projections to 1990*, Bulletin 2112 (Bureau of Labor Statistics, 1982), Chapter 2.

<sup>5</sup> Among the assumptions of the Census Bureau's projections of the population is that the total fertility rate will rise from 1.83 in 1980 to 1.96 in 2000, and then will decrease to 1.90 in 2050; and that life expectancy will rise from 78.3 in 1981 to 81.3 in 2005 for women, 70.7 to 73.3 for men. See *Projections of the Population of the United States: 1982 to 2050*,

*Current Population Reports*, Series P-25, No. 922 (Bureau of the Census, 1982).

<sup>6</sup> For illustrations of other uses of the marital status model, see James E. Duggan, "Labor force participation of older workers" *Industrial and Labor Relations Review*, forthcoming; and James E. Duggan, "Relative price variability and the labor supply of married persons." Both papers are available from the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics.

<sup>7</sup> The macro labor force model is the labor force equation in the Chase Econometric Model. For a description of the model, see Arthur J. Andreassen and others, "Economic outlook for the 1990's; three scenarios for economic growth," pp. 9–21.

<sup>8</sup> BLS' alternative scenarios of gross national product, industry output and employment trends and occupational requirements use the macro labor force model's projections of total labor force. This was done because of the small differences between the economic scenarios of labor force trends and because the macro labor force is part of the macroeconomic model of the economic projections.

<sup>9</sup> For a discussion of the revisions in labor force estimates due to the 1980 Census of the Population, see Kenneth D. Buckley, Jennifer Marks, and Ronald J. Statt, "Revisions in the Current Population Survey Beginning in January 1982," *Employment and Earnings*, February 1982, pp. 7–15.

# Economic outlook for the 1990's: three scenarios for economic growth

*Alternative monetary and fiscal assumptions suggest quite different trends in GNP and employment through 1995; in all versions, growth tapers after 1988, reflecting slower rates of population and labor force increase*

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The Bureau of Labor Statistics has prepared trend projections of growth in aggregate and industry demand for the 1982-95 period, updating prior projections to 1990 and extending the analysis to 1995.<sup>1</sup> The projections are part of a Bureau program of studies aimed at analyzing medium-term economic growth and the implications for the structure of employment by industry and occupation. The new estimates consist of a moderate-growth case, and high-growth and low-growth alternatives, which examine the effects of alternate policies on U.S. economic growth, distribution of demand, and employment.

It should be noted that none of the three projections should be favored as the most likely. The intent in preparing them was not to forecast future economic performance but, rather, to examine the implications of a reasonable range of demand growth over the projection period. The projections represent only three of many possible responses of the economy to differing fiscal and monetary stimulæ. A different perspective on the inner workings of the U.S. aggregate economy could easily lead one to arrive at completely different results. For this reason, the high-growth and low-growth alternatives should not be viewed as the "good" forecast and the "bad" forecast, but rather as vehicles for generating a reasonable

spread in gross national product (GNP) and employment growth to 1995.

By 1995, real GNP is projected to range between \$2.1 and \$2.3 trillion, with total employment between 123.6 and 134.1 million jobs. In all three versions, job and production growth tapers during the latter part of the period, primarily in response to slower projected rates of growth of the population and labor force.<sup>2</sup> Following are historical and projected rates of growth for real GNP, real disposable income, and employment:

	GNP	Disposable income	Employment
Historical:			
1955-68 .....	3.7	3.9	1.5
1968-73 .....	3.5	4.3	1.7
1973-77 .....	2.2	2.2	1.6
1977-82 .....	1.6	2.4	1.6
Low growth:			
1982-90 .....	2.8	2.4	1.4
1990-95 .....	2.7	2.7	1.6
Moderate growth:			
1982-90 .....	3.2	2.8	1.8
1990-95 .....	2.5	2.6	1.5
High growth:			
1982-90 .....	3.8	3.2	2.3
1990-95 .....	2.5	2.7	1.7

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In terms of the real rate of growth, the low-trend projections are comparable to the 1973–82 experience, and the high-trend projection corresponds more to that of the 1960's.

Following is a detailed discussion of the assumptions and results of the moderate-growth alternative, both in terms of aggregate economic activity and industry demand patterns. A summary of the low-trend and high-trend results is included. Other articles in this issue examine the BLS projections of labor force, industry output and employment, and occupational demand.

### Moderate growth assumptions

To develop the moderate-growth projections, assumptions were made concerning demographics, fiscal and monetary policy, foreign economic conditions, energy, and miscellaneous items.<sup>3</sup> Those variables having the largest impact on the projections are discussed below. (Refer to the

box on pages 10–11 for a discussion of the model used to develop the aggregate projections.)

*Demographic.* The middle-growth projections of U.S. population, developed by the Census Bureau, were chosen for the moderate-growth scenario. The population age 16 and over is projected to increase by 21.6 million between 1982 and 1995, an average annual rate of growth of 0.9 percent. As in prior projections, the population rate of growth slows over the projection horizon, dropping from 1.1 percent annually between 1982 and 1988 to 0.8 percent each year between 1988 and 1995.

The civilian labor force grows somewhat more rapidly during the projection period, reflecting generally increasing participation rates and the shift of persons into age categories with traditionally higher labor force participation. The ci-

### BLS projections procedures

The Bureau of Labor Statistics prepares projections on a 2-year cycle, using the Economic Growth Model System. This system is composed of a group of separate but not unrelated processes. Projections are produced in the following areas: (1) labor force; (2) aggregate economic performance; (3) industry final demand and total industry production; (4) industry employment levels; and (5) occupational employment by industry. Each block of the projections depends upon inputs from an earlier stage and feeds logically into the next.

The *labor force projections* use Bureau of the Census population projections by age, sex, and race, based on trends in birth rates, death rates, and net migration. With the population projections in hand, BLS projects labor force participation rates—the percent of each group in the population who will be working or seeking work—for 64 age, sex, and race groups. The labor force participation rate projection for each group is developed by: (a) analyzing past rates of growth over the 1962–81 period or for selected subperiods; (b) selecting the rate for a period deemed most appropriate for each group; and (c) modifying that rate if past trends are judged not likely to continue throughout the entire projection period. The levels of anticipated labor force are then calculated by applying the projected participation rates to the Bureau of the Census population projections.

The *aggregate economic projections or gross national product*, in total and by major demand and income category, use the BLS labor force and Census population projections as inputs. Consistent economic scenarios are developed to provide aggregate controls for the various categories of demand and employment. These scenarios are selected to encompass a band around likely growth of the economy in the future. Later stages of the projection process develop industry-level projections consistent with these aggregate data.

The Bureau's aggregate economic projections have, in the past, been prepared with a modified version of the Thurow econometric model of the U.S. economy. Following the last round of projections, it was determined that the BLS macro model was inadequate for further projections studies without major re-

specification and expansion. After studying the problem, the decision was made to look to the private sector for a macro model that would satisfy the needs of Bureau economists and that would, at the same time, remove the burden of periodic data base maintenance and model reestimation from the Bureau staff. A model of the size and complexity deemed necessary for an effective evaluation of U.S. economic growth potential had required that a significant proportion of staff time be allocated to such routine maintenance. For this reason and because of staff and other resource limitations, a competitive procurement process was initiated in January 1982 and a contract was awarded to Chase Econometrics Associates, Inc., in October 1982. Under the terms of this agreement, the Bureau now uses the Chase macro model to develop its projections.

The Chase model is a quarterly model of the U.S. economy, and is composed of 312 behavioral equations and 275 identities, thus determining 587 endogenous variables. In addition, the model contains 110 exogenous variables. The model can be conveniently decomposed into 13 sectors: (1) consumption, (2) business fixed investment, (3) residential investment, (4) change in business inventories, (5) foreign trade, (6) Federal government, (7) State and local government, (8) employment and hours, (9) financial, (10) income, (11) wages and prices, (12) industrial production, and (13) energy.

Assumptions are specified for the 110 exogenous variables. The model is simulated and the results are analyzed for consistency and reasonableness. Modifications to the exogenous variables and to the behavioral relationships are incorporated into the model until a reasonable set of results has been obtained.

For the *industry output projections*, the U.S. economy is disaggregated to 156 producing sectors, an exhaustive grouping which combines both the public and private sectors. The framework for this procedure is an input-output model that is prepared for a base period by the Bureau of Economic Analysis of the U.S. Department of Commerce. The first step at the industry level is to disaggregate the GNP estimate from the aggregate projections to a set of demands by industry. This projected in-

vilian labor force is projected to attain a level of 131.4 million by 1995, an increase of just under 20 million from 1982. This represents average annual growth of 1.6 percent, 1982–88, and 1.0 percent between 1988 and 1995. The moderate-growth alternative uses the medium-growth projection of the civilian labor force discussed on pages 1–8 of this issue. The labor force projections in the low-trend and high-trend versions were generated by the macro model described on page 7.

*Federal receipts and expenditures.* General fiscal restraint throughout the remainder of this decade is the basic characteristic of the moderate-growth government expenditure and tax policies. Federal defense purchases of goods and services are assumed to increase at a real rate of 4.1 percent each year between 1982 and 1986. Thereafter, growth is assumed to drop to the 0.5- to 1.0-percent range to 1995.

dustry demand, in conjunction with a projected input-output table, is used to calculate total industrial production. The projected changes in input-output coefficients in the input-output model capture—among other factors—expected changes in technology. Finally, the employments necessary to produce those levels of output are estimated through use of projected industry productivity.

Aggregate demand projections are available from the macro model for 15 categories of consumption, 8 types of investment, 15 end-use categories of foreign trade, and 3 categories of government spending. Where possible, a further disaggregation of the control values is undertaken: Purchases of producers' durable equipment is divided into 23 types of capital equipment. Government spending is grouped into 12 categories.

To allow for shifts in the composition of aggregate demand and in the industrial makeup of a given demand category, "bridge tables" are projected. The bridge table is a set of percent distributions for each given demand category, such as one of the consumption groups or investment, among each of the 156 industries in the BLS input-output model.

The projection of the input-output table accounts for the changes in the input pattern for each industry. In general, two types of changes are made: (a) those made to the inputs of a specific industry after an industry study (as for the changes in inputs in the aluminum industry); and, (b) those made to the inputs of all industries for a specific commodity (as for increased use of business services across a wide spectrum of industries). Output requirements by industry are the result of multiplying the projected input-output table by projected changes in level and distribution of final demand.

The projected changes in industry output are important factors determining the *projections of industry employment*. However, converting output projections into employment estimates requires productivity-by-industry projections and measures of changes in average hours by industry. This is accomplished using a regression model with an equation for each industry that estimates worker-hours as a function of the following variables: (1) the industry's output, (2) capacity utilization, (3) the relative price of labor, and (4) a technology variable as approximated by the output/capital ratio. Worker-hours are then converted into jobs by dividing by average annual hours, which are projected using

Nondefense purchases of goods and services in real terms are expected to decline in the 1983–87 period, reaching \$35.8 billion in 1987, \$1.8 billion below the 1982 level. This reflects some employment declines, as well as general cutbacks in operating funds for many programs. Nondefense purchases are then assumed to grow, in real terms, by about 0.5 to 1.0 percent each year to 1990, and to accelerate somewhat to the 2.5- to 3.0-percent range during the first half of the next decade.

Social security benefit payments are expected to grow in nominal terms at an annual rate of 7.2 percent in the 1982–88 period, and by 7.1 percent each year between 1988 and 1995. No real benefit increases are assumed through 1988. The growth in social security payments is generated by inflation and by expanding client population only. After 1988, some resumption of real benefit growth is assumed, on the order of 0.5 percent to 1 percent annually.

time trends. The sum of employment by industry is controlled to total employment as estimated in the macro model. Several iterations are usually necessary for a reasonable balance to be achieved.

Projections of employment for the 156 sectors in the Economic Growth Model are disaggregated to 372 industries corresponding to the 3-digit Standard Industrial Classification (SIC). This is done to match the industry mix of the industry-occupation matrix described later. The disaggregation is accomplished via a time-series regression model. The disaggregated 3-digit SIC industry employment projections are reviewed in light of a broad range of economic information. When the industry projections are considered final, they are used as inputs to the process of projecting occupational employment.

One of the main resources in making *occupational employment projections* is the industry-occupation matrix. This matrix is produced from data collected by State employment agencies and brought together by the Bureau of Labor Statistics to produce national estimates. The data are collected from employers on a 3-year cycle—manufacturing one year, nonmanufacturing the next year, and the balance of nonmanufacturing (trade, transportation, communications, and utilities) the final year. The data from the 3-year cycle are put on the same employment basis to form annual average estimates for occupational employment in each of the 3-digit SIC industries. The matrix contains over 1,500 detailed occupations, although most industries do not have employment in many of these occupations.

The major occupational cells of the industry-occupation matrix for the base year are reviewed and adjustments are made to the cells in the projected matrix to account for changes expected to take place in the industries because of technological change, product mix shifts, and other factors. The changes introduced into the input-output model for expected technological change may also change the staffing patterns in industries using the new technology. (For example, one would expect greater general employment of computer specialists as computer technology spreads across industries.) The projected industry employment data are applied to the projected industry occupational employment patterns and the new cell employment is aggregated across all industries to yield total occupational employment for the projected year.



Medicare payments, on the other hand, are expected to grow at a 10.1-percent nominal rate over the 1982–88 period, reflecting client population growth, higher-than-average medical care cost inflation, and some real benefit increases, on the order of about 1 percent annually. After 1988, the medicare rate of growth drops to 8 percent annually as inflation continues to moderate.

Unemployment insurance benefits decline sharply through 1990 as the economy recovers from the 1982 recession and the number of unemployed drops. Some slight growth is apparent after 1990 as the unemployment rate stabilizes. Other transfer payments, including Federal retirement programs and veterans' benefits, are expected to increase at a nominal rate of 8.5 percent annually between 1982 and 1988, and at 7.9 percent during the 1988–95 period. Finally, grants to State and local governments are assumed to grow only with inflation during the entire period.

On the revenue side of the Federal government books, projected personal tax rates reflect currently mandated tax cuts and the indexation of personal taxes for the remainder of the period. Corporate profits taxes are assumed to stabilize at about 26 percent of profits for the entire projection period. Indirect business taxes are expected to increase annually by about 5.8 percent, while social insurance contributions are governed by the currently mandated tax rates and income base determination methods.

The net effect of these policies is a Federal budget deficit (NIPA basis) that declines steadily from \$180 billion in 1983 to about \$70 billion by 1990, and then remains at roughly that level for the remainder of the projection period.

*Monetary policy.* In the financial sector, 10 interest rates are derived, with the Federal funds rate providing the key to the overall term structure of rates. The major assumption affecting the determination of the Federal funds rate is the rate of growth of the nonborrowed monetary base, excluding currency. It is assumed that this variable will grow at a rate close to 10 percent during 1983, dropping to about 7 percent during the 1984–87 period, and then to the 5.5- to 6-percent range for the remainder of the projection period. This reflects an assumed willingness on the part of the Federal Reserve Board to loosen up somewhat on monetary controls as the economy recovers from the 1982 recession.

Also affecting the financial sector is the assumption concerning the rate of growth of money-market related mutual funds. This variable affects the distribution of the money stock between the aggregate money supply measures M1 and M2. Money-market funds are expected to increase at a strong pace during the mid-1980's (about 12 to 15 percent annually), but this will taper in the late 1980's and early 1990's to about a 10-percent average rate of growth.

*Foreign economic conditions.* Exports of domestically produced goods and services are influenced primarily by international financial markets and by the economic condition

of our major trading partners. The following table summarizes the assumed annual percentage rates of growth of the variables in the macro model that reflect these considerations:

	<i>Industrial production, world</i>	<i>Wholesale price index, rest-of-world</i>	<i>Average value of the U.S. dollar<sup>4</sup></i>
Historical:			
1968–73 . . . . .	—	—	–3.0
1973–77 . . . . .	0.9	11.8	2.4
1977–82 . . . . .	0.7	10.0	3.3
Low growth:			
1982–90 . . . . .	3.0	8.8	1.6
1990–95 . . . . .	2.9	7.9	0.0
Moderate growth:			
1982–90 . . . . .	3.2	8.3	2.1
1990–95 . . . . .	3.1	6.9	1.3
High growth:			
1982–90 . . . . .	3.3	8.5	2.2
1990–95 . . . . .	3.4	7.3	1.5

The assumed growth rates for industrial production appear high from a historical perspective. The table is deceptive, however, because the selected historical years are representative of peak-to-peak periods in this country. The world economy tends to lag the U.S. business cycle and, as a result, the historical growth rates presented above are not truly representative of long-term trend growth patterns. Generally, world industrial production has tended to increase at a 2.5- to 3.5-percent rate during trend growth periods.

*Energy.* Domestic oil production, currently running at about 10 million barrels per day (MBPD), is assumed to decline to 9.5 MBPD by 1987 and to remain at that level thereafter. Petroleum imports, on the other hand, are expected to increase steadily from 5.1 MBPD in 1982 to 7.8 MBPD in 1990 and 8 MBPD in 1995. The price of imported oil is assumed to rise from the 1983 price of \$28 per barrel to \$41 in 1990 and to \$52 by 1995. This rise is consistent with overall inflation but does not reflect any real increase in the barrel price of imported crude oil.

Affecting transportation-related demand for petroleum are assumptions concerning the average miles-per-gallon of new domestically produced autos, and the ratio of imports to domestic autos. Mileage figures are assumed to improve from the 1982 level of 26.7 mpg to 37.8 by 1990 and 41.7 by 1995. After declining to a more normal share of 24 percent in 1983, imported autos are expected to capture more of the U.S. auto market, accounting for 30 percent of domestic sales by 1990. The share is assumed to stabilize through 1995 at that level.

### Implications of moderate growth

Real GNP is projected to increase at an average annual rate of 3.2 percent over the 1982–90 period, reflecting re-

covery from the 1982 recession. After 1990, GNP growth moderates somewhat to an annual rate of 2.5 percent between 1990 and 1995 (table 1). This assumes a return to the long-term trend growth path following the recovery and the continuing slowdown in the rate of growth of the civilian labor force. Following is a summary of the projection results for each major sector of the economy.

*Prices.* Projections for price change are truly optimistic in the moderate-growth scenario—at least compared to the more recent experience:

	<i>Annual change, in percent</i>		
	<i>GNP deflator</i>	<i>Personal consumption expenditures deflator</i>	<i>Gross private domestic investment deflator</i>
<i>Historical:</i>			
1955–68 .....	2.4	2.1	1.7
1968–73 .....	5.1	4.6	5.1
1973–77 .....	7.3	7.1	9.4
1977–82 .....	8.1	8.1	7.1
<i>Moderate growth:</i>			
1982–90 .....	5.4	5.2	5.8
1990–95 .....	3.3	3.6	2.7

The moderation in inflation expectations is based on the relatively modest rate of recovery projected from the 1982 recession. Demand growth accelerates at a pace readily matched by production capacity, thus averting much of the demand pressure on prices apparent during recoveries from the 1969–70 and 1973–75 recessions. The 1981–82 recession also significantly dampened wage rate growth, a major impetus to renewed inflation during earlier recoveries.

*Employment and productivity.* Civilian household employment is projected to increase by just over 24 million jobs between 1982 and 1995, as the unemployment rate declines from 9.7 percent in 1982 to 6.3 percent in 1990 and to 6.0 percent in 1995. (See table 2.) This represents average annual growth in employment of 2 percent between 1982 and 1990 and of 1.1 percent between 1990 and 1995. There are 6.5 million new jobs in the goods-producing sector, and 17.3 million in the private service-producing industries.

For the private nonfarm sector, the long-term average annual rate of productivity growth was 2.6 percent between 1955 and 1968. Between 1968 and 1973, this rate dropped to 2.1 percent annually and even further, to 0.2 percent, during the 1973–82 period. The slowdown in productivity growth over the past decade has been attributed to many factors, including the influx of new workers into the labor force; slowing in capital accumulation per worker; emphasis on nonproductive types of investment, such as pollution control investment; and the remarkable increase in energy prices since 1973.

Over the coming decade, many of the factors that contributed to the productivity slowdown are expected to improve. As a result, the projections for productivity are quite optimistic when compared to more recent experience. Productivity in the private nonfarm sector is expected to increase at a rate of 1.7 percent annually between 1982 and 1990 and by 1.4 percent each year during the 1990–95 period. Increases in manufacturing labor productivity are expected to average 2.2 percent annually over the entire period.

Developments related to employment and labor productivity are discussed by Valerie Personick elsewhere in this issue.

*Personal consumption.* Consumer spending is the largest component of GNP. In 1968, personal consumption expenditures (PCE) accounted for 60.0 percent of real GNP. The share increased to 63.2 percent in 1981 and to 65.3 percent in 1982. It should be noted that personal consumption expenditures accounted for a large proportion of GNP in 1982 because of the rapid relative increase in the purchase of services during a recessionary period. After returning to a more normal share of GNP after 1983, consumer expenditures are still expected to show a long-term upward trend, reaching 65.2 percent of GNP in 1995. The increase is due primarily to relatively higher disposable income and a slightly lower savings rate, as well as to the smaller share of GNP accounted for by government expenditures. Table 3 details the projections of 15 major categories of consumer spending.

Because of price effects, new technology, the shifting population mix, and new household formation, consumers' behavior will exhibit some changes over the next decade. Purchases of consumer durables are projected to grow very strongly over the period—5.1-percent average annual growth from 1982 to 1990 and 2.9 percent each year, 1990–95. All categories of durables are expected to increase strongly in the early period of the projections, but the largest growth is attributable to motor vehicles and to household appliances. Generally speaking, durables purchases react quite sharply to increasing inflation and to swings in the business cycle because such purchases are easily put off until "better times." Two major reasons for the strong durables growth over the projection period are the greatly improved inflation situation and the lack of business-cycle swings built into the projection methods.

Purchases of motor vehicles and parts dropped dramatically during the 1982 recession. Sales of new motor vehicles were down 18 percent to 11.4 million units in 1980 and dipped to 10.4 million units in 1982, the worst slump in 20 years. The drop in new-car sales was largely accounted for by domestic autos, as imports continued to increase their share of the market during the 1982 recession.

With cut-rate financing luring buyers, sales rebounded sharply in the final months of 1982. Demand for motor

**Table 1. Gross national product, 1968, 1973, 1977, 1982, and projected to 1990 and 1995**

(Billions of 1972 dollars)

Item	1968	1973	1977	1982	1990			1995		
					High	Moderate	Low	High	Moderate	Low
Gross national product	\$1,058.1	\$1,255.0	\$1,369.7	\$1,485.4	\$2,004.2	\$1,915.5	\$1,857.9	\$2,264.6	\$2,166.9	\$2,126.7
Personal consumption	634.4	768.5	864.3	970.2	1,296.0	1,240.2	1,196.8	1,491.4	1,412.4	1,349.1
Durables	88.3	121.3	138.0	139.8	236.0	208.8	190.1	277.4	240.4	223.8
Nondurables	270.5	308.0	333.4	364.2	447.2	436.2	423.7	481.2	468.0	438.4
Services	275.6	339.2	393.0	466.2	612.8	595.2	583.0	732.9	704.0	686.9
Gross private investment	161.6	217.5	214.2	194.5	342.1	305.7	250.1	405.0	337.2	285.7
Equipment	66.8	90.7	99.9	112.7	166.2	149.1	132.4	202.8	177.2	159.6
Structures	42.8	47.4	40.4	53.4	62.8	61.5	45.0	76.9	70.1	44.6
Residential	43.1	62.3	60.7	37.8	97.8	80.5	63.6	113.1	78.1	69.6
Inventory change	9.0	17.2	13.3	-9.4	15.3	14.6	9.0	12.2	11.9	11.9
Net exports	1.9	15.5	22.0	28.9	34.1	48.8	83.0	22.8	85.9	148.4
Exports	61.2	97.3	112.9	147.3	206.7	202.3	206.5	261.7	260.0	267.9
Imports	59.3	81.8	90.9	118.4	172.6	153.5	123.5	238.9	174.1	119.4
Government	260.2	253.5	269.2	291.8	332.0	320.9	327.9	345.4	331.4	343.5
Federal	128.2	95.9	100.5	116.6	136.8	132.4	144.3	144.6	139.2	157.0
State and local	132.0	157.6	168.8	175.2	195.2	188.5	183.6	200.7	192.2	186.5
<b>Percent distribution</b>										
Gross national product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Personal consumption	60.0	61.2	63.1	65.3	64.7	64.7	64.4	65.9	65.2	63.4
Durables	8.3	9.7	10.1	9.4	11.8	10.9	10.2	12.2	11.1	10.5
Nondurables	25.6	24.5	24.3	24.5	22.3	22.8	22.8	21.2	21.6	20.6
Services	26.0	27.0	28.7	31.4	30.6	31.1	31.4	32.4	32.5	32.3
Gross private investment	15.3	17.3	15.6	13.1	17.1	16.0	13.5	17.9	15.6	13.4
Equipment	6.3	7.2	7.3	7.6	8.3	7.8	7.1	9.0	8.2	7.5
Structures	4.0	3.8	2.9	3.6	3.1	3.2	2.4	3.3	3.2	2.1
Residential	4.1	5.0	4.4	2.5	4.9	4.2	3.4	5.0	3.6	3.3
Inventory change	0.9	1.4	1.0	-0.6	.8	.8	.5	.5	.5	.6
Net exports	.2	1.2	1.6	1.9	1.7	2.5	4.5	1.0	4.0	7.0
Exports	5.8	7.8	8.2	9.9	10.3	10.6	11.1	11.6	12.0	12.6
Imports	5.6	6.5	6.6	8.0	8.6	8.0	6.6	10.5	8.0	5.6
Government	24.6	20.2	19.7	19.6	16.6	16.8	17.6	15.3	15.3	16.2
Federal	12.1	7.6	7.3	7.8	6.8	6.9	7.8	6.4	6.4	7.4
State and local	12.5	12.6	12.3	11.8	9.7	9.8	9.9	8.9	8.9	8.8
<b>Average annual rate of change (in percent)</b>										
	1968-73	1973-77	1977-82	High		Moderate			Low	
				1982-90	1990-95	1982-90	1990-95	1982-95	1982-90	1990-95
Gross national product	3.5	2.2	1.6	3.8	2.5	3.2	2.5	3.0	2.8	2.7
Personal consumption	3.9	3.0	2.3	3.7	2.8	3.1	2.6	2.9	2.7	2.4
Durables	6.5	3.3	0.3	6.8	3.3	5.1	2.9	4.3	3.9	3.3
Nondurables	2.6	2.1	1.8	2.6	1.5	2.3	1.4	1.9	1.9	0.7
Services	4.2	3.7	3.5	3.5	3.6	3.1	3.4	3.2	2.8	3.3
Gross private investment	6.1	-0.4	-1.9	7.3	3.4	5.8	2.0	4.3	3.2	2.7
Equipment	6.3	2.4	2.4	5.0	4.1	3.6	3.5	3.5	2.0	3.8
Structures	2.1	-3.9	5.7	2.1	4.1	1.8	2.7	2.1	-2.1	-0.2
Residential	7.6	-0.6	-9.0	12.6	2.9	9.9	-0.6	5.7	7.4	1.8
Exports	9.7	3.8	5.5	4.3	4.8	4.1	5.2	4.5	4.3	5.3
Imports	6.6	2.7	5.4	4.8	6.7	3.3	2.6	3.0	0.5	-0.7
Government	-0.5	1.5	1.6	1.6	0.8	1.2	0.7	1.0	1.5	0.9
Federal	-5.6	1.2	3.0	2.0	1.1	1.6	1.0	1.4	2.7	1.7
State and local	3.6	1.7	0.8	1.4	0.6	0.9	0.4	0.7	0.6	0.3

Source: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

vehicles and parts is expected to increase at a robust rate, averaging 5.8-percent growth between 1982 and 1990. This represents an increase in new domestic car sales to 8.6 million units by 1990. Although low by the standards of the 1960's and 1970's, this is still well above the average sales rate of 5.7 million domestic cars in 1982. The slow-

down from the long-term trends is caused by continuing relative price increases, a projected decline in the entry of new drivers into the marketplace, and the assumption that imports will continue to improve their competitive position in this country. The following table summarizes purchase data for motor vehicles, historically and projected.

	1968	1973	1977	1982	1990	1995
Vehicles and parts as a percent of PCE (1972 dollars) .....	6.3	7.4	7.3	5.9	7.3	7.0
New-vehicles sales (millions of units) ...	—	13.6	14.6	10.4	16.6	16.1
New-car sales .....	9.6	11.4	11.1	8.0	12.4	12.0
Domestic .....	8.6	9.6	9.0	5.7	8.6	8.4
Imported .....	1.0	1.8	2.1	2.3	3.7	3.6
New-light-truck sales .....	—	2.3	3.5	2.4	4.2	4.1
Percent import share, new cars .....	10.7	15.5	18.7	28.3	30.0	30.0

Like the case for motor vehicles, the projected surge in purchases of furniture and household appliances is attributable to recovery. With the expected upturn in construction of new homes, demand for housing-linked items is expected to increase rapidly, at a rate of 4.6 percent per year, between 1982 and 1990.

In addition to the housing-related demand growth, a new boom in household appliances and furnishings, largely paralleling the 1950's television experience, will feature consumer electronics and a new wave of replacement demand. Purchases of home computers and supplemental equipment, such as printers and software, have exploded in the U.S. marketplace; demand for such popular new products is foreseen to grow strongly in the next decade. Other new electronic products, such as compact audiodiscs, video cassette recorders, and sophisticated electronic telephone systems,

are also expected to become increasingly important. Thus, considerable growth of 4.2 percent annually in the 1982-95 period is projected, much higher than the growth rate of 2.9 percent for total consumption during the same period.

Consumer purchases of nondurables are expected to account for progressively smaller shares of GNP throughout the projection period. Nondurables accounted for 25.6 percent of GNP in 1968. The share dropped to 24.5 percent in 1982 and is projected to decline further to 22.8 percent and 21.6 percent of GNP in 1990 and 1995, as nondurables grow more in line with population than they did during the 1970's.

Food consumption has been declining as a proportion of total PCE over time, and it is expected to continue to do so through 1995. As a family's real income increases, the percentage spent on food decreases. In 1982, purchases of food accounted for 19.0 percent of PCE, while by 1995, they are expected to decline to 15.8 percent. Particularly, demand for restaurant meals is projected to grow more slowly in the period than in recent years. During the last decade, a rapid increase in the number of working wives helped to boost restaurant sales. Female labor force participation is projected to continue to rise over the projection period but at a slower pace than during the last 10 years. Consequently, purchased restaurant meals are projected to grow only at a rate of 1.1 percent per year in the 1982-95 period, compared with 2.8 percent between 1973 and 1979.

Average growth of 2.3 percent annually is projected for purchases of clothing and shoes between 1982 and 1995, compared with rates of 3.9 percent per year in the 1968-

**Table 2. Selected macroeconomic variables, 1968, 1973, 1977, 1982 and projected to 1990 and 1995**

Item	1968	1973	1977	1982	1990			1995			
					High	Moderate	Low	High	Moderate	Low	
GNP deflator (1972 = 100) .....	82.5	105.7	140.0	206.9	341.1	315.9	303.5	483.7	372.1	341.8	
Private nonfarm productivity .....	86.6	95.2	100.1	100.0	116.1	114.6	114.0	125.3	122.7	120.9	
Unemployment rate .....	3.6	4.9	7.1	9.7	5.4	6.3	6.5	5.2	6.0	6.8	
Total employment (in millions) .....	83,549	91,735	97,539	105,555	121,869	120,830	119,735	132,843	130,260	128,250	
Government .....	14,092	15,506	16,783	17,471	17,891	17,658	17,993	18,482	18,203	18,532	
Private .....	69,457	76,229	80,756	88,084	106,978	103,172	101,742	114,361	112,057	109,718	
Farm .....	3,662	6,220	2,950	2,815	2,672	2,652	2,630	2,595	2,550	2,500	
Manufacturing .....	20,065	20,438	20,017	19,223	22,635	22,236	21,686	24,132	23,491	22,963	
Service-producing .....	37,363	43,567	48,796	56,721	67,828	67,533	66,559	75,596	74,157	72,673	
Other .....	8,367	9,004	8,993	9,325	10,843	10,751	10,867	12,038	11,859	11,582	
Average annual rate of change (in percent)											
					High		Moderate		Low		
	1968-73	1973-77	1977-82		1982-90	1990-95	1982-90	1990-95	1982-95	1982-90	1990-95
GNP deflator (1972 = 100) .....	5.1	7.3	8.1	6.5	7.2	5.4	3.3	4.6	4.9	3.4	
Private nonfarm productivity .....	1.9	1.3	0.0	1.9	1.5	1.7	1.4	1.6	1.7	1.2	
Total employment .....	1.9	1.5	1.6	1.8	1.7	1.7	1.5	1.4	1.6	1.4	
Government .....	1.9	2.0	0.8	0.3	0.7	0.1	0.6	0.3	0.4	0.6	
Private .....	1.9	1.2	1.8	2.1	1.9	2.0	1.7	1.6	1.8	1.5	
Farm .....	-2.5	-2.2	-0.9	-0.6	-0.6	-0.7	-0.8	-0.7	-0.8	-1.0	
Manufacturing .....	0.4	-0.5	-0.8	2.1	1.3	1.8	1.1	1.3	1.5	1.2	
Service-producing .....	3.1	2.9	3.1	2.3	2.2	2.2	1.9	1.8	2.0	1.8	
Other .....	1.5	-0.0	0.7	1.9	2.1	1.8	2.0	1.6	1.9	1.3	

SOURCE: Historical and projected employment data and projected price deflator, Bureau of Labor Statistics; historical price deflator, Bureau of Economic Analysis.

**Table 3. Personal consumption expenditures by major categories, 1968, 1973, 1977, 1982, and projected to 1990 and 1995**

[Billions of 1972 dollars]

Category	1968	1973	1977	1982	1990			1995		
					High	Moderate	Low	High	Moderate	Low
Total	\$634.4	\$768.5	\$864.3	\$970.2	\$1,296.0	\$1,240.2	\$1,196.8	\$1,491.4	\$1,412.4	\$1,349.1
Motor vehicles and parts	40.3	56.5	63.5	57.4	107.0	90.3	80.7	118.1	98.2	87.1
Household appliances	14.2	21.2	26.3	33.0	52.5	48.3	43.8	64.6	57.4	55.1
Household furnishings	20.5	25.1	26.6	26.7	41.5	37.5	34.6	51.2	45.1	43.8
Other durable goods	13.4	18.5	21.5	22.7	35.0	32.7	31.0	43.5	39.7	37.8
Total durables	88.3	121.3	138.0	139.8	236.0	208.8	190.1	277.4	240.4	223.8
Food and beverages	142.4	153.6	170.6	184.0	216.6	213.2	207.1	228.7	223.8	208.9
Clothing and shoes	49.0	59.3	67.5	84.4	106.9	103.9	100.8	117.0	113.7	105.3
Gasoline and oil	19.9	26.2	27.7	25.6	29.7	28.8	27.9	30.5	28.9	26.8
Fuel oil and coal	5.3	5.4	4.4	3.5	3.7	3.7	3.6	4.4	4.4	4.1
Other nondurable goods	53.9	63.5	63.2	66.6	90.3	86.6	84.3	100.6	97.2	93.3
Total nondurables	270.5	308.0	333.4	364.2	447.2	436.2	423.7	481.2	468.0	438.4
Housing services	93.5	118.2	141.3	171.3	215.2	212.7	209.8	249.3	247.7	245.1
Household electricity	9.6	13.0	16.0	18.3	25.5	24.6	24.1	30.0	28.4	27.2
Household natural gas	5.9	6.4	6.5	6.6	5.3	5.1	5.0	5.2	4.7	4.5
Other household operations	23.4	28.0	32.6	38.6	55.0	52.9	51.4	68.9	64.0	61.3
Transportation services	23.4	28.5	32.7	31.7	45.0	42.4	41.0	55.1	50.1	47.9
Other services	119.7	145.1	163.9	199.6	266.7	257.5	251.8	324.3	309.1	300.9
Total services	275.6	339.2	393.0	466.2	612.7	595.2	583.1	732.8	704.0	686.9
<b>Percent distribution</b>										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Motor vehicles and parts	6.4	7.4	7.3	5.9	8.3	7.3	6.7	7.9	7.0	6.5
Household appliances	2.2	2.8	3.0	3.4	4.1	3.9	3.7	4.3	4.1	4.1
Household furnishings	3.2	3.3	3.1	2.8	3.2	3.0	2.9	3.4	3.2	3.2
Other durable goods	2.1	2.4	2.5	2.3	2.7	2.6	2.6	2.9	2.8	2.8
Total durables	13.9	15.8	16.0	14.4	18.2	16.8	15.9	18.6	17.0	16.6
Food and beverages	22.4	20.0	19.7	19.0	16.7	17.2	17.3	15.3	15.8	15.5
Clothing and shoes	7.7	7.7	7.8	8.7	8.2	8.4	8.4	7.8	8.1	7.8
Gasoline and oil	3.1	3.4	3.2	2.6	2.3	2.3	2.3	2.0	2.0	2.0
Fuel oil and coal	0.8	0.7	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Other nondurable goods	8.5	8.3	7.3	6.9	7.0	7.0	7.0	6.7	6.9	6.9
Total nondurables	42.6	40.1	38.6	37.5	34.5	35.2	35.4	32.3	33.1	32.5
Housing services	14.7	15.4	16.3	17.7	16.6	17.2	17.5	16.7	17.5	18.2
Household electricity	1.5	1.7	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Household natural gas	0.9	0.8	0.8	0.7	0.4	0.4	0.4	0.3	0.3	0.3
Other household operations	3.7	3.6	3.8	4.0	4.2	4.3	4.3	4.6	4.5	4.5
Transportation services	3.7	3.7	3.8	3.3	3.5	3.4	3.4	3.7	3.5	3.6
Other services	18.9	18.9	19.0	20.6	20.6	20.8	21.0	21.7	21.9	22.3
Total services	43.4	44.1	45.5	48.0	47.3	48.0	48.7	49.1	49.8	50.9
<b>Average annual rate of change (in percent)</b>										
	1968-73	1973-77	1977-82	High		Moderate		Low		
				1982-90	1990-95	1982-90	1990-95	1982-90	1990-95	
Total	3.9	3.0	2.3	3.7	2.8	3.1	2.6	2.9	2.7	2.4
Motor vehicles and parts	7.0	3.0	-2.0	8.1	2.0	5.8	1.7	4.2	4.3	1.5
Household appliances	8.4	5.5	4.6	6.0	4.2	4.9	3.5	4.4	3.6	4.7
Household furnishings	4.1	1.5	0.1	5.6	4.3	4.3	3.8	4.1	3.3	4.8
Other durable goods	6.7	3.8	1.1	5.6	4.4	4.7	4.0	4.4	4.0	4.0
Total durables	6.6	3.3	0.3	6.8	3.3	5.1	2.9	4.3	3.9	3.3
Food and beverages	1.5	2.7	1.5	2.1	1.1	1.9	1.0	1.5	1.5	0.2
Clothing and shoes	3.9	3.3	4.6	3.0	1.8	2.6	1.8	2.3	2.3	0.9
Gasoline and oil	5.7	1.4	-1.5	1.9	0.5	1.5	0.1	0.9	1.1	-0.8
Fuel oil and coal	0.4	-5.0	-4.5	0.6	3.5	0.6	3.5	1.7	0.2	2.6
Other nondurable goods	3.3	-0.1	1.1	3.9	2.2	3.3	2.3	2.9	3.0	2.0
Total nondurables	2.6	2.0	1.8	2.6	1.5	2.3	1.4	1.9	1.9	0.7
Housing services	4.8	4.6	3.9	2.9	3.0	2.7	3.1	2.9	2.6	3.2
Household electricity	6.3	5.3	2.8	4.2	3.3	3.7	2.9	3.4	3.5	2.5
Household natural gas	1.6	0.4	0.1	-2.7	-0.4	-3.1	-1.6	-2.5	-3.4	-2.1
Other household operations	3.7	3.9	3.5	4.5	4.6	4.0	3.9	4.0	3.6	3.6
Transportation services	4.0	3.5	-0.6	4.5	4.1	3.7	3.4	3.6	3.3	3.2
Other services	3.9	3.1	4.0	3.7	4.0	3.2	3.7	3.4	2.9	3.6
Total services	4.2	3.8	3.5	3.5	3.6	3.1	3.4	3.2	2.8	3.3

SOURCE: Historical data are from table 2.5 of the National Income and Product Accounts Tables, Bureau of Economic Analysis.

73 period and 4.0 percent in the 1973–82 span. This represents real spending of \$438 per person for clothing and shoes in 1995, compared with \$280 in 1973 and \$363 in 1982. The baby boom of the fifties powered much of the demand for clothing purchases of the sixties and seventies. The baby bust of the sixties will mean, for the nineties, a smaller proportion of the population in the 16- to 44-year-old group, accounting for 43 percent in 1995 versus 46 percent in 1982; individuals in this age group are major purchasers of clothing and shoes.

Due to continuing conservation, the downsizing of cars, and expected increases in relative energy prices, energy consumption stays at low levels through 1995. In 1982, the average miles-per-gallon for new domestic cars was 26.7, while by 1995, this figure is expected to jump to 41.7. Thus, only slight growth of 0.9 percent per year is projected for gasoline and oil purchases in the 1982–95 period. Since the energy crisis of the 1970's, consumption of fuel oil and coal for household heating and cooling has dropped substantially in response to relative price increases. Although the downward trend is expected to reverse in 1984, consumption will probably not return to its previous levels, at least not in the projection period. Average annual growth of 1.7 percent is projected for fuel oil and coal during the 1982–95 period.

Drugs and medical sundries is the only category of non-durables expected to show rapid growth during the projection period. Because of continued demand growth and the introduction of new kinds of products, a strong increase of 6.0 percent per year is projected between 1977 and 1995.

Consumer purchases of services have been becoming a more important budget item historically, and this trend is expected to continue to 1995. The growth of services purchases is broadly based; with the exception of natural gas purchases, all categories of services are expected to increase by at least 2.9 percent per year between 1982 and 1995.

Consumer expenditures for housing, which include rent paid by tenants and an imputed rental value of owner-occupied housing, have been an increasing share of total PCE over time, rising from 14.7 percent in 1968 to 16.3 percent in 1977, and to 17.7 percent in 1982. By 1995, housing expenditures are expected to exceed food expenditures and become the largest consumption category. The increase in housing demand is in response to changes in household formation rates—a trend toward single-person households, and a decrease in family size from 3.0 persons in 1973 to 2.6 in 1982, and to 2.4 in 1995. Stable growth of 2.9 percent per year in housing expenditures is projected for the 1982–95 period.

Since the early 1970's, demand for electric power has increased, consistently outpacing growth in GNP. In con-

trast, demand for natural gas has continued to decrease. This shift reflects diminished natural gas supplies and price hikes that have caused electricity to become the principal alternative energy source. During the past 2 years, retail natural gas prices rose by 40 percent (in nominal terms) in some parts of the Nation, and industry experts predict a sharp rise of 16 percent for the 1984 winter heating season. These trends of increased availability of electricity and decreased use of natural gas are expected to continue through 1995. Demand for electricity will grow 3.4 percent per year in the 1982–95 period, while demand for natural gas will fall at a rate of –2.5 percent.

Purchases of telephone and telegraph services by consumers are expected to grow substantially over the projection span. This reflects the increased use of modern communication systems, such as call-waiting and call-forwarding services, long-distance calling and related telecommunication systems, and the computerized telephone. In addition, cable television services have been expanding rapidly during recent years; spending on cable television services in 1982 was more than triple that in 1977. This trend is expected to continue in the next decade. Also contributing to increasing relative expenditures for communications services is the divestiture proceeding currently underway for the major supplier of these services. Communications services are projected to grow at an annual rate of 5.2 percent between 1982 and 1995.

The large increases projected in medical care services are affected by continued growth in the percentage of the population over age 65, who need more health care than the general population, and by the increasing availability of new, sophisticated, and expensive medical treatment equipment. In addition, demand for medical services seems to be relatively immune to the effects of price increases. Medical spending is projected to grow to 8.3 percent of PCE in 1995, compared to 7.0 percent in 1977.

*Investment.* Gross investment is expected to continue to exhibit its traditional volatility during the projection period. Accounting for 17.3 percent of GNP in 1973, gross private domestic investment (GPDI) accounted for only 13.1 percent by 1982, primarily because of the disastrous effects of high inflation and the recessions of the 1970's and early 1980's on housing construction. By 1990, investment accounts for 16.0 percent of GNP, reflecting growing expenditures for equipment and the projected housing recovery. The share declines slightly to 15.6 percent of GNP by 1995 as housing construction hits a plateau.

Equipment purchases are expected to grow at a 3.5-percent rate between 1982 and 1995, well above the 2.4-percent rate of the 1973–82 period. Although still well below the

rate of growth of producers' durable equipment (PDE) purchases during the 1960's, this has important implications for productivity.

In terms of industries, computers and peripheral equipment are projected to rise from 8 percent of producers' durable equipment expenditures in 1977 to 20 percent in 1995. Despite the rapid growth by the computer industry during the 1970's, more is still expected, brought on by advances in microchip technology. These developments should continue to bring down the price of computers, making them available to even the smallest businesses. Large computers with speeds many times faster than the fastest now available will find expanded uses, and will also be purchased by large companies to replace existing equipment.

Investment spending on motor vehicles and aircraft is projected to grow less rapidly than total outlays for producer's durables as companies do little more than replace equipment that wears out. Moderate growth in the agricultural sector translates into moderate investment in farm machinery. Developments such as laser systems, data communications, and electronic mail will result in rapid growth in investment in radio and telephone equipment.

The nonresidential construction market suffered its setback in the mid-1970's and has, to some extent, already anticipated the recovery foreseen for the residential market. Growth in nonresidential construction is expected to average 2.1 percent each year between 1982 and 1995. Growth of expenditures for industrial structures is expected to exceed 5.0 percent annually over the entire period, more than offsetting the very slow growth expected for commercial office buildings.

*Housing.* The residential construction market is projected to recover strongly from its depressed condition of the last several years. Private housing starts are expected to rise from the 1982 level of 1.06 million units to a peak of 2.16 million in 1988. Thereafter, growth moderates and housing starts stabilize at about 1.9 million units annually to 1995.

Hardest hit during the last several years have been single-family housing starts. In 1982 and 1983, government subsidy programs encouraged multifamily construction projects and, as a result, multifamily starts constituted almost 37 percent of total starts in 1982. Projected stronger growth in the single-family construction area means that one-unit houses will account for 66.5 percent of starts, with multifamily units dropping to 33.8 percent, by 1988. By 1995, single-family starts are 65.8 percent of total starts. Mobile homes are projected to grow at a rate of 5.9 percent annually, 1982-90, and at a 2.5-percent rate between 1990 and 1995.

*Exports and imports.* The assumption that our major trading partners will recover strongly from the current worldwide recession underlies the strong growth projected for U.S. exports of goods and services—4.1 percent annually be-

tween 1982 and 1990, accelerating to 5.2 percent each year, 1990-95. By end-use categories, the expected growth is broadly based, as depicted in table 4.

Merchandise exports are expected to grow at an annual rate of 5.3 percent over the projection period, led by consumer goods with average growth of 6.9 percent. In dollar values, capital goods are expected to show the largest increases—\$24.2 billion, or nearly one-third of the total increase. Growth in exports of consumer goods and capital goods reflects the expectation that U.S. trade will move toward developing countries in the long run because those countries tend to require goods with higher technological inputs, such as electronic computers and parts, aircraft and parts, telephonic and other electrical apparatus, and medicinal and pharmaceutical preparations. By 1995, computers are expected to be the leading export industry, reaching 5.3 percent of total exports with a growth rate of 8.4 percent per year from 1977 to 1995. Exports of telephone and telegraph apparatus show the highest annual rate of increase—10.9 percent—over the 1977-95 period. The category of food, feeds, and beverages will continue to account for a sizable share of U.S. exports in coming years, but it will grow at a slower rate. The following table highlights those industries with the best expected export performance:

	<i>Percent of total exports</i>
The five largest export industries, 1995:	
Computers .....	5.3
Food and feed grains .....	4.2
Aircraft .....	3.6
Electronic components .....	3.4
Motor vehicles .....	3.3
The five fastest growing export industries, 1977-95:	
Telephone and telegraph apparatus .....	10.9
Communications .....	10.3
Floor covering mills .....	8.9
Furniture and fixtures .....	8.5
Computers .....	8.4

Imports are projected to grow at an average rate of 3.0 percent annually between 1982 and 1995. Merchandise imports will exhibit more rapid growth of 3.8 percent. Over the 1980-82 period, petroleum imports dropped by \$1.8 billion, or 14 percent, as a result of both the U.S. recession and continuing efforts to conserve energy. Increasing imports of petroleum during the projection period result from falling domestic production and some increase in demand. Domestic oil production is expected to continue to decline somewhat, dropping from 9.9 million barrels per day in 1982, and stabilizing at 9.5 million by 1990. In real terms, the barrel price of oil is assumed to reach \$52 by 1995, a price rise which is accounted for by general inflationary expectations. Thus, overall demand for petroleum tends to increase without the price constraints evident during the

**Table 4. Foreign trade by end-use categories, 1968, 1973, 1977, 1982, and projected to 1990 and 1995**

[Billions of 1972 dollars]

Category	1968	1973	1977	1982	1990			1995		
					High	Moderate	Low	High	Moderate	Low
Net exports	\$ 1.9	\$15.5	\$ 22.0	\$ 28.9	\$ 34.1	\$ 48.8	\$ 83.0	\$ 22.8	\$ 85.9	\$148.4
Net merchandise	-1.9	1.5	0.9	1.7	-8.2	7.7	35.8	-21.5	28.9	72.9
Net services	3.8	14.0	21.1	27.2	42.3	41.1	47.2	44.3	57.0	75.6
Total exports	61.2	97.3	112.9	147.3	206.7	202.3	206.5	261.7	260.0	267.9
Merchandise	39.0	61.2	68.0	81.4	118.7	119.8	125.7	146.5	158.7	171.9
Foods, feeds, and beverages	5.5	9.7	10.5	14.5	21.1	20.1	20.1	30.1	28.3	28.4
Industrial supplies and materials	12.3	17.1	16.8	21.7	33.8	34.6	35.3	41.3	45.1	45.9
Capital goods, excluding autos	13.3	21.3	24.1	28.4	39.6	40.9	43.6	45.4	52.6	59.5
Automobiles	4.1	6.4	7.9	5.4	7.3	7.9	9.7	7.2	10.5	13.9
Consumer goods	2.7	4.4	6.1	7.4	12.9	12.5	13.1	17.5	17.6	19.6
Other goods	1.0	2.3	2.6	4.0	4.0	3.9	3.9	4.9	4.6	4.6
Services	22.3	36.1	44.9	65.9	88.0	82.5	80.9	115.2	101.3	96.0
Total imports	59.3	81.8	90.9	118.4	172.6	153.5	123.5	238.9	174.1	119.4
Merchandise	40.9	59.7	67.1	79.7	126.9	112.1	89.9	168.0	129.8	99.0
Foods, feeds, and beverages	6.5	7.4	6.9	7.2	12.5	11.5	10.3	14.7	13.2	10.7
Industrial supplies, excluding petroleum	14.0	16.5	17.8	16.3	25.8	22.8	20.4	29.0	23.3	20.7
Petroleum and petroleum products	2.8	6.6	9.0	5.1	9.5	8.9	8.4	13.3	12.7	12.5
Capital goods, excluding autos	3.9	7.2	9.0	18.9	28.3	24.9	16.9	44.1	29.6	19.2
Automobiles and parts	5.4	8.9	10.6	11.5	17.0	14.9	12.5	20.1	17.1	16.1
Consumer goods	6.8	11.4	12.5	17.9	30.1	25.4	17.8	42.6	29.7	15.6
Other goods	1.4	1.7	1.5	2.9	3.7	3.7	3.7	4.2	4.2	4.2
Services	18.5	22.1	23.8	38.7	45.7	41.4	33.6	70.9	44.3	20.4
<b>Percent distribution</b>										
Total exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Merchandise	63.7	62.9	60.2	55.3	57.4	59.2	60.9	56.0	61.0	64.2
Foods, feeds, and beverages	9.0	10.0	9.3	9.8	10.2	9.9	9.7	11.5	10.9	10.6
Industrial supplies and materials	20.1	17.6	14.9	14.7	16.4	17.1	17.1	15.8	17.3	17.1
Capital goods, excluding autos	21.7	21.9	21.3	19.3	19.2	20.2	21.1	17.3	20.2	22.2
Automobiles	6.7	6.6	7.0	3.7	3.5	3.9	4.7	2.8	4.0	5.2
Consumer goods	4.4	4.5	5.4	5.0	6.2	6.2	6.3	6.7	6.8	7.3
Other goods	1.6	2.4	2.3	2.7	1.9	1.9	1.9	1.9	1.8	1.7
Services	36.4	37.1	39.8	44.7	42.6	40.8	39.2	44.0	39.0	35.8
Total imports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Merchandise	69.0	73.0	73.8	67.3	73.5	73.0	72.8	70.3	74.6	82.9
Foods, feeds, and beverages	11.0	9.0	7.6	6.1	7.2	7.5	8.3	6.2	7.6	9.0
Industrial supplies, excluding petroleum	23.6	20.2	19.6	13.8	14.9	14.9	16.5	12.1	13.4	17.3
Petroleum and petroleum products	4.7	8.1	9.9	4.3	5.5	5.8	6.8	5.6	7.3	10.5
Capital goods, excluding autos	6.6	8.8	9.9	16.0	16.4	16.2	13.7	18.4	17.0	16.1
Automobiles and parts	9.1	10.9	11.7	9.7	9.8	9.7	10.1	8.4	9.8	13.5
Consumer goods	11.5	13.9	13.8	15.1	17.4	16.5	14.4	17.8	17.1	13.1
Other goods	2.4	2.1	1.7	2.4	2.1	2.4	3.0	1.8	2.4	3.5
Services	31.2	27.0	26.2	32.7	26.5	27.0	27.2	29.7	25.4	17.1

SOURCE: Historical data are from tables 4.2 and 4.4 of the National Income and Product Accounts Tables, Bureau of Economic Analysis.

1970's. Petroleum imports are projected to grow at a rate of 7.3 percent per year between 1982 and 1995.

Imported cars held their own during the 1981-82 recession. Sales of imports were at 2.3 million units in 1982, accounting for 28 percent of all new-car sales. By 1995, annual automobile imports are projected to reach 3.6 million units, or 30 percent of all domestic sales. Average growth of 3.1 percent per year is expected over the 1982-95 period.

Two other categories of imports—capital goods, except autos, and consumer goods—are expected to grow at rates of 3.5 percent and 4.0 percent respectively from 1982 to 1995. In capital goods, electronic equipment and components and business equipment will contribute most of the increase; in consumer goods, nondurable goods imports such as apparel will strengthen total growth. Imported apparel is expected to reach 22 percent of total output (domestic output plus imports) in 1995 versus 11 percent in 1977. Industrial supplies, however, are expected to grow more slowly, achieving a yearly rate of 2.8 percent in the 1982-95 period.

The net result of these projections is a steady increase in real net exports over the period, from \$29 billion in 1982

to \$86 billion in 1995, boosting the GNP share of net exports from 1.9 percent to 4.0 percent between those years.

*Government.* More than half of government purchases are from the service industries, as indicated in the following distribution of 1977 government purchases less sales, by industry:

Source industry	Federal government		State and local government	
	Defense	Nondefense	Education	Other
Total	100.0	100.0	100.0	100.0
Agriculture, mining, and maintenance				
construction	1.5	-1.7	4.2	5.2
Manufacturing	34.1	27.2	11.2	13.5
Transportation, communications, and public utilities	4.0	3.6	3.5	5.6
Trade	0.9	2.3	-2.7	2.3
Other services	59.5	68.6	83.7	73.4



Federal employment in both the defense and nondefense areas is assumed to show little growth through 1995. With a steady level of armed forces, compensation falls from one half of defense purchases in 1977 to little more than one-third in 1995. The remainder of defense purchases are mainly from manufacturing industries, and it is in this area that healthy growth is expected. Computers and peripheral equipment purchases will more than triple, while those for radio and communications equipment (which includes lasers) are projected to more than double. Other defense-related industries such as ordnance, missiles, aircraft, ships, and electronic components will account for much of the rest of the purchases.

Only moderate growth is expected in State and local government purchases between 1977 and 1995 as a result of the completion of the highway construction program; the slowdown in Federal grants-in-aid, outside of health; slower growth in the school-age population compared to the increase through the early 1970's; and diminished citizen expectations from government. Because most State and local purchases are for compensation, the expected moderate growth has only minor impacts on other industries. In general, State and local government purchases are expected to mirror the rest of the economy in the industries affected.

### Alternatives to moderate growth

The high-growth and low-growth versions of the projections vary the assumptions regarding fiscal and monetary policy. By 1995, real GNP ranges between a low of \$2,127 billion and a high of \$2,265 billion, accompanied by unemployment rates of 6.8 percent and 5.2 percent for the low and high, respectively. Each of the alternatives is summarized below and estimates from these scenarios are presented with the moderate-growth projections in tables 1 and 2.

*High growth.* The major assumption in the high scenario is that the Federal Reserve Board pursues a less restrictive monetary policy than in the moderate growth projections. The assumption is that the Board of Governors allows more rapid monetary growth in order to bolster recovery from the 1981–82 recession and to sustain a higher trend growth over the long run.

This less-restrictive monetary policy, coupled with stronger demand growth, leads to somewhat different inflation expectations. The implicit GNP deflator increases at an annual rate of 6.5 percent between 1982 and 1990, 1.1 percent faster than in the moderate-growth version. However, instead of decelerating after 1990, implicit deflator growth begins to pick up, running at 7.2 percent annually to 1995. This is comparable with the rate of inflation during the 1973–77 period.

No real differences were assumed for fiscal policy in the high-growth projection. The higher inflation rates do, however, result in government expenditures growing more rapidly throughout the period. Federal expenditures rise at a

rate of 7.8 percent each year between 1982 and 1995 as compared to the moderate-growth expenditures increase of 6.7 percent.

Real GNP grows at an average annual rate of 3.9 percent during 1982–85, a 0.6-percent higher rate than in the moderate version. Between 1990 and 1995, GNP rises at the same rate in both the moderate- and high-growth alternatives—2.5 percent annually. This is due primarily to the much higher rate of import growth in the high-trend version which tends to mask greater increases in the other categories of GNP. The GNP in 1995 is about \$98 billion higher than in the moderate-growth case.

Major demand differences are in purchases of consumer durables (\$37 billion higher), producers' durable equipment (\$25 billion higher), and in residential investment (\$35 billion higher). As noted above, greater income growth in this version leads to higher levels of imports, while exports are virtually unchanged. Net exports are therefore lower by \$63 billion than in the moderate-growth projection. Finally, higher rates of income growth mean greater government revenues, which lead to a balanced Federal budget in 1990.

In the high-trend alternative, the distribution of demand as compared to the moderate version shows no change in the share going to government. Personal consumption expenditures at the total level show little difference, masking the fact that durables increase at the expense of nondurables and services. This follows from the assumption of easier money and lower interest rates, which are major inducements to purchase durables. Lower interest rates also lead to a larger share of GNP going to equipment investment and construction. Increased purchases from manufacturing as a result of higher government, durable goods, equipment, and construction purchases are more than cancelled by the large increase assumed for imports. The drop in the export share of GNP is partially reflected in a slight decline in the agricultural industries share.

*Low growth.* This alternative simulation assumes higher levels of government spending, especially in defense, but also in transfers and grants. Federal expenditures grow at a rate of 9.4 percent each year between 1982 and 1990 and at 7 percent during the 1990–95 period. This compares to 7.5-percent and 6.1-percent growth over the same periods in the moderate-growth scenario. Defense growth is about 1.5 percent higher each year between 1982 and 1988, reflecting somewhat higher staff levels and greater expenditures on goods. Transfer payments are higher in every category, with the major increase in social security and medicare. As a result of the more aggressive (or less controlled) fiscal policy, the Federal Government runs deficits of about \$200 billion for the remainder of the decade, with only modest tapering after 1990 to about \$160 billion by 1995.

In addition, the monetary authorities are assumed to be generally more restrictive in order to hold down inflation.

Both M1 and M2 grow at about 0.6-percent-lower rates than in the moderate-growth projections. As a result, both short- and long-term interest rates are pushed higher, remaining in the double-digit range over the entire forecast period.

The high interest rates and severe competition for funds in the credit markets limits the growth of demand, especially for durable items. Real GNP is \$40 billion lower in 1995 than in the moderate-growth case. Personal consumption expenditures are lower by \$63 billion and gross private investment is off by \$52 billion from the 1995 moderate-growth levels. In a situation analogous to that in the high-growth case, the slower growth in income lowers imports by \$55 billion, thus masking, to some extent, the full impact on the domestic economy. Reduced income growth only exacerbates the Federal deficit situation, despite assumed

personal tax hikes during the mid- and late-1980's. Dampened capital goods spending leads to lower productivity and job growth over the entire period.

Different assumptions in the low-growth case cause minor variations in the level of GNP, but large internal shifts, as compared to the base case. Tight monetary policy leads to higher interest rates with the expected retarding effect on consumers' and producers' durable goods and on construction—sectors that purchase heavily from manufacturing. However, because imports are assumed to grow at a much slower rate, and defense spending at a faster rate, than GNP, the adverse impact of low demand on manufacturing is alleviated. And lower consumer expenditures and investment do cause trade to represent a larger share of GNP. □

—FOOTNOTES—

<sup>1</sup> As part of a continuing program to assess the validity of BLS projections, a future article will evaluate the projections of the U.S. economy for 1980. For previous articles see Howard N Fullerton, Jr., "The 1995 labor force: a first look," *Monthly Labor Review*, December 1980, pp. 11–21; Norman C. Saunders, "The U.S. economy through 1990—an update," *Monthly Labor Review*, August 1981, pp. 18–27; Valerie A. Personick, "The outlook for industry output and employment through 1990," *Monthly Labor Review*, August 1981, pp. 28–41; Max L. Carey, "Occupational employment growth through 1990," *Monthly Labor Review*, August 1981, pp. 42–55; and Howard N Fullerton, Jr., "How accurate were the 1980

labor force projections?," *Monthly Labor Review*, July 1982, pp. 15–21.

<sup>2</sup> *Projections of the Population of the United States: 1982 to 2050. Current Population Reports, Series P-25, No. 922* (U.S. Bureau of the Census, 1982).

<sup>3</sup> Tables detailing the major assumptions underlying the aggregate projections will be included with reprints of this article.

<sup>4</sup> Trade-weighted average value of the dollar *vis-à-vis* the currencies of major U.S. trading partners.

# The job outlook through 1995: industry output and employment projections

*Recovery is expected in construction and durable goods, but services will continue to lead job growth; several heavy industries will not reach past peaks because changing markets and technologies will dampen expansion*

VALERIE A. PERSONICK

The Bureau of Labor Statistics' latest projections of industry output and employment indicate that contrary to several popular reports the decade of the 1990's will not see the demise of America's smokestack industries. A sizable portion of the recent factory job loss can be attributed to the 1980-82 recessionary period, and as the economy recovers, heavy manufacturing industries should increase employment. Job gains in manufacturing will account for almost 1 of 6 new jobs between 1982 and 1995. (See table 1.) Manufacturing, which represented 25 percent of all jobs in 1959 but less than 19 percent in 1982, is projected to maintain this steady share throughout the 1982-95 period. (See table 2.)

Because manufacturing job gains primarily reflect a rebound from the low recession levels, much of the growth occurs in the early part of the projection span. About 3 million jobs are projected to be added to factory employment by 1990, but only about 1.3 million between 1990 and 1995. Furthermore, despite the recovery, employment in several key manufacturing industries (for example, autos and steel), is not expected to reach previous peaks, at least not by 1995. A turnaround in demand is projected to boost pro-

duction in these sectors, but productivity improvements and technological change will limit job expansion.

Despite manufacturing's gains, most new job growth is projected to take place in service-producing industries, as it has in the past. Service-producing industries—broadly defined as transportation, communications, public utilities, trade, finance, insurance, real estate, other services, and government—are projected to account for almost 75 percent of all new jobs between 1982 and 1995.

Within the service-producing sector, the miscellaneous or other service component is projected to continue to grow the fastest. Industries such as medical care, business services, professional services, hotels, personal services, and nonprofit organizations are projected to account for more than 1 of 3 new jobs over the projection span, compared with 1 of 6 for manufacturing industries. In addition, the miscellaneous service sector is expected to have smoother job growth than manufacturing. Because miscellaneous service industries were less impacted by the cyclical downturn, they will not be as dramatically affected by the anticipated economic upswing, leading to smoother employment growth.

These findings are from the Bureau's most recent economic and employment projections for the years through 1995. This study of industry output and employment is one in a series of four; the others describe projections of the labor force, gross national product and the distribution of final demand, and employment by occupation.<sup>1</sup>

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## Underlying assumptions and trends

Because of the unlimited range of actual outcomes in the future, three alternative projections to 1995 were prepared with an eye to suggesting a range of possibilities. These three scenarios, characterized as low growth, moderate growth, and high growth, assume various patterns of economic change. Because they are based on a few specific assumptions about macroeconomic variables, they do not represent the actual bounds to output and employment in 1995. Rather, they show what might happen under alternative responses of the economy to changes in fiscal and monetary policies.<sup>2</sup>

Unless otherwise noted, this article discusses the moderate growth projection. This case is marked by a period of recovery from the 1982 recession, followed by stable economic growth through the mid-1990's. The civilian unemployment rate, which was 9.7 percent in 1982, is projected to fall to 6.3 percent by 1990, and then dip slightly to 6.0 percent by 1995. Total employment is expected to rise from 102.3 million in 1982 to 127.6 million by 1995, a gain of more than 25 million new jobs. Growth is projected to be faster in the earlier years, as industries rebound from the recent economic downturn. Employment, which expanded by 3.6 percent a year between 1975 and 1979, showed very few gains during the business slump of 1980 or the brief recovery period thereafter. The more severe recession of 1981-82 brought an additional 1.3-percent decline in total jobs. Employment is projected to rebound, averaging growth of 1.8 percent a year from 1982 to 1990, then slow to 1.5 percent annually through 1995.

The slowdown in employment reflects not only the diminishing of the initial surge caused by recovery but, even more significantly, a continuing slowdown in the rate of growth of the labor force.<sup>3</sup> Following the rapid expansion of the 1970's, labor force growth has begun to taper as the last members of the baby-boom generation reach working age. The slowdown is projected to continue through the 1980's and 1990's, as the decrease in births between 1960 and 1975 will cause an absolute decline in the number of potential new workers ages 16 to 24. The labor force, which grew 2.3 percent a year between 1970 and 1982, is projected to grow 1.6 percent a year to 1990, and 1.0 percent a year thereafter.

*Workweek.* Somewhat offsetting the effects of slower labor force growth on job creation is the projection of the workweek. Average weekly hours are projected to continue their long-term downward trend. In the short run, average weekly hours, especially in manufacturing, are used to respond to the pressures of the business cycle. At the beginning of an economic downturn, employers cut back on overtime hours before laying off workers, and as the economy improves, overtime hours are added and the workweek extended before new employees are hired. This recovery will be no excep-

**Table 1. Projected job growth, 1982-95**

(In thousands)

Industry	1982-95		1982-90		1990-95	
	New jobs	Percent of total	New jobs	Percent of total	New jobs	Percent of total
Total new jobs . . . . .	25,248	100.0	16,000	100.0	9,248	100.0
Goods-producing:	6,548	25.9	4,350	27.2	2,198	23.8
Farm . . . . .	-265	-1.0	-163	-1.0	-102	-1.1
Mining . . . . .	122	.5	39	.2	83	.9
Construction . . . . .	2,434	9.6	1,472	9.2	962	10.4
Manufacturing . . . . .	4,257	16.9	3,002	18.8	1,255	13.6
Durable . . . . .	3,170	12.6	2,224	13.9	946	10.2
Nondurable . . . . .	1,087	4.3	778	4.9	309	3.3
Service-producing:	18,700	74.1	11,650	72.8	7,050	76.2
Transportation, public utilities . . . . .	1,094	4.3	659	4.1	435	4.7
Trade . . . . .	6,009	23.8	3,819	23.9	2,190	23.7
Finance, insurance, and real estate . . . . .	1,786	7.1	1,214	7.6	572	6.2
Services . . . . .	8,673	34.4	5,246	32.8	3,427	37.1
Private households . . . . .	-289	-1.1	-235	-1.5	-54	- .6
Government . . . . .	1,427	5.7	947	5.9	480	5.2

tion. The factory workweek is projected to expand from 38.9 hours in 1982 to 39.8 hours by 1984; thereafter, the long-term decline will resume, with manufacturing hours averaging 38.8 by 1995. Hours in nonmanufacturing will drop even more rapidly, reflecting both declines in the full-time workweek as well as increases in part-time employment. For the private nonfarm economy as a whole, average weekly hours are projected to fall from 35.1 in 1982 to 33.1 in 1995.

*Productivity.* Output per worker hour, or productivity, is projected to return to rates of growth more characteristic of the late 1960's and early 1970's. Between 1968 and 1973, output per hour in the private nonfarm sector grew by 2.0 percent a year. Over the same span, employment and real gross national product also enjoyed rapid growth—2.1 percent for jobs and 3.5 percent for GNP. This period of expansion was followed by years of declining productivity. Between 1973 and 1979, productivity grew by only .9 each year, and between 1979 and 1982 the rate dropped further, to .4 percent. This decline is expected to be reversed, however, as new capital investment, strong demand growth, and more efficient utilization of the slowly growing labor force all contribute to a resurgence in productivity. Output per hour is expected to climb to a 1.6-percent annual growth rate during the 1982-90 period, and then grow at a 1.3-percent annual pace between 1990 and 1995.

For manufacturing alone, productivity gains are projected to be just as dramatic. A 2.2-percent annual rise is projected between 1982 and 1995, compared with 1.5 percent over the 1973-79 period and .7 percent during 1979-82.

It should be noted that rising productivity does not necessarily mean layoffs—as noted, 4.3 million new factory jobs will be added between 1982 and 1995. Productivity advances can be accompanied by employment growth, as the general level of production expands. GNP is projected

**Table 2. Actual and projected employment by major sectors, 1959–95**

Sector	Employment (in thousands)											
	1959	1969	1979	1982	1990			1995				
					Low	Moderate	High	Low	Moderate	High		
Total	67,705	82,401	102,211	102,315	116,943	118,315	119,399	125,251	127,563	130,299		
Farm	5,491	3,495	2,861	2,815	2,630	2,652	2,672	2,500	2,550	2,595		
Nonfarm	62,214	78,906	99,350	99,500	114,313	115,663	116,727	122,751	125,013	127,704		
Government	8,083	12,195	15,947	15,803	16,830	16,750	17,060	17,180	17,230	17,760		
Federal	2,233	2,758	2,773	2,739	3,202	2,989	3,096	3,163	2,960	3,139		
State and local	5,850	9,437	13,174	13,064	13,628	13,761	13,964	14,017	14,270	14,621		
Private	54,131	66,711	83,403	83,697	97,483	98,913	99,667	105,571	107,783	109,944		
Mining	612	501	704	742	775	781	760	842	864	844		
Construction	3,825	4,386	5,903	5,491	7,020	6,963	7,052	7,798	7,925	8,004		
Manufacturing	16,985	20,469	21,406	19,234	21,686	22,236	22,635	22,963	23,491	24,132		
Durable	9,560	12,081	12,989	11,326	13,218	13,550	13,871	14,266	14,496	14,965		
Nondurable	7,425	8,388	8,417	7,908	8,468	8,686	8,764	8,696	8,995	9,167		
Transportation and public utilities	4,304	4,718	5,534	5,543	6,152	6,202	6,287	6,488	6,637	6,746		
Trade	13,245	16,704	22,352	22,536	25,885	26,355	26,649	27,764	28,545	28,859		
Finance, insurance, and real estate	2,923	3,864	5,523	5,899	7,021	7,113	6,667	7,607	7,685	7,788		
Services	9,663	13,747	20,258	22,617	27,501	27,863	28,225	30,814	31,290	32,203		
Private households	2,574	2,322	1,723	1,635	1,443	1,400	1,392	1,295	1,346	1,368		
	Percent distribution											
	1959	1969	1979	1982	1990			1995				
					Low	Moderate	High	Low	Moderate	High		
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Farm	8.1	4.2	2.8	2.8	2.2	2.2	2.2	2.0	2.0	2.0		
Nonfarm	91.9	95.8	97.2	97.2	97.8	97.8	97.8	98.0	98.0	98.0		
Government	11.9	14.8	15.6	15.4	14.4	14.2	14.3	13.7	13.5	13.6		
Federal	3.3	3.3	2.7	2.7	2.7	2.5	2.6	2.5	2.3	2.4		
State and local	8.6	11.5	12.9	12.8	11.7	11.6	11.7	11.2	11.2	11.2		
Private	80.0	81.0	81.6	81.8	83.4	83.6	83.5	84.3	84.5	84.4		
Mining	.9	.6	.7	.7	.7	.6	.6	.7	.7	.6		
Construction	5.6	5.3	5.8	5.4	6.0	5.9	5.9	6.2	6.2	6.1		
Manufacturing	25.1	24.8	20.9	18.8	18.5	18.8	19.0	18.3	18.4	18.5		
Durable	14.1	14.7	12.7	11.1	11.3	11.5	11.6	11.4	11.4	11.5		
Nondurable	11.0	10.2	8.2	7.7	7.2	7.3	7.3	6.9	7.1	7.0		
Transportation and public utilities	6.4	5.7	5.4	5.4	5.3	5.2	5.3	5.2	5.2	5.2		
Trade	19.6	20.3	21.9	22.0	22.1	22.3	22.3	22.2	22.4	22.1		
Finance, insurance, and real estate	4.3	4.7	5.4	5.8	6.0	6.0	5.6	6.1	6.0	6.0		
Services	14.3	16.7	19.8	22.1	23.5	23.5	23.6	24.6	24.5	24.7		
Private households	3.8	2.8	1.7	1.6	1.2	1.2	1.2	1.0	1.1	1.0		
	Average annual rate of change											
	1959–69	1969–79	1979–82	1982–90			1990–95			1982–95		
				Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
Total	2.0	2.2	.0	1.7	1.8	1.9	1.4	1.5	1.8	1.6	1.7	1.9
Farm	-4.4	-2.0	-5	-8	-7	-6	-1.0	-8	-6	-9	-8	-6
Nonfarm	2.4	2.3	.1	1.7	1.9	2.0	1.4	1.6	1.8	1.6	1.8	1.9
Government	4.2	2.7	-.3	.8	.7	1.0	.4	.6	.8	.6	.7	.9
Federal	2.1	.1	-.4	2.0	1.1	1.5	-.2	-.2	.3	1.1	.6	1.1
State and local	4.9	3.4	-.3	.5	.7	.8	.6	.7	.9	.5	.7	.9
Private	2.1	2.3	.1	1.9	2.1	2.2	1.6	1.7	2.0	1.8	2.0	2.1
Mining	-2.0	3.5	1.8	.6	.7	.3	1.7	2.0	2.1	1.0	1.2	1.0
Construction	1.4	3.0	-2.4	3.1	3.0	3.2	2.1	2.6	2.6	2.7	2.9	2.9
Manufacturing	1.9	.4	-3.5	1.5	1.8	2.1	1.2	1.1	1.3	1.4	1.5	1.8
Durable	2.4	.7	-4.5	1.9	2.3	2.6	1.5	1.4	1.5	1.8	1.9	2.2
Nondurable	1.2	.0	-2.1	.9	1.2	1.3	.5	.7	.9	.7	1.0	1.1
Transportation and public utilities	.9	1.6	.1	1.3	1.4	1.6	1.1	1.4	1.4	1.2	1.4	1.5
Trade	2.3	3.0	.3	1.7	2.0	2.1	1.4	1.6	1.6	1.6	1.8	1.9
Finance, insurance, and real estate	2.8	3.6	2.2	2.2	2.4	1.5	1.6	1.6	3.2	2.0	2.1	2.2
Services	3.6	4.0	3.7	2.5	2.6	2.8	2.3	2.3	2.7	2.4	2.5	2.8
Private households	-1.0	-2.9	-1.7	-1.6	-1.9	-2.0	-2.1	-.8	-.3	-1.8	-1.5	-1.4

NOTE: Data include wage and salary workers, the self-employed, and unpaid family workers.

to grow 2.9 percent a year between 1982 and 1995, compared with 3.1 percent during the 1969–79 period, and .1 percent during the 1979–82 period. However, it is expected that new labor-saving technologies will cause shifts to occur among industries, with many of the old-line factory jobs giving way to new industries and occupations.

*Technology and changing demand.* Labor-saving technologies are not the only cause of employment shifts among industries. Another determinant obviously is the demand for an industry's products. It is useful to separate aggregate demand into two categories—final demand and intermediate demand. Final demand includes consumer expenditures,

government purchases, investment in capital equipment and structures, exports, and imports. Intermediate demand refers to purchases necessary in the production process; for example, final demand by consumers for cars leads to intermediate demand by auto producers for steel, glass, plastic, and so forth.

Intermediate demand changes over time for several reasons. New technology is but one. Other reasons include substitutions necessitated by the changing relative prices of inputs, or scarcity of inputs, or changes in the relative distribution of goods which the industry produces.

Many times, a large increase or decline in demand for one product of an industry can have an impact on the supplying industries, even when the technology is not changing. When this demand change is coupled with a change in the production process, the impact can be even larger.

The energy crisis of the 1970's has led to some of these changes. As gasoline became more expensive, and the Congress mandated better fuel efficiency in domestic cars, the inputs to the production of autos changed. Cars became smaller, taking less steel (and lighter weight steel). Spare tires were replaced with smaller tires, and electronic ignition systems and "computers" were added to make cars more fuel efficient. Also, businesses were forced to be more energy efficient. Over time, they reduced their demand for electricity, gas, and oil by replacing older machines with more efficient models, renovating heating systems, and increasing building insulation.

Some changes occurred because of new technologies, and because these technologies were becoming more affordable. Advances in electronic components and computer chips made small business computers more prevalent and personal computers and video games quite common in private homes. Although this is reflected mainly as a final demand change, these same electronic components led to "smarter" machinery, which can do more. This trend will accelerate in the 1980's—most types of machinery are projected to include electronic components in the future.

Changing intermediate demand also affects the projection of miscellaneous business services. Many firms contract out for the services of this industry—computer software and services, mailing and reproduction services, building services, and personnel, management, and public relations services. As the demand for computers grows, obviously the demand for software will also grow. Businesses are finding that it is more efficient to get specialized services from professionals, instead of trying to do everything in-house.

Another growing component in business overhead is telephone communications. Firms have become increasingly dependent on telephone communication as business travel became more expensive and establishments more geographically spread out. As the capability of computers to "talk" to one another expands, this should become even more important. We have only begun to see the advances which are possible in this industry.

Most machinery is becoming smaller and being built with less steel. This change is reflected in the inputs to most industries, but causes a secondary impact on the demand for iron ore and coal.

Other changes in intermediate demand are not expected to be as large as those just described. The age structure of the population and health concerns are likely to cause some changes in the kinds of foods consumed and how they are packaged—less sugar and salt, more microwave and frozen foods. Food and beverages will be packaged more in plastic and paper products, less in metal cans. Plastics are likely to become even more commonplace and used in a multitude of new ways, as their cost comes down and durability improves. The radial tire and lower annual car mileage should slow down the domestic tire industry. As consumers keep their cars longer, maintenance and repair of vehicles will increase.

A continuation in the substitution of synthetic fibers for natural fibers (cotton and wool) in clothing and textile products is projected, although this trend is expected to slow.

Also projected is a change in how the advertising dollar is spent in the future. There will be a drop in the proportion spent on newspaper advertising, and an increase in that spent on radio and on commercial and cable television. This goes along with the closing of many afternoon newspapers, as the trend to watching news on television increases.

### **Output and employment: selected industries**

Many industries are projected to show very rapid output and employment growth over the next several years but, for a lot of them, growth mainly represents a catchup following the severe 1980–82 recessionary period. (See table 3.) A list of the top 10 growth industries for the 1982–95 period illustrates how the recession and its subsequent recovery can impact the long-range growth outlook. (See table 4.) Several industries are on the list solely because their 1982 level of output or employment was so drastically reduced, and not because they are expected to be the high-growth industries of the 1980's. Examples are iron and ferroalloy ores mining (1982 output was half the 1981 level and employment less than two-thirds), and new construction. In addition, other industries not on the fastest-growing list may have faster growth rates projected for the years from 1982 to 1990 as they recover from recession, but their overall 1982–95 rate is projected to be lower than those industries on the list. Examples are chemical and fertilizer mining, fabricated metal stampings, engines and turbines, material handling equipment, household appliances, and miscellaneous transportation equipment.

New construction, along with the motor vehicle industry, actually led the recent downturn, as high inflation and interest rates constricted purchases of new homes and new cars. As the recession spread to supplier industries and to other areas of the economy, high unemployment and resulting concern over job security added to consumers' re-

**Table 3. Gross product by major sector, actual and projected, 1959-95**

Sector	Billions of 1972 dollars											
	1959	1969	1979	1982	1990			1995				
					Low	Moderate	High	Low	Moderate	High		
Total private	\$629.5	\$951.9	\$1,326.4	\$1,329.4	\$1,690.0	\$1,753.8	\$1,838.4	\$1,976.8	\$2,001.3	\$2,113.3		
Farm	27.8	29.5	34.2	39.0	40.6	41.6	41.9	41.8	43.1	43.4		
Nonfarm	601.7	922.4	1,292.2	1,290.4	1,649.4	1,712.2	1,796.5	1,935.0	1,958.2	2,069.9		
Mining	13.3	18.2	20.8	21.6	24.3	25.1	25.3	26.4	27.0	27.3		
Construction	45.5	55.8	58.2	47.7	56.3	64.3	73.2	63.1	73.8	86.5		
Manufacturing	171.2	277.2	367.0	336.1	448.4	470.4	490.7	535.5	548.7	572.6		
Durable	100.9	170.3	223.4	197.4	280.7	296.1	312.3	344.8	353.4	372.7		
Nondurable	70.3	106.8	143.6	138.7	167.7	174.3	174.3	190.7	195.3	199.9		
Transportation and public utilities	55.4	92.6	140.0	138.9	192.8	203.3	213.0	234.3	239.7	251.9		
Transportation	29.9	43.4	56.3	46.8	60.7	63.6	66.0	71.4	73.0	76.1		
Communications	11.5	23.8	49.0	57.2	91.2	97.5	103.5	117.5	120.3	127.8		
Public utilities	14.0	25.3	34.7	34.9	40.9	42.2	43.5	45.4	46.4	48.0		
Trade	115.4	173.6	250.7	248.0	297.8	314.9	332.4	336.2	353.1	376.3		
Wholesale	42.0	70.6	106.5	106.3	126.5	132.6	140.0	142.4	147.8	157.6		
Retail	73.4	103.0	144.2	141.7	171.3	182.3	192.4	193.8	205.3	218.7		
Finance, insurance, and real estate	98.5	152.9	229.4	251.0	325.4	340.9	351.5	384.6	391.4	405.5		
Services	76.9	121.4	184.1	205.6	260.4	270.7	283.5	303.3	307.8	323.9		
Government enterprises	11.8	16.8	21.2	21.6	23.2	24.0	24.9	24.5	25.3	26.6		
Private households	6.7	5.8	3.6	3.1	2.8	2.9	3.0	2.6	2.8	3.0		
Rest of world and statistical discrepancy	7.0	8.1	17.2	16.8	18.0	-4.3	-1.0	24.5	-11.4	-3.7		
	Average annual rate of change											
	1959-69	1969-79	1979-82	1982-90			1990-95			1982-95		
				Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
Total private	4.2	3.4	0.1	3.0	3.5	4.1	3.2	2.7	2.8	3.1	3.2	3.6
Farm	.6	1.5	4.5	.5	.8	.9	.6	.7	.7	.6	.7	.8
Nonfarm	4.4	3.4	-0	3.1	3.6	4.2	3.2	2.7	2.9	3.2	3.3	3.7
Mining	3.2	1.3	1.3	1.5	1.9	2.0	1.7	1.5	1.5	1.6	1.8	1.9
Construction	2.1	.4	-6.4	2.1	3.8	5.5	2.3	2.8	3.4	2.2	3.4	4.7
Manufacturing	4.9	2.8	-2.9	3.7	4.3	4.8	3.6	3.1	3.1	3.6	3.8	4.2
Durable	5.4	2.8	-4.0	4.5	5.2	5.9	4.2	3.6	3.6	4.4	4.6	5.0
Nondurable	4.3	3.0	-1.2	2.4	2.9	3.2	2.6	2.3	2.3	2.5	2.7	2.8
Transportation and public utilities	5.3	4.2	-3	4.2	4.9	5.5	4.0	3.3	3.4	4.1	4.3	4.7
Transportation	3.8	2.6	-6.0	3.3	3.9	4.4	3.3	2.8	2.9	3.3	3.5	3.8
Communications	7.5	7.5	5.3	6.0	6.9	7.7	5.2	4.3	4.3	5.7	5.9	6.4
Public utilities	6.1	3.2	.2	2.0	2.4	2.8	2.1	1.9	2.0	2.0	2.2	2.5
Trade	4.2	3.7	-.4	2.3	3.0	3.7	2.5	2.3	2.5	2.4	2.8	3.3
Wholesale	5.3	4.2	-.1	2.2	2.8	3.5	2.4	2.2	2.4	2.3	2.5	3.1
Retail	3.4	3.4	-.6	2.4	3.2	3.9	2.5	2.4	2.6	2.4	2.9	3.4
Finance, insurance, and real estate	4.5	4.1	3.0	3.3	3.9	4.3	3.4	2.8	2.9	3.3	3.5	3.7
Services	4.7	4.3	3.8	3.0	3.5	4.1	3.1	2.6	2.7	3.0	3.2	3.6
Government enterprises	3.6	2.4	-.6	.9	1.3	1.8	1.1	1.1	1.3	1.0	1.2	1.6
Private households	-1.4	-4.7	-4.9	-1.1	-.9	-.3	-1.4	-.8	-.3	-1.2	-.9	-.3
Rest of world and statistical discrepancy	1.5	7.8	-.8	.9	( <sup>1</sup> )	( <sup>1</sup> )	6.4	-21.3	-29.9	2.9	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Not computable.

SOURCE: Historical data are from the U.S. Department of Commerce, Bureau of Economic Analysis.

luctance to make major spending commitments. Investment in residential construction and motor vehicle production each dropped by almost a third between 1979 and 1982.

Employment is projected to fare better in 1983 and succeeding years. As unemployment falls and the economy recovers, many durable goods industries will at first rebound strongly and then eventually resume long-term growth patterns. Some sectors, however, will not be able to recover to long-term growth paths, as changing markets and technologies crimp expansion. (See table 5 for employment by industry.)

*Recovery in construction.* Housing starts plunged from 2 million units in 1978 to fewer than 1.1 million in 1982, the result of high interest rates which drove many families out of the market for a new home. Pent-up demand will spur new home sales as interest rates fall, but by the late 1980's, a slowdown in the rate of new household formation will dampen these demand pressures. New housing starts are projected to climb steadily to 2.2 million by 1988, but then

taper to 1.9 million by 1995.

While new housing construction was in a severe slump, maintenance and repair construction was buoyant. As one might expect, the inability to purchase a new house led many consumers to renovate their present dwellings. In addition, high oil prices and energy tax credits resulted in substantial investments in energy conservation measures. The output of maintenance and repair construction (almost two-thirds of which is for residences) rose 4.6 percent a year from 1979 to 1981, more than three times as fast as its long-term expansion rate of 1.5 percent. Employment dropped in 1982 as the industry succumbed to the general economic recession. A turnaround is projected, with the output of maintenance and repair construction projected to grow 2.2 percent a year through 1995.

Unlike new residential construction, nonresidential construction suffered a setback in the mid-1970's, and has already begun the recovery anticipated for homebuilding. A 2.1-percent growth rate is projected for nonresidential construction between 1982 and 1995. Growth of industrial

structures such as plants and utilities will exceed 5 percent a year, while commercial buildings and other structures will grow much more slowly.

Total employment in new and repair construction peaked at 5.9 million in 1979, but fell to 5.5 million in 1982. The job picture will brighten as the industry recovers, with employment projected to reach 7.9 million by 1995. Growth will be faster between 1982 and 1990, rising 3.0 percent a year, then taper to a 2.6-percent annual rate between 1990 and 1995.

*Construction-related industries.* Output and employment trends in many construction-related industries mirror the patterns just described. Logging, sawmills, planing mills, and other wood product industries, which are heavily dependent on residential construction, suffered sizable output and employment losses between 1979 and 1982. These industries as a group took a 20-percent job cutback over that period. As residential construction improves, jobs in wood products industries should reappear. Employment is projected to grow 2.0 percent a year from 1982 to 1990 and .6 percent a year during the 1990–95 period. Almost all the growth is projected to be in millwork and plywood shops. Employment in logging, sawmills, and planing mills, which had been declining slightly even before the recession, will hold about level.

Most other construction-related industries will also show recovery from 1982's depressed levels. Included in this group are stone and clay products, fabricated structural metal, electric lighting and wiring, household appliances, furniture, and mobile homes. Most of the rebound occurs by 1988 or 1989, after which growth tapers off.

*Motor vehicles.* Like home construction, the motor vehicle industry was hit especially hard by high inflation and interest rates. The value of domestic production was cut by one-fourth in 1980, followed by an additional 10-percent drop in 1982. Workers in the industry suffered massive layoffs—284,000 jobs were lost over the 3-year span, with employment falling to a level of 707,000 by 1982 from 991,000 in 1979.

Consumers are projected to increase demand for motor vehicles as interest rates fall. New car sales are expected to climb to more than 12 million vehicles per year by 1988, compared with just 8 million in 1982.

After the catchup from 1982's depressed sales levels, however, new car sales are projected to plateau because of long-term demographic shifts which have already begun. The large numbers of new car buyers who flooded showrooms in the 1970's to purchase their first cars are now in older age groups. This surge of first-time buyers will not be seen again, at least not for several decades.

Imported autos held steady throughout the recession at 2.3 million units, as the drop in purchases occurred solely among domestic models. Imports are projected to stabilize

at 3.6 million units, or 30 percent of all new car sales after 1989, as more foreign automakers open plants in the United States.

Flat demand after the recovery period, foreign competition, and new automated methods of production do not bode well for employment in the auto industry. Only 127,000 of the 284,000 jobs lost between 1979 and 1982 are projected to be recovered by 1990. After 1990, employment increases will be moderate through 1995. The projected 1995 level of 860,000 jobs for the motor vehicle industry falls short of the 1 million peak recorded in 1978.

*High-tech industries.* BLS has developed three definitions of high technology industries based on the utilization of workers in technology-oriented occupations and on expenditures for research and development.<sup>4</sup> In addition, some judgments were made to include or exclude industries based on the major product or activity of the industry. Whichever definition is used, employment in high technology industries is projected to increase faster than total employment between 1982 and 1995; however, the contribution of high-tech industries to total job growth will be relatively small. Under the broadest of the three definitions, high-tech industries account for 17 percent of all new jobs between 1982 and 1995; under the second definition, they account for 8 percent; while under the narrowest definition, they represent slightly more than 3 percent. These ratios are about in line with the industries' share of new jobs over the previous decade.

Projected employment growth rates vary widely among high-technology industries. Computer and data processing services and research and development laboratories, the only nonmanufacturing industries in the group, will show some

**Table 4. Projected employment changes for selected industries, 1982–95**

Industry	Average annual rate of change		
	1982–95	1982–90	1990–95
<b>Fastest growing:</b>			
Medical and dental instruments . . . . .	4.3	3.2	6.1
Business services . . . . .	3.9	4.1	3.6
Iron and ferroalloy ores mining . . . . .	3.9	5.7	1.1
Computers and peripheral equipment . . . . .	3.8	4.0	3.4
Radio and television broadcasting . . . . .	3.8	4.2	3.0
Other medical services . . . . .	3.8	3.6	4.0
Plastic products . . . . .	3.5	4.1	2.4
Scientific and controlling instruments . . . . .	3.4	3.2	3.7
Electronic components . . . . .	3.2	3.6	2.7
New construction . . . . .	3.1	3.3	2.8
<b>Most rapidly declining:</b>			
Leather tanning and industrial leather . . . . .	-3.3	-2.3	-4.9
Dairy products (processed) . . . . .	-2.3	-2.1	-2.6
Wooden containers . . . . .	-2.3	-2.3	-2.2
Leather products, including footwear . . . . .	-2.2	-2.4	-1.9
Tobacco manufacturers . . . . .	-2.1	-1.2	-3.4
Bakery products . . . . .	-2.0	-1.0	-3.7
Railroad transportation . . . . .	-1.6	-1.8	-1.2
Cotton . . . . .	-1.5	-1.5	-1.5
Private households . . . . .	-1.5	-1.9	-.8
Dairy and poultry products (farm) . . . . .	-1.3	-1.4	-1.3

NOTE: Data include wage and salary workers, the self-employed, and unpaid family workers.



**Table 5. Actual and projected employment by industry, 1959-95**

[In thousands]

Industry	Actual				Projected					
	1959	1969	1979	1982	1990			1995		
					Low	Moderate	High	Low	Moderate	High
<b>Agriculture:</b>										
Dairy and poultry products	1,551	813	463	429	378	384	387	344	360	367
Meat animals and livestock	979	756	544	524	474	473	475	439	445	450
Cotton	565	172	60	61	55	54	55	50	50	51
Food and feed grains	960	635	602	603	585	589	593	571	577	585
Other agricultural products	1,436	1,119	1,192	1,198	1,138	1,151	1,162	1,096	1,118	1,141
<b>Mining:</b>										
Iron and ferroalloy ores mining	33	30	31	16	25	25	22	25	26	23
Copper ore mining	23	34	33	25	27	27	26	33	35	36
Nonferrous metal ores mining, except copper	31	25	38	34	34	34	33	35	34	34
Coal mining	201	138	261	242	299	286	275	310	317	322
Crude petroleum and natural gas (except drilling)	200	157	212	311	275	291	282	332	338	307
Stone and clay mining and quarrying	105	99	104	90	85	87	92	72	77	87
Chemical and fertilizer mineral mining	19	18	25	24	31	31	31	35	35	35
<b>Construction:</b>										
New construction (including oil well drilling)	3,163	3,594	4,679	4,067	5,242	5,263	5,366	5,936	6,043	6,091
Maintenance and repair construction	662	792	1,224	1,424	1,778	1,700	1,685	1,861	1,882	1,912
<b>Manufacturing:</b>										
<b>Durable goods:</b>										
Ordnance	50	175	73	79	90	87	88	88	85	90
Complete guided missiles and space vehicles	94	107	81	105	130	130	127	149	140	143
Logging	143	138	150	126	130	131	133	124	128	130
Sawmills and planing mills	305	230	237	179	192	196	210	206	209	215
Other millwork, plywood, and wood products	261	310	394	317	400	406	416	414	419	427
Wooden containers	43	36	19	15	12	12	13	10	11	12
Household furniture	259	316	329	270	334	346	368	346	357	392
Furniture and fixtures, except household	124	153	176	180	193	199	205	200	206	208
Glass	153	188	202	173	198	201	205	211	212	214
Cement and concrete products	209	228	255	209	222	240	250	215	240	257
Structural clay products	78	64	52	34	35	37	39	29	30	33
Pottery and related products	49	45	52	40	44	45	46	46	49	50
Other stone and clay products	125	140	165	132	156	164	173	175	182	191
Blast furnaces and basic steel products	588	644	571	394	420	435	430	433	447	444
Iron and steel foundries and forgings	269	312	324	221	247	255	258	264	270	275
Primary copper and copper products	137	160	161	135	157	160	164	166	170	178
Primary aluminum and aluminum products	111	153	170	140	167	174	175	168	178	183
Primary nonferrous metals and products	78	93	93	80	83	84	86	83	85	90
Metal containers	75	87	80	64	67	69	70	61	62	66
Heating apparatus and plumbing fixtures	71	76	76	61	72	73	80	77	78	88
Fabricated structural metal products	344	440	535	461	537	572	598	563	619	664
Screw machine products	88	114	117	92	112	115	117	118	121	122
Metal stampings	189	255	245	187	234	249	253	236	252	259
Cutlery, handtools, and general hardware	135	165	185	143	177	184	188	198	200	204
Other fabricated metal products	231	315	376	331	388	414	413	399	430	436
Engines, turbines, and generators	90	112	145	113	151	152	152	165	167	170
Farm machinery	128	141	184	139	164	170	173	167	172	178
Construction, mining, and oilfield machinery	162	202	276	254	315	321	325	343	357	368
Material handling equipment	65	95	106	87	110	113	120	123	125	136
Metalworking machinery	251	347	379	319	371	388	393	373	400	415
Special industry machinery	164	206	205	176	206	207	211	210	213	221
General industrial machinery	221	291	329	288	336	342	343	350	356	362
Other nonelectrical machinery	166	246	313	292	323	331	341	339	345	362
Computers and peripheral equipment	111	224	339	428	586	586	593	665	694	706
Typewriters and other office equipment	28	52	59	47	55	60	64	67	69	73
Service industry machines	97	147	188	159	190	199	211	208	214	232
Electric transmission equipment	157	207	221	215	235	245	246	246	256	263
Electrical industrial apparatus	176	223	251	206	255	261	275	284	288	313
Household appliances	157	187	178	142	175	183	193	185	188	202
Electric lighting and wiring	134	205	225	187	229	239	246	251	253	253
Radio and television receiving sets	114	156	116	93	95	106	110	106	113	116
Telephone and telegraph apparatus	105	146	165	148	177	185	199	208	209	230
Radio and communication equipment	252	409	357	424	452	433	440	532	460	463
Electronic components	213	394	525	561	725	745	793	862	850	855
Other electrical machinery and equipment	111	125	176	153	162	170	180	192	194	209
Motor vehicles	696	912	991	707	794	834	828	847	860	871
Aircraft	722	805	632	629	716	680	664	761	709	701
Ship and boat building and repair	151	193	230	223	260	254	248	277	270	263
Railroad equipment	41	51	74	37	45	47	47	47	50	52
Motorcycles, bicycles, and parts	9	14	20	14	17	18	19	19	20	21
Other transportation equipment	23	89	103	74	87	96	108	104	109	121
Scientific and controlling instruments	166	195	215	226	294	292	292	345	349	359
Medical and dental instruments	45	82	144	158	205	203	210	270	272	274
Optical and ophthalmic equipment	85	75	81	77	83	86	89	88	92	98
Photographic equipment and supplies	69	111	134	140	167	169	173	175	177	184
Watches, clocks, and clock-operated devices	30	35	28	18	22	22	23	23	21	22
Jewelry and silverware	67	78	92	76	75	82	88	96	98	109
Musical instruments and sporting goods	116	149	145	130	134	140	144	143	146	150

**Table 5. Continued — Actual and projected employment by industry, 1959–95**

[In thousands]

Industry	Actual				Projected					
	1959	1969	1979	1982	1990			1995		
					Low	Moderate	High	Low	Moderate	High
Other manufactured products .....	229	233	245	218	210	214	224	216	218	238
<b>Nondurable goods:</b>										
Meat products .....	324	344	363	352	359	357	359	368	372	380
Dairy products .....	326	260	189	171	137	144	156	119	127	131
Canned and frozen foods .....	249	291	316	293	331	335	341	336	341	353
Grain mill products .....	139	137	147	135	143	145	145	140	144	147
Bakery products .....	313	286	238	227	203	210	209	164	174	177
Sugar .....	38	36	31	29	30	30	31	27	28	30
Confectionery products .....	79	87	80	73	77	78	80	69	71	76
Alcoholic beverages .....	107	97	86	87	83	86	85	76	80	83
Soft drinks and flavorings .....	111	142	153	145	164	168	169	159	167	171
Other food products .....	144	151	160	152	171	171	168	177	182	182
Tobacco manufacturing .....	95	83	70	68	61	62	64	50	52	58
Fabric, yarn, and thread mills .....	619	616	531	442	448	461	457	471	474	482
Floor covering mills .....	39	58	61	49	52	56	63	57	58	62
Other textile mill products .....	74	82	71	60	69	72	75	65	67	74
Hosiery and knit goods .....	221	251	227	205	207	218	218	224	236	240
Apparel .....	1,100	1,244	1,125	1,009	1,056	1,074	1,061	1,117	1,125	1,093
Other fabricated textile products .....	143	182	198	171	220	223	228	234	238	243
Paper products .....	415	483	494	475	513	516	524	526	533	551
Paperboard .....	175	231	214	189	190	201	209	179	192	208
Newspaper printing and publishing .....	328	376	432	445	492	494	491	517	535	543
Periodical and book printing and publishing .....	156	210	230	248	296	298	304	330	338	344
Other printing and publishing .....	446	550	640	668	733	758	751	745	789	803
Industrial inorganic and organic chemicals .....	260	296	328	329	362	358	353	371	379	381
Agricultural chemicals .....	54	65	70	65	81	84	84	82	88	93
Other chemical products .....	82	124	99	95	107	111	121	116	120	121
Plastic materials and synthetic rubber .....	81	108	100	89	110	114	119	113	116	124
Synthetic fibers .....	79	132	112	97	110	116	124	121	124	134
Drugs .....	106	143	193	199	253	254	252	276	281	284
Cleaning and toilet preparations .....	89	123	140	147	166	168	166	167	176	178
Paints and allied products .....	62	72	69	62	68	71	72	65	70	73
Petroleum refining and related products .....	217	182	210	202	185	183	182	179	182	183
Tires and inner tubes .....	105	119	127	105	100	102	104	101	104	108
Rubber products except tires and tubes .....	178	162	167	140	147	151	157	146	150	159
Plastic products .....	94	320	494	460	565	636	653	654	716	741
Leather tanning and industrial leather .....	36	29	20	19	15	16	16	11	12	14
Leather products including footwear .....	341	316	232	206	166	170	172	147	154	144
<b>Transportation:</b>										
Railroad transportation .....	930	651	559	433	353	373	429	327	351	377
Local transit and intercity buses .....	311	315	303	314	345	341	345	350	361	385
Truck transportation .....	1,001	1,214	1,555	1,454	1,720	1,701	1,702	1,750	1,774	1,793
Water transportation .....	239	234	222	206	197	210	214	204	214	216
Air transportation .....	184	357	443	450	522	532	528	561	568	573
Pipeline transportation .....	24	18	20	22	22	24	25	24	24	27
Transportation services .....	70	111	198	224	261	269	250	295	302	302
<b>Communications:</b>										
Radio and television broadcasting .....	90	131	191	221	301	308	292	355	357	359
Communications except radio and television .....	749	919	1,121	1,199	1,384	1,379	1,434	1,543	1,593	1,603
<b>Public utilities:</b>										
Electric utilities, public and private .....	430	460	608	684	686	712	714	730	740	746
Gas utilities, excluding public .....	215	220	220	230	220	218	219	205	207	211
Water and sanitary services, except public .....	61	88	94	106	140	133	135	144	147	154
<b>Trade:</b>										
Wholesale trade .....	3,349	4,163	5,507	5,585	6,162	6,298	6,387	6,622	6,734	6,745
Eating and drinking places .....	1,960	2,812	4,864	5,159	5,908	5,951	5,959	6,669	6,742	6,772
Retail trade, except eating and drinking places .....	7,936	9,729	11,981	11,792	13,815	14,106	14,303	14,473	15,070	15,342
<b>Finance, insurance, and real estate:</b>										
Banking .....	644	987	1,498	1,655	1,954	1,954	1,968	2,098	2,120	2,146
Credit agencies and financial brokers .....	389	652	901	1,038	1,313	1,350	1,364	1,507	1,518	1,549
Insurance .....	1,137	1,370	1,750	1,870	2,187	2,169	2,168	2,237	2,272	2,307
Real estate .....	753	855	1,374	1,336	1,567	1,640	1,168	1,764	1,774	1,787
<b>Services:</b>										
Hotels and lodging places .....	868	1,065	1,549	1,693	1,914	1,915	1,891	2,004	2,010	2,034
Personal and repair services .....	1,157	1,232	1,239	1,305	1,466	1,519	1,621	1,547	1,592	1,734
Barber and beauty shops .....	538	634	632	624	652	660	685	707	733	760
Miscellaneous business services .....	814	1,691	3,178	3,743	4,951	5,172	5,331	6,148	6,183	6,229
Advertising .....	121	134	165	186	213	218	221	228	234	238
Miscellaneous professional services .....	746	1,046	1,814	2,147	2,573	2,640	2,620	2,916	3,004	3,099
Automobile repair .....	422	569	839	910	965	1,029	1,101	1,113	1,141	1,186
Motion pictures .....	228	248	311	310	325	315	316	323	326	337
Amusements and recreation services .....	372	497	769	870	1,035	1,059	1,082	1,173	1,193	1,248
Doctors' and dentists' services .....	605	806	1,351	1,503	1,876	1,897	2,036	1,971	2,005	2,095
Hospitals .....	974	1,776	2,614	3,016	3,895	3,963	3,889	4,471	4,477	4,665
Medical services, except hospitals .....	303	672	1,431	1,664	2,089	2,208	2,279	2,649	2,688	2,744

**Table 5. Continued— Actual and projected employment by industry, 1959–95**

[In thousands]

Industry	Actual				Projected					
	1959	1969	1979	1982	1990			1995		
					Low	Moderate	High	Low	Moderate	High
Educational services (private) . . . . .	839	1,229	1,721	1,882	2,447	2,157	2,001	2,311	2,396	2,411
Nonprofit organizations . . . . .	1,331	1,764	2,073	2,095	2,387	2,406	2,449	2,455	2,505	2,606
Private households . . . . .	2,574	2,322	1,723	1,635	1,443	1,400	1,392	1,295	1,346	1,368
Forestry and fishery products . . . . .	60	55	83	84	73	79	89	96	92	99
Agricultural, forestry, and fishery services . . . . .	285	329	489	585	640	623	613	704	711	716
Government enterprises:										
Post office . . . . .	574	732	661	662	629	597	595	537	581	594
Other federal enterprises . . . . .	104	152	155	150	182	178	182	182	189	198
Local government passenger transit . . . . .	71	87	130	173	207	209	215	228	233	251
Other state and local government enterprises . . . . .	225	351	541	496	610	623	649	700	723	781

NOTE: Data include wage and salary workers, the self-employed, and unpaid family workers.

of the highest annual rates of increase, 5.2 percent and 3.9 percent respectively. Other rapid gainers are medical and dental instruments (4.2 percent), office and computing machines (3.7 percent), electronic components (3.2 percent), and engines and turbines (3.1 percent). On the other hand, the chemical industries as a group and petroleum refining are projected to have much lower growth rates because of oil price effects. In fact, employment in petroleum refining is projected to decline 1.6 percent a year.

*Computers.* Demand for computers and related equipment such as data storage devices, printers, calculators, and similar items is projected to continue to boom through the 1990's. Computer process control and computer-assisted design and manufacture will be widespread. Purchases of computer equipment will represent about one-fifth of all capital expenditures by businesses, by far their largest item of durable equipment spending. Investment, export, and government demand for computers will soon be supplemented by personal consumption expenditures. Foreign competition, although projected to rise, is not expected to significantly hamper the expansion of domestic output. Imports will continue to represent about 7 percent of total output. The value of domestic production of computers and peripheral equipment is projected to post a 6.9-percent yearly growth rate, ranking it among the top five output gainers.

Employment in computer manufacturing is projected to grow 3.8 percent a year. Productivity gains have typically been very rapid in this industry, and this will continue.

*Electronic components.* Electronic components are expected to become an even more integral part of consumer and capital goods than they are now. Domestic production will expand by 7.6 percent a year between 1982 and 1995. Imports are projected to grow at about the same rate, keeping the import share of total output of electronic components at about 14 percent. Employment is projected to rise from 561,000 in 1982 to 850,000 by 1995, a 3.2-percent yearly gain.

*Communication equipment.* Demand for communication equipment such as radios, televisions, telephone apparatus, radar, laser systems, satellites, and similar items will almost double between 1982 and 1995. New telecommunications services required by businesses and consumers will be augmented by increasing defense expenditures, at least in the earlier years. Imports are not expected to make additional inroads into the market but rather are projected to hold a smaller share of total output by 1995.

Employment, on the other hand, will not rise as rapidly as output. Productivity gains have typically been rapid in the manufacture of communications equipment, and this trend will hold. Employment in radio and television set production, which had suffered because of import competition and slack demand for all consumer durables during the recession, is projected to rebound and grow 1.5 percent a year between 1982 and 1995. The 1995 level, however, will still fall far short of the previous peak. Jobs in telephone apparatus manufacturing are projected to grow 2.7 percent a year, while in radio and other communications equipment, productivity advances will limit job gains to .6 percent a year.

*Aerospace.* Defense demand is also expected to boost production in the aircraft and guided missiles and space vehicles industries. Most of this growth will occur by the mid-1980's, after which real defense expenditures are projected to moderate sharply. Commercial aircraft manufacturers are expected to meet serious competition from foreign producers, both in their domestic and overseas markets. Output of the aircraft industry is projected to expand 1.8 percent a year during 1982–95, while employment grows at a .9 percent rate.

*Machinery.* Other nonelectrical machinery (besides computers, typewriters, and other office equipment) is projected to experience a strong rebound in demand as businesses begin to invest in new capital equipment. The sector is projected to enjoy a 4.3-percent average rate of output growth

between 1982 and 1995 (4.8 percent in the early years). Growth of domestic production occurs despite substantial import gains, because projected demand is so strong. Imports are expected to account for larger shares of most nonelectrical machinery industries than they do now, but for no industry will the share top 15 percent.

Leading the gains in domestic output will be engines and turbines and construction, mining, and oilfield machinery. Output of engines and turbines grows rapidly because of expected strong export demand, while the projected rebound in construction spurs demand for construction machinery. The metalworking machinery industry, which produces industrial robots, is projected to expand production by 3.5 percent a year through 1995, compared with declines or marginal growth since the mid-1960's.

Employment in nonelectrical machinery industries is projected to recover from 1982's cutbacks and resume long-term trends. Productivity gains are expected to be more rapid than for the durable goods sector as a whole, but because output also grows faster, there are opportunities for employment recovery. Most nonelectrical machinery industries will record new employment peaks by 1995.

*Steel and other primary metals.* Because of the strong growth projected for new construction, autos, nonelectrical machinery, and other industrial apparatus, the primary metals industries are expected to expand production over the next several years following the 1980–82 recession. However, recovery is not expected to be complete. Competition from foreign suppliers as well as continued substitution of alternative materials, such as plastics or ceramics, will limit the markets for domestic primary metals producers.

In the steel industry, which once employed 726,000 workers, output dropped by half over the late 1970's and early 1980's, and employment declined to 394,000 by 1982. Many steel mills were closed during the 1975–82 period. Recovery is expected, but neither production nor employment are projected to reach prerecession levels by 1995. Further, the gains in employment are projected to be less rapid than the gains in output, as it is assumed that production can only expand if new technologies such as continuous casting, the direct reduction of iron ore, and the electric arc furnace are used. Minimills which can specialize and use the latest technologies will become more important. Employment in the steel industry is projected to reach 447,000 by 1995.

Two primary metals, copper and aluminum manufacturing, have a better outlook than iron and steel. Demand for copper will be boosted by the rebound in residential construction, while aluminum will enjoy growth as a substitute for steel.

*Nondurable goods.* Nondurable manufactured goods are projected to experience modest growth over the next decade and a half. Food products industries can expect a 1.9-percent annual rate of increase in output, but little change in total

employment from the 1982 level. Some food industries (dairy products, bakery products, sugar, confectionery products, and alcoholic beverages) will actually lose jobs, while others (canned and frozen foods, soft drinks, meat products, grain mill products, and other miscellaneous food items) are projected to post slight job gains.

Clothing purchases are projected to grow 2.6 percent a year between 1982 and 1995, but the share accounted for by imports will almost double, from 11 percent in 1977 to almost 22 percent by 1995. This shift in the site of production will limit employment gains in the industry. Jobs are projected to increase from 1.0 million in 1982 to only 1.1 million in 1995.

Some nondurable sectors are expected to enjoy considerable output growth, such as drugs, chemicals, synthetic fibers, and plastics. Output in each of these industries is projected to grow by more than 4 percent a year. Employment growth in these sectors shows a wider range because of differing projections of productivity—jobs grow by 3.5 percent a year in plastic products (the seventh fastest of all industries studied), but only by 1.4 percent in chemicals.

### **Miscellaneous services—most new jobs**

The miscellaneous service sector will provide the most new job opportunities over the next decade and a half, with about twice as many new jobs as manufacturing. These jobs will be spread among various service industries, from medical care to business and professional services to amusements and recreation. In sum, miscellaneous or "other service" industries will account for more than 31 million jobs in 1995, almost one-fourth of total employment.

Service industries are least affected by cyclical movements, and the recent recession was no exception. While declines in employment were reported for almost every other sector, jobs in the other services sector expanded 3.7 percent a year throughout the 1979–82 recessionary period. Of course, job growth might have been even stronger without the economic downturn, but almost 2.4 million jobs were added in these service industries during the period in which other sectors experienced layoffs.

*Business services.* The largest industry in the "other service" category, miscellaneous business services, will have the most new jobs between 1982 and 1995. Employment is projected to grow from 3.7 million in 1982 to 6.2 million in 1995. A wide variety of services are included in this sector, such as personnel supply, business consultants (providing management services or public relations advice), janitorial and protective services, and computer and data processing services. All are expected to show rapid growth. Total output for the industry is projected to grow 5.3 percent a year and employment, 3.9 percent. These rates, although among the highest of all industries studied, are still lower than the historical growth rates for the industry. Since 1958, output growth in business services has averaged 9.4 percent

a year and employment, 7.0 percent. The slowdown is projected to occur as the industry matures and the shift from in-house services to contracting-out by businesses reaches a saturation point.

*Professional services.* A related industry, miscellaneous professional services, is expected to follow the same trends. More than 850,000 jobs will be added to the sector between 1982 and 1995, but the rate of growth of both output and employment is projected to be smaller than the historical rates. This industry provides legal, engineering, architectural, accounting, and other professional services to businesses. Employment is projected to top 3 million in 1995.

*Medical care.* A very significant sector in terms of both number of jobs and rate of expansion has been the health field. Jobs in doctors' and dentists' offices more than doubled during the 1960's and 1970's, rising 4.2 percent a year to 1.5 million in 1982. Hospital employment tripled, growing 5.1 percent a year between 1958 and 1982 to 3 million jobs. The other medical services industry had the most rapid growth—jobs in nursing homes and personal care facilities, outpatient clinics run by health maintenance organizations or group health associations, and drug or alcohol rehabilitation centers, increased more than five times, with employment reaching 1.7 million in 1982.

Growth in health care employment was the result of many factors, chief among them the more widespread coverage of private medical insurance and the introduction of government health benefits programs such as medicare and medicaid. The projections assume no change in current law—that government funding will be maintained at its present level, except for changes stemming from inflation.

Inflation in medical care costs poses the greatest uncertainty in the projections of medical services output and employment. While the overall consumer price index has tripled since 1965, the index for medical care services has quadrupled. Despite these sharply increased costs, demand is projected to be even stronger in the projection period, as the population ages and as new, expensive technologies are used in life-saving treatments.

Because of higher costs and the assumption of no new government programs, it is expected that output and employment in medical care services will slow from historical rates. Doctors' and dentists' office jobs are projected to grow 2.2 percent a year over the 13 years through 1995, or an increase of 500,000. By comparison, over the previous 13-year period (1969–82), 700,000 jobs were added in medical offices. Hospital employment is projected to grow 3.1 percent a year, from 3 million in 1982 to 4.5 million in 1995. Jobs in other medical services will expand by 3.8 percent a year to almost 2.7 million in 1995. Overall, the 3 million new health care jobs projected to be added between 1982 and 1995 represent almost 12 percent of the total number of new jobs.

## **Growth slows in trade, government**

Employment in wholesale and retail trade is projected to grow along with the rest of the economy, increasing from 22.5 million in 1982 to 28.5 million in 1995. Because total employment growth is slowing down, the rate of job growth in trade is also slower than it has been historically. Retail trade employment is projected to grow 2.0 percent a year, compared with 2.4 percent between 1958 and 1982; jobs in wholesale trade are projected to expand 1.4 percent annually, compared with 2.5 percent in the past.

The largest number of new job openings, about 1.6 million, will be in eating and drinking establishments. Other retail firms posting large gains will be department stores, grocery stores, new car dealers, miscellaneous shopping goods stores (such as jewelry, books, cameras, and sporting goods), and drug and proprietary stores. Retail shops projected to actually lose jobs include mobile home dealers, variety stores, general merchandise stores, candy stores, dairy products stores, women's accessory stores (such as millinery shops), children's wear stores, and fur shops.

In wholesale trade, the largest employment increases will be found in establishments selling machinery and equipment, motor vehicles, miscellaneous nondurable goods, and electrical goods.

*Government.* Employment in government is projected to grow more slowly than private sector jobs, as has been true since 1975, but the opposite of the expansionary 1950's and 1960's. The state and local sector represents most of the slowdown, as only 1.2 million new jobs will be added over the next 13 years, compared with 3.6 million during the preceding 13-year period.

Although job growth is slower than in the 1960's, it still represents a reversal from the actual declines of the late 1970's. In addition to tight budgets during the recession, declining school enrollments caused many state and local governments to reduce hiring. Beginning in 1984, however, enrollment in public elementary and secondary schools is projected to turn up again as the children of the baby-boom generation advance through school, leading to a slight upturn in employment.

## **Banking and transportation and utilities**

The output of financial and banking services is projected to show very large gains over the next decade and a half with the introduction of new consumer services such as automatic funds transfers and the more widespread use of investment counseling. The output of the banking industry and of credit agencies and financial brokers is projected to grow by 4.1 percent a year.

Employment growth, on the other hand, will be very modest. Automatic teller machines and computerized banking and stock transactions will limit job gains to 1.9 percent a year. By comparison, employment in banking grew 4.4

percent through the 1960's and 1970's, as the expanding use of checking accounts created the need for large numbers of new hires for check processing. That impetus will not be repeated, however, as checking account use is now commonplace, and as automatic transfers replace manual check processing.

The transportation, communications, and public utilities sector is not projected to contribute significantly to overall job growth, only adding slightly more than 1 million extra workers. However, output of this sector is projected to lead all other sectors in growth, reflecting the strong demand for new telecommunications services, as well as the divestiture of the telephone company. Output of the communications sector, which includes radio and television broadcasting in addition to telephone and telegraph communications, is projected to expand by 5.9 percent a year, compared with 2.9 percent for the economy as a whole.

### Low and high alternative projections

Different industry employment levels in the low and high alternatives are primarily the result of two factors—(1) the unemployment rate and the size of the labor force are different in each case than in the moderate growth projection, leading to different levels of total employment, and (2) the distribution of final demand is markedly different, causing output and, therefore, employment at the industry level to vary significantly from the base case. (See table 6.)

In the low-growth alternative, a smaller labor force and more unemployment results in 2.3 million fewer jobs. Although total employment is only about 2 percent lower, at the industry level the difference between the base case and the low trend alternative ranges over a much broader band. For some industries, employment is almost 10 percent lower, while in others, it is actually higher than in the base case. This span results from the sharp differences in final demand and in projections of productivity.

A disproportionate share of the job difference occurs in durable manufacturing industries because interest rates are higher than in the base case. Only manufacturing industries dependent on defense demand do not show this drop; defense expenditures, as well as other federal government purchases, are actually higher in the low-growth scenario than in the base case because it is assumed that the federal government increases spending to try to stimulate the sluggish economy. Examples of defense demand boosting output and employment to higher levels than in the base projection are in ordnance, guided missiles, radio and communication equipment, electronic components, aircraft, and shipbuilding industries.

**Table 6. Gross national product, moderate growth path and high and low alternatives**

[In billions of 1972 dollars]

Component	1982	1995			Percent difference from moderate	
		Low	Moderate	High	Low	High
Gross national product . . .	\$1,485.4	\$2,148.7	\$2,166.9	\$2,284.6	-0.8	5.4
Personal consumption . . .	970.2	1,371.1	1,412.4	1,504.6	-2.9	6.5
Durables . . . . .	139.8	223.8	240.4	279.8	-6.9	16.4
Nondurables . . . . .	364.2	449.4	468.0	485.4	-4.0	3.7
Services . . . . .	466.2	697.9	704.0	739.4	-.9	5.0
Gross private investment . . .	194.5	285.7	337.2	408.6	-15.3	21.2
Equipment . . . . .	112.7	159.6	177.2	204.6	-9.9	15.5
Structures . . . . .	53.4	44.6	70.1	77.6	-36.4	10.7
Residential . . . . .	37.8	69.6	78.1	114.1	-10.9	46.1
Inventory change . . . . .	-9.4	11.9	11.8	12.3	.8	4.2
Net exports . . . . .	28.9	148.4	85.9	23.0	72.8	-73.2
Exports . . . . .	147.3	267.9	260.0	264.0	3.0	1.5
Imports . . . . .	118.4	119.4	174.1	241.0	-31.4	38.4
Government . . . . .	291.8	343.5	331.4	348.4	3.7	5.1
Federal . . . . .	116.6	157.0	139.2	145.9	12.8	4.8
Defense . . . . .	78.8	113.2	98.9	103.9	14.5	5.1
Nondefense . . . . .	37.8	43.8	40.3	41.9	8.7	4.0
State and local . . . . .	175.2	186.5	192.2	202.5	-3.0	5.4

SOURCE: 1982 data are from the U.S. Department of Commerce, Bureau of Economic Analysis.

In addition, lower income growth results in much lower imports, leading to instances where domestic production of import-sensitive industries is higher in the low-growth alternative than in the base case. This occurs in forestry and fishery products, nonferrous metal ores mining, chemical and fertilizer mining, and watches and clocks.

In the high-growth alternative, many of these assumptions are reversed. Total employment in 1995 is 2.7 million higher than in the moderate case, based on a larger labor force and less unemployment. Like the low-growth alternative, although total employment varies from the base case by about 2 percent, jobs at the industry level have a much broader range, in some instances topping the base case by as much as 13 percent.

Monetary policy is assumed to be less restrictive in the high-growth alternative, resulting in a higher rate of inflation. Inflation, however, contributes to making imports more attractive, and the rise in imports more than offsets increased domestic demand in several industries. Because of imports, domestic production in the high alternative is lower than in the base case for iron mining, crude petroleum, sugar, confectionery products, apparel, leather tanning, leather products, and steel. Employment is also correspondingly lower; however, for sugar and confectionery products, lower productivity keeps employment levels higher than in the base case. □

—FOOTNOTES—

<sup>1</sup> See the following articles in this issue: Howard N Fullerton, Jr. and John H. Tschetter, "The 1995 labor force: a second look", pp. 1-8; Arthur J. Andreassen, Norman C. Saunders, and Betty U. Su, "The economic outlook for the 1990's: three scenarios for economic growth"; pp. 9-21; and George Silvestri, John M. Lukasiewicz, and Marcus E. Einstein, "Occupational employment projections through 1995", pp. 35-47.

<sup>2</sup> See Andreassen and others, "The economic outlook for the 1990's" for specific assumptions.

<sup>3</sup> See Fullerton and Tschetter, "The 1995 labor force".

<sup>4</sup> See Richard Riche, Daniel Hecker, and John Burgan, "High technology today and tomorrow; a small slice of the employment pie," *Monthly Labor Review*, November 1983, pp. 50-58.

# Occupational employment projections through 1995

*During 1982–95, health care will continue to be an expanding field of work, typists are apt to decline due to word processors, and high technology should spur the growth of occupations such as engineers and computer personnel but dim the outlook for others, especially drafters*

GEORGE T. SILVESTRI, JOHN M. LUKASIEWICZ,  
AND MARCUS E. EINSTEIN

The most recent occupational projections by the Bureau of Labor Statistics suggest that a wide range of job skills will be needed in 1995. Employment in jobs requiring a college education or specialized post-secondary technical training are expected to increase significantly between 1982 and 1995. However, many jobs that do not require post-secondary training are also expected to expand significantly. For example, the projected rapid increase in demand for medical services will require large numbers of nursing aides and orderlies in addition to highly trained medical practitioners.

On the other hand, employment growth in many occupations will be affected by technological change through the mid-1990's. For example, word processing equipment will slow the employment growth of typists, and industrial robots will reduce the growth in employment of welders, production painters, and material moving occupations. However, despite widespread technological advances, employment will continue to advance in most traditional fields from 1982 to 1995. More workers will be needed to drive trucks to deliver goods, to clean a growing number of buildings, to perform health and personal services and provide police and fire

protection for our increasing population, and to maintain and repair a larger stock of automobiles, appliances, and factory equipment.

Rapid expansion of high technology will spur the growth of scientists, engineers, technicians, and computer specialists. They will be required to design, develop, and use high-technology products such as computers, scientific and medical instruments, communication equipment, and robots. Employment in these occupations has generally grown faster than the economy as a whole and most are expected to continue to do so. However, even in some of these fields, technological advances will have an impact on reducing employment needs. For example, advances in computer-aided design technology are expected to severely limit the employment growth of drafters.

The pattern of industrial employment growth also has an important impact on expected changes in occupational structure, because many occupations are concentrated by industry. Therefore, the information on occupational growth patterns presented in this article cannot be fully understood apart from the data and analyses dealing with economic and industry growth trends presented elsewhere in this issue of the *Review*. Indeed, the methodologies used to develop both the industry and occupational projections are very closely related.<sup>1</sup>

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**Table 1. Civilian employment in occupations with 25,000 workers or more, actual 1979, 1982, and projected 1995**

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Total, all occupations	101,206	101,510	124,846	127,110	129,902	23	26	28	23	25	28
Professional, technical, and related workers	15,758	16,584	21,545	21,775	22,325	37	38	42	30	31	35
Engineers	1,177	1,204	1,787	1,788	1,831	52	52	56	48	49	52
Aero-astronautic engineers	44	44	65	62	62	47	39	41	49	41	42
Chemical engineers	58	56	79	80	82	37	40	43	41	43	47
Civil engineers	156	155	226	228	236	45	46	51	45	47	52
Electrical engineers	300	320	531	528	540	77	76	80	66	65	69
Industrial engineers	171	160	226	227	232	32	32	36	41	42	45
Mechanical engineers	216	209	314	318	327	45	47	51	50	52	56
Petroleum engineers	16	26	31	32	30	95	98	89	19	22	16
Life and physical scientists	247	271	343	342	348	39	38	41	27	26	29
Biological scientists	47	52	71	70	73	50	48	53	38	36	41
Chemists	87	89	107	108	111	22	24	27	21	22	25
Geologists	38	49	60	60	59	60	60	57	24	24	21
Mathematical specialists	48	48	63	62	63	31	29	32	31	29	32
Engineering and science technicians	1,227	1,243	1,649	1,661	1,705	34	35	39	33	34	37
Civil engineering technicians	32	35	56	58	60	77	82	88	59	64	69
Drafters	307	302	309	318	327	1	3	7	2	5	8
Electrical and electronic technicians	350	366	585	589	602	67	68	72	60	61	64
Industrial engineering technicians	33	27	36	35	37	9	7	11	31	29	33
Mechanical engineering technicians	47	48	72	72	74	54	55	58	51	52	55
Surveyors	55	44	61	62	64	11	13	17	40	43	47
Medical workers, except technicians	2,231	2,463	3,471	3,491	3,600	56	56	61	41	42	46
Chiropractors	22	25	33	32	32	46	45	45	28	27	27
Dentists	161	173	213	213	218	32	33	36	23	24	27
Dietitians	41	44	61	62	64	48	50	55	38	40	44
Nurses, registered	1,165	1,312	1,943	1,954	2,022	67	68	74	48	49	54
Optometrists	32	28	35	34	35	9	8	9	26	25	26
Pharmacists	143	151	188	192	196	31	34	37	24	27	30
Physicians	436	479	640	642	663	47	47	52	34	34	38
Therapists	186	202	291	294	302	56	58	62	44	45	50
Respiratory therapists	42	46	67	67	70	61	62	68	44	45	50
Occupational therapists	22	25	40	40	41	85	86	92	58	60	64
Physical therapists	37	43	68	69	70	84	85	89	57	58	62
Speech pathologists and audiologists	40	42	53	54	55	31	33	36	27	29	32
Veterinarians	34	36	48	48	48	42	41	43	31	30	32
Health technologists and technicians	574	627	891	898	932	55	57	62	42	43	49
Clinical laboratory technologists and technicians	195	209	291	292	303	49	50	55	39	40	45
Medical laboratory technicians	60	57	70	71	73	16	18	22	22	23	28
Medical laboratory technologists	92	103	150	150	156	63	64	70	46	46	52
Dental hygienists	58	69	97	99	104	69	72	81	40	43	50
Physical therapy assistants	27	33	55	55	56	103	104	109	67	68	72
Radiologic technologists	97	110	156	157	164	61	63	69	42	43	49
Radiologic technologists and nuclear medicine technicians	32	36	50	50	52	60	60	66	40	39	45
X-ray technicians	65	74	106	107	111	62	64	70	43	45	51
Surgical technicians	31	35	48	49	51	58	58	65	39	40	45
Technicians, excluding health, science, and engineering	338	364	451	453	465	33	34	38	24	24	28
Airplane pilots	78	80	102	103	104	31	32	34	28	29	31
Library technicians	28	29	32	32	33	15	16	19	9	10	13
Computer specialists	447	521	935	943	960	109	111	115	79	81	84
Programmers	231	266	465	471	480	101	104	107	75	77	80
Systems analysts	216	254	469	471	480	118	119	123	85	85	89
Social scientists	175	206	267	267	273	52	52	56	30	30	33
Economists	29	30	39	38	39	35	32	36	29	27	30
Psychologists	69	83	109	110	112	59	60	63	32	33	36
Teachers	3,967	3,980	4,612	4,706	4,806	16	19	21	16	18	21
Adult education teachers	107	125	164	165	170	53	54	58	31	32	36
College and university faculty	686	744	619	632	646	-10	-8	-6	-17	-15	-13
Dance instructors	23	27	35	35	36	51	52	57	31	32	36
Graduate assistants	138	140	122	124	127	-12	-10	-8	-13	-11	-9
Preschool, kindergarten, elementary schoolteachers	1,668	1,647	2,226	2,274	2,322	33	36	39	35	38	41
Preschool teachers	285	281	387	397	404	36	39	42	38	41	44
Kindergarten and elementary schoolteachers	1,383	1,366	1,839	1,877	1,918	33	36	39	35	37	40
Secondary schoolteachers	1,083	1,024	1,128	1,152	1,177	4	6	9	10	13	15
Vocational education teachers	99	98	139	143	146	41	45	48	42	46	49
Selected writers, artists, and entertainers	251	301	398	406	417	58	62	66	32	35	38
Actors	(1)	34	48	49	52	(1)	(1)	(1)	40	43	51
Commercial and graphic artists and designers	119	133	166	167	169	40	41	42	25	26	27
Designers	166	180	247	253	258	49	52	55	38	41	44
Musicians	134	124	153	155	160	15	16	19	23	25	28
Painters, artistic	21	25	29	29	29	43	42	42	17	16	16
Photographers	86	86	101	102	104	18	18	21	18	18	21
Public relations specialists	85	90	14	115	118	35	36	39	27	29	32
Radio and TV announcers and newscasters	48	55	70	70	70	46	47	48	27	28	29
Announcers	40	46	58	58	58	44	45	46	25	26	27
Reporters and correspondents	49	51	64	66	67	30	34	36	26	29	31
Sports instructors	(1)	53	63	64	66	(1)	(1)	(1)	20	21	25
Writers and editors	114	120	160	162	165	40	42	45	34	35	38

**Table 1. Continued—Civilian employment in occupations**

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Other professional and technical workers	4,389	4,636	5,778	5,850	5,999	32	33	37	25	26	29
Accountants and auditors	830	856	1,181	1,200	1,229	42	44	48	38	40	44
Architects	75	84	116	118	121	55	57	61	38	40	43
Assessors	29	28	30	31	32	3	4	7	9	11	14
Buyers, retail and wholesale trade	251	256	321	331	336	28	32	34	26	30	31
Clergy	(1)	317	327	332	344	(1)	(1)	(1)	3	5	8
Cost estimators	94	92	131	134	137	39	42	46	41	45	48
Counselors	140	148	159	163	167	13	16	19	7	10	12
Directors, religious education and activities	36	43	44	45	46	22	24	28	3	5	9
Employment interviewers	59	57	85	86	87	44	45	47	51	52	55
Foresters and conservationists	29	31	35	34	36	20	15	21	14	9	15
Law clerks	35	40	55	56	59	60	63	70	37	39	45
Lawyers	393	465	618	624	638	57	59	62	33	34	37
Legal assistants	34	45	85	88	91	150	158	168	88	94	102
Librarians	147	151	167	170	174	13	15	18	11	13	15
Personnel and labor relations specialists	187	203	249	250	257	33	34	38	23	23	27
Purchasing agents and buyers	178	177	225	225	232	26	26	30	27	27	31
Group recreation workers	122	122	148	150	154	20	22	26	21	23	27
Social workers	328	345	409	416	428	25	27	30	19	21	24
Caseworkers	275	292	348	353	364	26	28	32	19	21	24
Community organization workers	53	52	61	63	65	15	18	22	17	20	24
Special agents, insurance	23	31	44	44	45	90	92	95	43	45	48
Tax examiners, collectors, and revenue agents	48	47	54	52	54	13	8	13	16	10	16
Tax preparers	28	32	45	46	49	60	65	75	38	43	52
Underwriters	73	76	90	92	93	24	26	28	19	21	23
Managers, officials, and proprietors	9,152	9,532	12,008	12,212	12,467	31	33	36	26	28	31
Auto parts department managers	48	44	61	63	64	27	31	34	37	42	45
Auto service department managers	60	54	76	78	80	27	31	34	39	44	47
Construction inspectors, public administration	41	39	46	46	47	12	12	15	17	17	21
Health and regulatory inspectors	103	101	111	108	113	8	5	10	9	7	11
Postmasters and mail superintendents	28	28	23	24	25	-20	-14	-12	-20	-14	-12
Railroad conductors	35	27	17	18	20	-50	-47	-43	-36	-32	-27
Restaurant, cafe, and bar managers	528	574	706	711	715	34	35	35	23	24	25
Sales managers, retail trade	271	271	352	362	365	30	34	35	30	33	35
Assistant principals	37	38	44	45	46	18	21	23	15	18	20
Principals	81	82	93	95	97	15	17	20	14	16	19
Store managers	938	971	1,218	1,262	1,285	30	35	37	26	30	32
Wholesalers	241	247	298	302	303	23	25	26	20	22	23
Salesworkers	6,780	6,967	8,535	8,771	8,911	26	29	31	23	26	28
Real estate agents and brokers	332	337	449	450	453	35	36	37	33	33	34
Real estate brokers	39	42	53	53	53	37	37	38	28	28	29
Sales agents, sales representatives, real estate	293	296	396	396	400	35	35	37	34	34	35
Real estate appraisers	31	32	47	47	48	53	54	56	48	49	51
Sales agents and brokers, insurance	316	361	447	452	458	42	43	45	24	25	27
Sales representatives, nontechnical	573	583	724	743	749	26	30	31	24	27	28
Sales representatives, technical	1,329	1,320	1,652	1,707	1,730	24	28	30	25	29	31
Salesclerks	2,867	2,916	3,472	3,601	3,670	21	26	28	19	23	26
Security salesworkers	60	78	106	107	109	77	78	81	36	36	39
Travel agents	50	62	86	88	88	74	78	78	40	43	43
Clerical workers	18,497	19,049	23,533	23,998	24,538	27	30	33	24	26	29
Adjustment clerks	38	36	48	49	50	26	30	33	34	38	40
Bank tellers	466	539	686	693	703	47	49	51	27	29	30
New accounts tellers	51	67	79	80	81	55	57	59	18	19	21
Tellers	415	471	607	613	622	46	48	50	29	30	32
Bookkeepers and accounting clerks	1,717	1,713	1,943	1,985	2,027	13	16	18	13	16	18
Accounting clerks	722	756	861	876	895	19	21	24	14	16	18
Bookkeepers, hand	996	957	1,081	1,109	1,132	9	11	14	13	16	18
Cashiers	1,518	1,570	2,235	2,314	2,362	47	52	56	42	47	50
Claims adjusters	67	66	99	98	101	47	47	51	49	49	53
Claims clerks	66	66	94	93	95	42	41	45	41	40	44
Claims examiners, insurance	39	47	61	62	63	56	59	62	29	31	34
Clerical supervisors	434	467	618	628	641	42	45	47	32	35	37
Collectors, bill and account	88	94	133	135	137	51	53	55	42	44	46
Court clerks	28	27	29	29	30	2	3	6	6	8	11
Credit clerks, banking and insurance	50	50	76	76	78	52	54	57	53	54	57
Customer service representatives	86	89	120	124	125	40	44	45	35	39	40
Desk clerks, except bowling floor	82	88	107	107	109	31	32	34	22	23	25
Dispatchers, police, fire, and ambulance	51	48	52	53	55	4	6	8	10	12	14
Dispatchers, vehicle service or work	87	90	111	113	116	27	30	33	23	26	29
Eligibility workers, welfare	34	32	32	32	33	-7	-5	-3	0	2	5
File clerks	293	295	316	321	329	8	10	12	7	9	12
General clerks, office	2,377	2,348	2,990	3,044	3,113	26	28	31	27	30	33
Insurance clerks, medical	78	86	137	139	145	77	79	86	60	62	69
Library assistants	80	81	94	96	98	17	19	22	16	18	21
Loan closers	(1)	45	63	64	65	(1)	(1)	(1)	40	41	44
Mail carriers and postal clerks	539	541	439	474	485	-19	-12	-10	-19	-12	-10
Postal mail carriers	234	234	206	223	228	-12	-5	-3	-12	-5	-3
Postal service clerks	306	307	233	252	257	-24	-18	-16	-24	-18	-16

**Table 1. Continued--Civilian employment in occupations**

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Mail clerks	88	100	132	131	135	51	50	54	33	31	35
Messengers, except bank	42	47	60	61	63	42	45	48	28	31	34
Meter readers, utilities	29	31	37	38	38	30	31	33	22	24	26
Office machine operators	893	936	1,179	1,196	1,220	32	34	37	26	28	30
Bookkeeping, billing machine operators	174	172	218	223	227	25	28	31	26	29	32
Proof machine operators	46	47	59	59	60	28	29	31	24	25	27
Computer operating personnel	548	580	727	737	752	33	34	37	25	27	30
Computer operators	190	211	366	371	378	93	95	99	74	76	79
Data entry operators	319	320	282	286	292	-12	-10	-8	-12	-11	-9
Peripheral EDP equipment operators	40	49	79	80	82	99	102	106	61	63	66
Duplicating machine operators	31	38	44	45	46	41	43	46	16	17	19
Order clerks	258	265	329	337	342	28	31	33	24	27	29
Payroll and timekeeping clerks	175	202	265	269	277	51	54	58	31	34	37
Personnel clerks	98	103	132	131	135	35	34	38	29	28	32
Policy change clerks	25	28	30	31	31	18	20	22	8	10	12
Procurement clerks	49	47	60	60	62	23	22	27	27	26	31
Production clerks	212	201	260	262	268	23	24	27	29	30	33
Raters	53	53	68	69	70	28	30	32	29	31	33
Receptionists	362	387	565	576	594	56	59	64	46	49	54
Reservation agents and transportation ticket clerks	112	108	108	110	112	-4	-2	-1	0	2	4
Reservation agents	55	53	54	55	56	-2	0	1	2	4	5
Ticket agents	52	49	48	49	50	-7	-5	-3	-3	-1	1
Secretaries and stenographers	2,624	2,711	3,355	3,410	3,498	28	30	33	24	26	29
Secretaries	2,342	2,441	3,108	3,161	3,243	33	35	38	27	29	33
Stenographers	283	270	247	250	256	-13	-12	-10	-8	-7	-5
Typists	980	990	1,136	1,145	1,175	16	17	20	15	16	19
Shipping and receiving clerks	380	365	420	431	439	11	13	16	15	18	20
Shipping packers	356	340	394	403	410	11	13	15	16	19	21
Statement clerks	32	34	44	44	45	39	40	42	30	32	34
Statistical clerks	83	98	112	114	116	36	37	41	15	16	18
Stock clerks, stockroom and warehouse	831	831	961	987	1,005	16	19	21	16	19	21
Survey workers	42	53	78	78	79	86	87	89	46	46	48
Switchboard operators/receptionists	217	107	279	285	292	29	32	35	35	38	41
Teachers' aides	442	463	579	593	606	31	34	37	25	28	31
Telephone operators	319	318	337	343	349	5	8	9	6	8	10
Switchboard operators	175	172	211	213	218	20	22	24	23	24	27
Central office operators	107	109	84	87	87	-21	-19	-18	-23	-20	-20
Directory assistance operators	37	38	42	43	43	13	17	17	11	15	16
Town clerks	28	26	29	29	30	3	5	7	10	12	14
Craft and related workers	12,359	11,591	14,476	14,769	15,099	17	20	22	25	27	30
Construction craftworkers	3,163	2,895	3,725	3,777	3,841	18	19	21	29	30	33
Insulation workers	43	47	66	67	68	53	56	59	41	44	46
Bricklayers	150	111	148	150	153	-1	0	2	34	36	38
Carpenters	1,008	863	1,095	1,110	1,128	9	10	12	27	29	31
Cement masons	107	87	122	125	127	14	17	19	41	44	46
Dry wall applicators	53	53	73	74	75	36	39	41	36	39	41
Electricians	556	542	704	715	730	27	29	31	30	32	35
Floor covering installers	80	79	100	101	103	25	27	29	26	29	30
Carpet cutters, carpet layers	54	53	66	67	68	23	25	26	25	28	29
Floor layers	26	26	33	34	35	30	32	35	28	30	33
Glaziers	37	41	53	55	56	44	48	51	31	35	37
Ironworkers	105	93	126	130	133	20	23	26	35	39	42
Reinforcing-iron workers	34	33	44	45	46	29	32	35	33	36	39
Structural steel workers	71	61	83	85	87	16	19	22	36	40	44
Painters, construction and maintenance	369	362	443	444	449	20	21	22	22	23	24
Plumbers and pipefitters	398	388	512	518	528	29	30	33	32	34	36
Roofers	111	102	128	129	131	15	16	18	25	27	28
Mechanics, repairers, and installers	4,039	3,936	5,004	5,107	5,223	24	26	29	27	30	33
Air conditioning, refrigeration, and heating mechanics	175	168	220	223	228	25	27	30	31	33	36
Aircraft mechanics	107	108	132	128	131	23	19	22	22	19	21
Gas and electric appliance repairers	61	62	71	72	74	17	20	23	14	17	20
Automotive body repairers	159	155	191	196	201	20	23	26	23	26	30
Automotive mechanics	871	844	1,134	1,168	1,195	30	34	37	34	38	42
Coin machine servicers and repairers	27	31	38	39	40	43	47	52	24	28	32
Central office repairers	49	50	47	49	49	-4	-1	0	-6	-2	-2
Computer service technicians	(1)	55	106	108	108	(1)	(1)	(1)	93	97	98
Diesel mechanics	175	173	216	222	226	24	27	30	25	28	31
Cable splicers	47	48	59	60	61	26	28	30	24	25	27
Line installers, repairers	113	127	154	157	159	37	39	41	21	23	25
Engineering equipment mechanics	77	83	93	94	96	21	22	24	12	13	15
Farm equipment mechanics	25	26	27	27	28	8	10	10	4	5	6
Instrument repairers	40	41	50	51	53	25	27	31	22	24	27
Industrial machinery repairers	366	330	416	425	438	14	16	20	26	29	33
Maintenance repairers, general utility	733	694	870	887	908	19	21	24	25	28	31
Marine mechanics and repairers	26	26	36	36	36	36	36	36	35	35	36
Millwrights	108	91	118	121	124	10	12	15	30	33	36
Office machine repairers	53	56	94	95	96	78	82	83	68	72	73

**Table 1. Continued—Civilian employment in occupations**

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Radio and television service technicians	71	80	101	102	105	42	45	48	25	27	30
Installers, repairers, section maintainers	73	75	97	100	100	33	37	38	28	32	33
Station installers	58	59	69	72	72	20	24	25	18	21	22
Metalworking craftworkers, except mechanics	941	818	995	1,019	1,051	6	8	12	22	25	29
Boilermakers	45	40	42	43	44	-6	-5	-2	6	8	11
Machinists	239	220	271	278	287	13	16	20	23	26	30
Machine tool setters, metalworking	65	55	67	68	70	2	4	7	22	25	28
Molders, metal	34	25	29	29	30	-14	-12	-9	13	16	20
Sheet-metal workers and tinsmiths	213	188	248	252	260	16	18	22	32	34	38
Tool and die makers	176	152	179	184	190	2	5	8	18	21	25
Printing trades craftworkers	382	393	429	447	457	12	17	20	9	14	16
Bookbinders	29	30	34	36	37	16	22	24	14	20	23
Typesetters and compositors	103	104	99	97	99	-9	-6	-4	-10	-7	-5
Lithographers and photoengravers	66	67	83	87	89	26	33	35	23	29	32
Letter press operators	33	34	34	36	37	4	9	11	1	6	8
Offset lithographic press operators	86	88	107	113	115	24	30	33	22	28	31
Press operators and plate printers	37	42	44	45	47	19	23	27	5	8	12
Other craft and related workers	3,833	3,549	4,324	4,419	4,527	13	15	18	22	24	28
Bakers	64	65	73	76	78	15	19	22	12	17	19
Supervisors of blue-collar workers	1,295	1,200	1,482	1,519	1,553	15	17	20	24	27	30
Cabinetmakers	79	78	95	96	99	20	22	25	22	24	27
Crane, derrick, and hoist operators	127	105	128	132	134	1	4	6	22	25	27
Dental lab technicians	48	51	63	64	65	31	32	35	25	26	28
Opticians, dispensing and optical mechanics	35	31	38	39	40	9	12	15	22	25	29
Furniture upholsterers	30	37	40	40	42	33	34	39	7	8	12
Heavy equipment operators	443	384	480	490	500	8	11	13	25	28	30
Inspectors	468	410	520	529	543	11	13	16	27	29	32
Jewelers	26	30	33	34	35	26	29	32	11	13	17
Locomotive engineers	49	38	37	39	42	-26	-21	-15	-4	3	10
Merchandise displayers and window trimmers	27	27	37	38	39	38	43	45	39	43	46
Stationary engineers	61	58	60	61	62	-2	-1	2	3	4	7
Alteration tailors	55	54	72	75	77	31	36	40	32	37	41
Testers	119	116	151	152	157	27	28	31	30	31	35
Sewage plant operators	40	38	41	42	43	2	4	7	9	10	13
Water treatment plant operators	30	28	30	31	32	2	4	7	9	10	13
Operatives	14,039	12,995	15,044	15,419	15,809	7	10	13	16	19	22
Assembler occupations	1,459	1,313	1,625	1,646	1,702	11	13	17	24	25	30
Aircraft structure assemblers	33	33	28	26	26	-14	-19	-20	-15	-21	-21
Assemblers	361	307	363	379	398	1	5	10	18	23	30
Electrical machinery equipment assemblers	99	99	131	133	137	32	34	38	33	34	38
Electrical and electronic assemblers	281	286	365	362	371	30	29	32	28	27	30
Instrument assemblers	29	29	43	43	44	48	49	52	45	46	49
Machine assemblers	202	170	210	214	222	4	6	10	23	25	30
Writers, electronic	38	37	50	50	52	33	31	35	36	34	39
Bindery workers, assembly	37	38	39	41	42	8	13	15	5	10	12
Laundry operators, small establishment	38	38	44	44	45	17	17	19	16	17	18
Pressers, hand	30	27	30	31	31	2	4	3	13	14	14
Pressers, machine	54	50	51	52	54	-6	-4	0	2	4	8
Pressers, machine laundry	70	64	68	69	74	-3	-1	5	5	7	14
Washers, machine and starchers	54	58	78	79	82	45	47	52	35	37	42
Meatcutters and butchers	59	57	62	63	64	5	6	8	9	10	12
Metalworking operatives	1,726	1,492	1,767	1,813	1,874	2	5	9	18	21	26
Electroplaters	36	32	34	35	36	-4	-1	2	7	11	13
Machine tool operators	1,070	914	1,088	1,114	1,153	2	4	8	19	22	26
Drill press and boring machine operators	136	115	137	139	144	1	3	6	19	21	25
Grinding and abrading machine operators, metal	138	118	126	129	133	-9	-7	-4	7	10	13
Lathe machine operators, metal	159	137	155	159	164	-2	0	3	14	16	20
Milling and planing machine operators	68	61	68	69	71	-1	1	4	12	13	17
Machine tool operators, combination	193	169	217	220	229	13	14	19	29	31	36
Machine tool operators, numerical control	73	66	94	95	99	28	30	35	42	44	49
Machine tool operators, tool room	41	34	43	44	45	6	8	11	25	27	31
Punch press operators, metal	181	147	167	173	180	-8	-5	-1	14	18	22
Power brake and bending machine operators, metal	49	42	51	53	55	4	8	12	22	27	32
Shear and slitter operators, metal	32	27	32	33	34	-2	2	6	18	23	27
Welders and flamecutters	548	490	579	595	615	6	8	12	18	21	26
Roustabouts	67	94	78	80	80	17	20	19	-16	-14	-15
Baggers	224	242	219	229	234	-2	2	4	-9	-5	-4
Production packagers	560	548	616	637	654	10	14	17	12	16	19
Painters, automotive	41	36	51	53	55	24	28	32	41	46	51
Painters, production	118	101	115	118	122	-3	0	3	14	17	21
Sawyers	89	75	91	93	96	2	4	8	21	24	28
Sewers and stitchers	902	804	869	882	873	-4	-2	-3	8	10	9
Sewing machine operatives, regular equipment, garment	594	533	561	567	556	-5	-4	-6	5	7	4
Sewing machine operatives, special equipment, garment	88	78	84	85	83	-4	-3	-5	8	9	7
Sewing machine operatives, regular equipment, nongarment	145	128	152	155	158	4	7	8	19	22	24
Sewing machine operatives, special equipment, nongarment	47	42	48	50	51	4	7	9	16	19	21

Table 1. Continue.—Civilian employment in occupations

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Textile operatives	368	312	345	352	359	-6	-5	-3	11	13	15
Spinners, frame	31	26	25	25	25	-21	-20	-18	-5	-4	-2
Weavers	36	30	31	31	31	-14	-13	-12	3	4	6
Transport equipment operatives	3,694	3,551	4,181	4,287	4,387	13	16	19	18	21	24
Ambulance drivers and ambulance attendants	26	28	34	35	36	29	32	38	23	26	32
Busdrivers	443	473	537	551	572	21	24	29	13	17	21
Busdrivers, local and intercity	216	229	249	257	271	15	19	25	9	12	18
Busdrivers, school	226	244	288	295	301	27	30	33	18	21	23
Chauffeurs	42	48	61	63	65	44	48	53	27	30	34
Forklift and tow motor operatives	421	376	433	445	458	3	6	9	15	18	22
Parking attendants	36	37	37	38	40	3	6	10	1	4	8
Railroad brake operators	78	60	50	54	58	-35	-31	-26	-16	-10	-4
Sailors and deckhands	33	32	33	34	35	0	3	5	3	7	8
Taxi drivers	72	64	52	52	53	-28	-28	-26	-20	-19	-17
Truckdriving occupations	2,506	2,402	2,909	2,980	3,035	16	19	21	21	24	26
Delivery and route workers	813	797	924	951	967	14	17	19	16	19	21
Truckdrivers	1,693	1,604	1,985	2,029	2,068	17	20	22	24	26	29
All other operatives	4,145	3,805	4,413	4,544	4,666	6	10	13	16	19	23
Dressmakers, except factory	54	61	66	66	66	23	22	23	8	8	9
Filers, grinders, buffers, and chippers	130	107	134	137	142	3	6	9	26	29	33
Fuel pump attendants and lubricators	406	388	430	451	462	6	11	14	11	16	19
Stationary boiler firers	46	44	45	45	47	-2	-1	2	1	2	6
Miscellaneous machine operatives, meat and dairy products	45	42	39	40	41	-14	-11	-9	-9	-6	-3
Miscellaneous machine operatives, all other food products	73	71	75	78	80	3	7	9	6	10	13
Miscellaneous machine operatives, lumber and furniture	47	39	49	50	52	4	6	10	25	28	32
Miscellaneous machine operatives, paper and allied products	99	92	97	100	105	-2	1	6	5	9	14
Miscellaneous machine operatives, chemicals and allied products	153	146	172	178	183	13	16	20	18	22	25
Chemical operators-A	55	54	64	66	68	16	19	22	19	23	26
Chemical operators-B	27	26	31	31	32	14	17	21	18	22	25
Miscellaneous machine operatives, rubber and miscellaneous plastics	213	190	251	267	277	18	25	30	32	40	45
Extruder operators, rubber or plastics	28	26	35	37	39	25	34	39	36	46	51
Compression and injection mold machine operators, plastics	101	93	131	140	144	29	38	42	41	50	55
Miscellaneous machine operatives, stone, clay, and glass	50	41	49	51	53	-3	2	6	20	25	31
Miscellaneous machine operatives, primary metals	86	69	82	85	88	-5	-1	2	18	22	26
Miscellaneous machine operatives, manufacturing, nec.	90	83	99	102	104	11	13	16	20	23	26
Miscellaneous machine operatives, nonmanufacturing	40	39	42	44	45	6	10	12	7	11	13
Miscellaneous operatives, nec, durable goods	102	86	103	108	112	1	5	10	19	25	30
Miscellaneous operatives, nec, nondurable goods	229	218	231	238	242	1	4	6	6	9	11
Poultry dressers, eviscerators	50	48	50	50	51	0	1	3	4	6	8
Press assistants and feeders	25	26	30	31	32	16	23	25	14	20	22
Mixing operatives	43	41	43	45	46	2	6	8	5	9	12
Oilers	43	36	44	45	46	3	5	8	21	24	27
Photographic process workers	70	67	77	78	80	9	11	14	15	17	20
Rotary drill operators	22	28	27	28	28	24	26	27	-2	-1	0
Rotary drill operator helpers	31	33	29	29	30	-6	-4	-3	-14	-12	-11
Shoemaking machine operators	60	52	34	36	34	-43	-40	-43	-33	-30	-34
Surveyor helpers	50	40	61	63	65	22	26	30	54	59	64
Tire changers	60	60	83	86	88	39	45	48	39	45	48
Coil winders	28	27	32	32	33	13	13	18	19	19	24
Service workers	15,660	16,241	20,416	20,706	21,113	30	32	35	26	27	30
Building custodians	2,796	2,828	3,554	3,606	3,682	27	29	32	26	28	30
Food service workers	5,906	6,204	8,113	8,221	8,322	37	39	41	31	33	34
Bakers, bread and pastry	35	36	46	46	47	31	32	33	27	28	30
Bartenders	364	384	500	505	511	37	39	40	30	32	33
Butchers and meatcutters	184	191	173	179	182	-6	-3	-1	-9	-6	-5
Cooks and chefs	1,161	1,211	1,591	1,613	1,636	37	39	41	31	33	35
Cooks, institutional	406	423	527	536	549	30	32	35	25	27	30
Cooks, restaurant	330	351	494	500	505	50	51	53	41	42	44
Cooks, short order and specialty fast foods	424	437	570	578	582	34	36	37	31	32	33
Food preparation and service workers, fast food restaurants	757	809	1,092	1,106	1,113	44	46	47	35	37	38
Hosts/hostesses, restaurant, lounge, coffee shop	110	113	152	154	155	38	40	41	34	36	37
Kitchen helpers	822	850	1,139	1,155	1,174	39	41	43	34	36	38
Pantry, sandwich, and coffee makers	77	84	111	112	114	43	45	47	32	34	36
Waiters and waitresses	1,599	1,665	2,199	2,227	2,249	38	39	41	32	34	35
Waiters assistants	283	302	384	388	394	36	37	39	27	29	30
All other food service workers	515	559	726	734	748	41	43	45	30	31	34
Selected health service workers	1,980	2,240	3,038	3,066	3,166	53	55	60	36	37	41
Dental assistants	129	153	218	218	229	65	69	77	39	42	49
Licensed practical nurses	524	594	213	815	841	54	55	60	36	37	41

**Table 1. Continued—Civilian employment in occupations**

Occupation	Total employment (in thousands)					Percent change					
	1979	1982	1995			1979-95			1982-95		
			Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend	Low trend	Moderate trend	High trend
Medical assistants	88	100	809	148	154	65	67	74	45	47	53
Nursing aides, orderlies, and attendants	1,087	1,218	146	1,642	1,690	50	51	55	34	35	39
Pharmacy helpers	29	33	1,628	46	47	56	57	62	38	38	43
Psychiatric aides	115	132	45	185	192	60	60	66	40	41	46
			184								
Selected personal service workers	1,518	1,632		1,961	2,010	27	29	32	18	20	23
Barbers	110	115	1,930	127	129	14	15	17	9	10	12
Bellhops, bag porters, and doorkeepers	26	26	126	29	29	7	9	11	9	10	13
Child-care attendants	39	47	28	57	58	43	45	48	20	21	24
Child-care workers	396	414	56	499	504	25	26	27	19	20	22
Cosmetologists/women's hairstylists	463	491	495	589	604	19	22	25	17	20	23
			577								
Flight attendants	54	54		69	70	26	27	29	27	29	30
Game and ride operators and concession workers	(1)	53	68	63	66	(1)	(1)	(1)	17	19	24
Housekeepers, hotel and motel	(1)	101	62	130	133	(1)	(1)	(1)	29	29	32
Recreation facility attendants	64	72	130	88	92	35	37	42	21	23	27
Reducing instructors	24	35	87	46	51	88	96	114	29	34	46
Ushers, lobby attendants, and ticket takers	41	40	44	39	41	-6	-4	1	-4	-2	4
Welfare service aides	92	93	38	119	122	27	29	33	26	28	32
			116								
Protective service workers	1,752	1,707		2,146	2,194	21	22	25	24	26	29
Correction officials and jailers	112	111	2,121	147	150	30	31	35	31	33	36
Crossing or bridge tenders	28	27	145	29	30	3	5	8	6	8	11
Crossing guards, school	40	38	29	42	43	3	5	7	10	12	14
Firefighters	213	201	42	217	223	0	2	4	7	8	11
Fire officers	49	46	214	52	53	3	5	7	10	12	14
Guards and doorkeepers	645	635	51	935	950	44	45	47	46	47	50
Lifeguards	(1)	34	925	44	46	(1)	(1)	(1)	29	31	36
			43								
Police and detectives, public service	578	549		592	608	1	2	5	7	8	11
Police detectives	62	59	586	68	71	12	9	14	17	14	19
Police officers	102	97	69	107	110	4	5	8	10	10	14
Police patrolmen/women	383	363	106	390	400	0	2	4	6	7	10
Private household workers	1,088	1,023	383	850	864	-25	-22	-21	-20	-17	-16
Supervisors, nonworking, service	205	210	275	279	285	35	37	39	31	33	36
Laborers, except farm	6,257	5,861	6,884	7,052	7,215	10	13	15	17	20	23
Animal caretakers	91	105	119	120	123	31	33	35	14	15	17
Cannery workers	61	56	67	69	71	10	12	16	20	23	27
Cleaners, vehicle	119	100	133	138	143	11	16	20	32	38	43
Conveyor operators and tenders	51	46	53	54	56	3	6	8	14	18	21
Garbage collectors	115	110	127	129	133	11	12	16	15	17	20
Gardeners and groundskeepers, except farm	646	661	732	744	759	13	15	17	11	13	15
Helpers, trades	1,023	608	777	798	819	-24	-22	-20	28	31	35
Highway maintenance workers	173	165	172	175	179	0	1	4	4	6	9
Line service attendants	29	30	41	41	42	39	41	42	36	38	39
Pipelayers	47	42	56	57	58	18	21	23	32	35	37
Riggers	30	27	33	33	34	11	12	15	23	24	27
Stock handlers	938	962	1,111	1,150	1,171	18	23	25	15	20	22
Order fillers	356	355	420	430	435	18	21	22	18	21	23
Stock clerks, sales floor	581	608	691	721	736	19	24	27	14	19	21
Fallers and buckers	45	39	35	35	36	-23	-22	-20	-10	-9	-7
Farmers and farmworkers	2,704	2,691	2,404	2,407	2,424	-11	-11	-10	-11	-11	-10
Farmers and farm managers	1,447	1,448	1,370	1,357	1,359	-5	-6	-6	-5	-6	-6
Farm owners and tenants	1,405	1,407	1,319	1,304	1,305	-6	-7	-7	-6	-7	-7
Farm managers	42	40	51	52	53	21	24	26	27	30	32
Farm supervisors and laborers	1,257	1,243	1,034	1,050	1,065	-18	-16	-15	-17	-16	-14
Farm supervisors	33	33	31	31	32	-7	-5	-3	-6	-4	-2
Farm laborers	1,224	1,211	1,003	1,019	1,033	-18	-17	-16	-17	-16	-15

<sup>1</sup>Data not available.

The growth of occupations concentrated in the construction and manufacturing industries, which was severely affected by the 1980-82 recession, includes recovery from the trough of that period. As a result, the data on growth patterns of occupations must be interpreted very carefully. For this reason, the data on growth presented in table 1 include employment data for 1979 (pre-recessionary) and 1979-95 growth rates.<sup>2</sup>

### Alternative sets of projections

The Bureau has developed three alternative sets of occupational employment projections that are tied to the eco-

nomic and industry alternatives presented elsewhere in this issue of the *Review*. Although the assumptions and analyses that differentiate these scenarios result in different rates of growth for most occupations, the basic changes in the occupational composition from 1982 to 1995 are similar in all versions. Thus, although this article focuses on the "moderate" scenario, the discussion would be very similar if any of the other scenarios were highlighted. However, the major differences in trends between the alternate scenarios are reported in the final section of this article. The alternative projections are also shown in table 1 for all detailed occupations.

Differences in the occupational projections among the three alternatives should not be considered as the potential range within which the projections are likely to fall because the range for most occupations is much wider than that shown. The majority of occupations are sensitive to a wide variety of assumptions and economic factors and all of these could not be considered in the three scenarios.

One should keep in mind that the development of projections is not a precise statistical process. Despite the use of sophisticated economic models and the use of data in those models that are carefully developed by statistical techniques, the future cannot be precisely predicted. Too many factors can alter economic activity over the 1982–95 period to assure that the projections provide an exact picture of the future. This is very evident if one reviews previous employment projections developed by the Bureau or any other organization.<sup>3</sup>

The projections developed by the Bureau reflect very detailed analyses of the factors that are expected to affect occupational trends in addition to those factors built into the model. Thus, the occupational projections presented in this article reflect the analyses and judgments of Bureau staff who are involved in this development. Some of these judgments are fairly subjective, and therefore, open to question. For example, in developing projected occupational staffing patterns for automobile manufacturing, judgments had to be made about the actual use of robots and other production processes in the industry during 1982–95. Clearly, at this stage of the development and use of robots in automobile manufacturing, such judgments are highly subjective.

Despite these analytical problems in developing precise projections of the future, our experience has indicated that basic trends in occupational structure can be approximated through the types of analyses described. Growth trends have proved to be correct for most occupations in previous sets of projections. We are hopeful that our experience and improved techniques and data bases will result in projections that present the general trends in employment by occupation during 1982–95.

### **Broad structural changes**

The impact of technological change, differences in industrial growth patterns, and other factors that have a significant impact on occupations will result in changes in the broad occupational structure between 1982 and 1995. However, the direction of these changes will be very similar to changes that have occurred over the past several decades. Professional and technical workers will continue to increase faster than total employment and account for a greater share of total employment in 1995 than in 1982. Service workers, excluding private household workers, also will continue to grow faster than average. Managers, salesworkers, and craftworkers will continue to increase at about average rates and

maintain their relative share of total employment, a share which has not changed significantly over the past two decades. On the other hand, operatives and laborers should continue their long-term decline as a proportion of total employment, as their growth is impacted by the effects of technological change and the relatively faster growth of the service sector. Private household workers are expected to continue to decline numerically as well as in proportion to total employment.

Major changes in long-term trends in the broad occupational structure, however, are expected in clerical and in farming occupations. Although the number of clerical workers is expected to continue to increase, the effects of office automation should result in average growth rather than in the faster than average growth which has occurred over the past two decades. Farming occupations which have declined significantly throughout the century are expected to continue to decrease but somewhat more slowly than in the past. However, farming occupations should drop significantly as a proportion of total employment between 1982 and 1995.

Broad occupational trends tend to mask much of the dynamic changes in occupational structures that have occurred and are expected to occur over the projections period. Within each broad occupational group, detailed occupational trends will be affected by technological changes and by alterations in the basic structure of industrial growth. The latter changes are extremely important because occupational growth is very closely related to changes in employment of industries in which they are concentrated. The following sections of this article discuss the growth of individual occupations and highlight many of the basic changes in occupational employment that are anticipated over the period.

### **Detailed occupations**

The economy is expected to generate an additional 25.6 million jobs between 1982 and 1995. About one-half of this job growth is projected to occur in only 40 of the 1,700 occupations (see table 2) for which projections were developed. Several points should be kept in mind in reviewing these occupations which will account for the greatest number of additional jobs. In general, the occupations are numerically large and all had more than 250,000 workers in 1982. Occupations that require extensive training are not found to any greater extent in table 2 than are those requiring little formal training. Only one-fourth of the occupations generally require a college degree.

Several of the occupations on the list reflect recovery from very low 1982 employment levels caused by the recession. For example, helpers, trade; supervisors of blue-collar workers; and carpenters are on the list only because of the sharp drop in employment experienced from 1979 to 1982. Most of the employment growth reflects recovery to pre-recessionary levels.

A list of the fastest growing occupations from 1982 to

**Table 2. Forty occupations with largest job growth, 1982-95**

Occupation	Change in total employment (in thousands)	Percent of total job growth	Percent change
Building custodians	779	3.0	27.5
Cashiers	744	2.9	47.4
Secretaries	719	2.8	29.5
General clerks, office	696	2.7	29.6
Salesclerks	685	2.7	23.5
Nurses, registered	642	2.5	48.9
Waiters and waitresses	562	2.2	33.8
Teachers, kindergarten and elementary	511	2.0	37.4
Truckdrivers	425	1.7	26.5
Nursing aides and orderlies	423	1.7	34.8
Sales representatives, technical	386	1.5	29.3
Accountants and auditors	344	1.3	40.2
Automotive mechanics	324	1.3	38.3
Supervisors of blue-collar workers	319	1.2	26.6
Kitchen helpers	305	1.2	35.9
Guards and doorkeepers	300	1.2	47.3
Food preparation and service workers, fast food restaurants	297	1.2	36.7
Managers, store	292	1.1	30.1
Carpenters	247	1.0	28.6
Electrical and electronic technicians	222	.9	60.7
Licensed practical nurses	220	.9	37.1
Computer systems analysts	217	.8	85.3
Electrical engineers	209	.8	65.3
Computer programmers	205	.8	76.9
Maintenance repairers, general utility	193	.8	27.8
Helpers, trades	190	.7	31.2
Receptionists	189	.7	48.8
Electricians	173	.7	31.8
Physicians	163	.7	34.0
Clerical supervisors	162	.6	34.6
Computer operators	160	.6	75.8
Sales representatives, nontechnical	160	.6	27.4
Lawyers	159	.6	34.3
Stock clerks, stockroom and warehouse	156	.6	18.8
Typists	155	.6	15.7
Delivery and route workers	153	.6	19.2
Bookkeepers, hand	152	.6	15.9
Cooks, restaurants	149	.6	42.3
Bank tellers	142	.6	30.0
Cooks, short order, specialty and fast food	141	.6	32.2

Note: Includes only detailed occupations with 1982 employment of 25,000 or more. Data for 1995 are based on moderate-trend projections.

1995 is shown in table 3. Although the list is dominated by occupations that are tied to continued growth of expanding industries and which have been among the strongest in the economy for the past decade, many reflect recovery from the recession. It is also important to note that these fast growing occupations generally are not found on the list of occupations that will add the most jobs over the period. Almost half of the 20 occupations in the list are either in the computer or health fields, which are among the fields with the strongest growth.

Some occupations are expected to decline over the period. (See table 4.) In general, occupations on the list are concentrated in industries that are contracting, or severely affected by technological change. For example, railroad conductors are concentrated in a declining industry, while data entry operators are affected by technological change.

*Health-related occupations.* Health care will continue to be an expanding field of work during 1982-95. Reflecting growth

in expenditures for health services, occupations in this field have been among the fastest growing for many years. Even during 1979-82, when total employment was virtually unchanged, employment in health occupations grew significantly. Continued population growth and expansion of health care insurance coverage are primary reasons underlying the expected continued growth. In addition, the aged, requiring the most health care, are expected to increase their share of the U.S. population. While the population is expected to go up by only 14 percent between 1980 and 1995, those over 65 years of age will increase by 26 percent.

The number of registered nurses is expected to grow by 49 percent between 1982 and 1995, an additional 642,000 jobs. Physicians are projected to increase by 34 percent, faster than the average for all occupations, and add 163,000 jobs. Nursing aides and orderlies should add 423,000 new jobs and licensed practical nurses, 220,000 jobs, both representing faster than average growth. Overall, these four occupations are projected to account for almost 6 percent of the total employment growth over the period.

Among the smaller and faster growing occupations, physical therapy technicians are projected to increase by 68 percent, occupational therapists by 60 percent, physical therapists by 54 percent, and medical assistants by 47 percent.

*Computer-related occupations.* Computers are expected to continue to have more widespread use throughout the economy through the mid-1990's. As a result, occupations that are directly related to computer development and use will be among the leaders in employment growth rates over the period. The number of systems analysts and computer programmers should expand at a very rapid rate through 1995. As more uses are found for computers in business and everyday life, software development will experience tremendous growth.

Most industry forecasts indicate that there will be more than 10 times as many computers in use during the next decade than exist today. This will translate into an increased demand for additional computer service technicians to maintain the equipment.

Recently, the focus has been on the micro- and mini-computers. Mainframe (large) computers have mostly been overlooked. In 1982, mainframe sales stood at \$10 billion representing the largest segment of the computer machine market. Fifth-generation machines are expected to be introduced in the early 1990's, and sales are projected to grow significantly by 1995. Therefore, this means strong growth in the number of computer and peripheral equipment operators needed by 1995.

*Education-related occupations.* The growth of employment in many occupations in the education field is closely tied to the size of the school-age population. Although births declined steadily during 1961-75, the number of children born each year has grown steadily since 1976 and is expected to



**Table 3. Twenty fastest growing occupations, 1982-95**

Occupation	Percent growth in employment
Computer service technicians	96.8
Legal assistants	94.3
Computer systems analysts	85.3
Computer programmers	76.9
Computer operators	75.8
Office machine repairers	71.7
Physical therapy assistants	67.8
Electrical engineers	65.3
Civil engineering technicians	63.9
Peripheral EDP equipment operators	63.5
Insurance clerks, medical	62.2
Electrical and electronic technicians	60.7
Occupational therapists	59.8
Surveyor helpers	58.6
Credit clerks, banking and insurance	54.1
Physical therapists	53.6
Employment interviewers	52.5
Mechanical engineers	52.1
Mechanical engineering technicians	51.6
Compression and injection mold machine operators, plastics	50.3

Note: Includes only detailed occupations with 1982 employment of 25,000 or more. Data for 1995 are based on moderate-trend projections.

continue until 1987. Because of this increase in births and the expected continued growth in the labor force participation of mothers of young children, employment of preschool teachers is expected to surge during 1982-95, increasing by more than 40 percent. Kindergarten and elementary schoolteachers as well as teachers' aides are anticipated to grow substantially as growth in the youth population works its way through the educational system.

The increase in the school-age population will not affect secondary schools until early in the 1990's. Therefore, secondary schoolteachers are expected to decline in numbers until 1990 and then turn around. Overall, between 1982 and 1995, this occupation should experience only minimal growth.

At the post-secondary level, vocational education teachers can be expected to grow at a strong pace. Growth of job training and retraining programs will be reflected in increased demand for this occupation. However, college and university teachers are projected to decline during 1982-95 because of a drop in the college-age population and because of higher tuition.

*Scientific and technical occupations.* Many scientific and technical occupations are expected to grow rapidly over the period, benefiting from the growth of high-technology industries. However, some will be negatively affected by the products of high technology and others will grow more sluggishly than average because they are concentrated in slowly growing industries.

Engineering occupations are expected to provide nearly 600,000 new jobs by 1995, as the occupation is expected to grow much faster than average. As manufacturing industries, primarily durable goods, rebound from the recession and place new technologies into their production systems, there will be heavy demands for electrical, industrial, and

mechanical engineers. More civil engineers will be needed to meet the demands of a rejuvenated construction industry. Petroleum engineers on the other hand should experience average growth as oil supplies stabilize and new drilling moderates.

Chemists will be affected by a diminished growth of the chemical industry and geologists and geophysicists by a slowdown in oil and gas extraction. Therefore, both occupations are expected to grow only as fast as average. A fairly strong demand for biological scientists is expected due to the growth of the drug industry. Electrical and electronic technicians, mechanical engineering technicians, and civil engineering technicians should experience strong growth similar to their engineer counterparts. Drafters is one important occupation in this group to fall victim to new technology. As computer-assisted design equipment gains more widespread use, the growth of this occupation will be virtually nil.

*Office clerical workers.* Most office clerical occupations are expected to grow more slowly during 1982-95 than in the 1970's because of office automation. Nevertheless, significant growth is expected in some of these occupations. Receptionists should be among the fastest growing clerical occupations, with a projected increase of 49 percent. Because of the varied responsibilities and the need for human interaction, it is difficult to replace this occupation with a machine. Secretaries will increasingly use advanced office equipment in the future, thereby becoming more productive. This in turn will dampen demand for the occupation. Nevertheless, secretaries are projected to grow at a rate that is about average because of the growth of industries in which they are concentrated.

**Table 4. Twenty most rapidly declining occupations, 1982-95**

Occupation	Percent decline in employment
Railroad conductors	-32.0
Shoemaking machine operatives	-30.2
Aircraft structure assemblers	-21.0
Central telephone office operators	-20.0
Taxi drivers	-18.9
Postal clerks	-17.9
Private household workers	-16.9
Farm laborers	-15.9
College and university faculty	-15.0
Roustabouts	-14.4
Postmasters and mail superintendents	-13.8
Rotary drill operator helpers	-11.6
Graduate assistants	-11.2
Data entry operators	-10.6
Railroad brake operators	-9.8
Fallers and buckers	-8.7
Stenographers	-7.4
Farm owners and tenants	-7.3
Typesetters and compositors	-7.3
Butchers and meatcutters	-6.3

NOTE: Includes only detailed occupations with 1982 employment of 25,000 or more. Data for 1995 are based on moderate-trend projections.

Most other office clerical occupations including typists will be growing more slowly than the average rate for all occupations. The expected increase in typing work will be in significant part taken care of by the increased use of word processing equipment. Stenographers is the one office occupation which has been declining and should continue to do so during the period.

*Mechanics and repairers.* The increasing complexity of equipment used by industry and by consumers is expected to provide continued steady growth for mechanics and repairers. Automotive mechanics are projected to grow faster than average—about 38 percent from 1982 to 1995—and because of the occupation's large size it will add nearly 324,000 jobs. Refrigeration and air-conditioning mechanics are expected to add 55,000 jobs. Office machine servicers and cash register servicers should rise by 72 percent as offices and stores are automated. This occupation will be among the fastest growing during the period.

*Construction trades.* Employment fluctuations caused by cyclical and seasonal factors characterize the construction industry. As a result, construction-related employment projections are difficult to develop accurately. Although employment among construction trades is projected to increase by more than 900,000 workers, much of this growth represents a recovery from the severe downturn of the early 1980's. If allowance is made for this recession, the growth of the construction trade occupations may be seen as approximating that of the rest of the economy.

Employment among the construction trades will also be affected by technological changes within the industry. Dry wall installers will benefit from the increased use of dry wall. Modular construction will slow the employment growth of carpenters. On the other hand, the increasing use of new types of electrical equipment will continue to aid the employment growth of electricians.

*Food and beverage service occupations.* The trend toward eating outside the home will result in continued employment growth among food and beverage preparation and service occupations. Sales in eating and drinking places nearly quadrupled between 1967 and 1981.<sup>4</sup> This trend is expected to add 1.8 million jobs in eating and drinking places, an increase of 38 percent during 1982–95. Much of this growth, however, should be in fast food restaurants and therefore food preparation and service workers in these establishments would increase faster than other food service occupations. They are expected to increase by 37 percent and add 297,000 jobs. Other food service occupations will also grow faster than average including waiters and waitresses, up 562,000; cooks, 402,000; and bartenders, 121,000. These four occupations will account for more than 5 percent of the total growth in jobs over the period.

*Transportation occupations.* As economic activity increases, so does the demand for transporting goods. Technological change has not radically affected the trucking industry, therefore, a rising demand for its services brings about roughly proportional increases in the employment of truckdrivers. Truckdrivers are projected to show average growth but, because of its large size, add almost 424,000 jobs. Double trailers and larger trucks will dampen employment growth among long-haul truckdrivers as will competition for long-haul business from railroad transportation.

Ambulance drivers are expected to have average employment growth. Busdrivers and industrial truck operators should experience below average growth rates. Technological change may have a greater impact on industrial truck operators, who move materials from one location to another within factories and warehouses. Industrial truck operators are projected to increase by 70,000, which largely reflects recovery from the decline in manufacturing employment during 1980–82.

*Production occupations.* The recovery of manufacturing from the recent recession and its projected employment increase by 1995 will provide many additional jobs for production workers performing precision tasks. Although growth rates will only approximate the economy as a whole, supervisors of blue-collar workers will gain 319,000 jobs; machinists, 58,000; press and plate printers, 35,000; tool and die makers, 32,000; and millwrights, 30,000. The majority of machinists, tool and die makers, and millwrights work in durable goods manufacturing which declined during 1980–82 and which is expected to recover and grow.

Some of the lesser skilled production occupations (such as operatives) are threatened by the introduction of robots and other automated equipment. Robots can perform welding, machine loading and unloading, spray painting, and certain types of assembly work, but their introduction is currently hampered by factors such as the lack of visual capabilities and by their purchase, installation, and maintenance costs. If the robots' capabilities can be improved and their associated costs can be reduced through mass production, we may see an occupational impact.

Among the fabricating, assembly, and handworking occupations, the group of assembly occupations is anticipated to grow by 332,000, primarily in electrical and electronic components, machinery, and electrical equipment assembly. Welders and flamecutters are expected to increase by 105,000; however, they are expected to decline in the automotive industry as more spot welding robots are used. The number of filers, grinders, buffers, and chippers should grow by about 30,000 jobs.

Some machine operators and tenders will experience the impact of robots which can load materials into machinery. However, increases are expected in some operator jobs, including 52,000 combination machine tool operators and

39,000 power press operators. Sewers and stitchers should gain 78,000 jobs, although the growth rate is expected to be below average and employment is not even expected to reach the 1977 level by 1995. Production inspectors, testers, samplers, and weighers would be most affected by robotic vision systems, but the use of these systems seems to be in the distant future. Therefore, an increase of 119,000 inspecting jobs and 36,000 testing jobs is projected through 1995.

*Sales occupations.* Salesworker employment growth trends are generally tied to the growth of industries in which they are employed. Thus, security and bond sales agents and real estate agents should grow faster than average as do their related industries. Salesclerks should increase about average following the trend in retail trade where most are employed. However, because of the very large size of this occupation, it should be among the leaders in the *number* of jobs added during 1982–95.

### Low and high alternative projections

The percentage distribution of occupational employment or staffing patterns within specific industries that was used to develop the low- and high-projection alternatives was identical to that used in the moderate-trend projections. Therefore, occupations that are concentrated in industries whose employment varies significantly are those which show the greatest variability among the three alternatives.

Total employment in the moderate-trend alternatives varied by only about 2 percent from both the low and high trends. Therefore, the distribution of employment by major occupational group varies little among the alternatives. (See table 5.)

In looking at specific occupations, significant differences may exist between the moderate and either the low and high alternatives. In virtually all cases, employment levels are small and the percent differences are relatively minor.

In a few instances, projected employment is greater in the low alternative than in the moderate, or lower in the high alternative than in the moderate. For example, employment for aircraft structure assemblers is projected to be 28,000 in the low alternative and 26,000 in the moderate and high alternatives. This is due to significantly higher projected employment for aircraft manufacturing in the low alternative which encompasses higher levels of defense expenditures.

**Table 5. Percent distribution of employment by major occupational group, 1982 and projected 1995**

Occupational group	1982	1995		
		Low trend	Moderate trend	High trend
Total, all occupations . . . . .	100.0	100.0	100.0	100.0
Professional, technical, and related workers	16.3	17.3	17.1	17.2
Managers, officials, and proprietors . . . . .	9.4	9.6	9.6	9.6
Salesworkers . . . . .	6.9	6.8	6.9	6.9
Clerical workers . . . . .	18.8	18.8	18.9	18.9
Craft and related workers . . . . .	11.4	11.6	11.6	11.6
Operatives . . . . .	12.8	12.1	12.1	12.2
Service workers . . . . .	16.0	16.4	16.3	16.3
Laborers, except farm . . . . .	5.8	5.5	5.5	5.6
Farmers and farmworkers . . . . .	2.7	1.9	1.9	1.9

The following list identifies those occupations in which the difference between the alternative (high or low) projected employment is greater than 5 percent from the moderate trend:

- Postmasters and mail superintendents
- Railroad conductors
- Postal mail carriers
- Postal service clerks
- Bookbinders
- Locomotive engineers
- Railroad brake operators
- Extruder operators, rubber or plastics
- Compression and injection mold machine operators, plastics
- Press assistants and feeders
- Shoemaking machine operators

### Data uses

The current and projected occupational employment estimates presented in this article are developed by industry and are a part of a national industry-occupational employment matrix. Data from the matrix will underlie information in the 1984–85 edition of the *Occupational Outlook Handbook* which will be issued in the Spring of 1984. In addition to being used in the development of career guidance information, national occupational employment data and projections are used at all levels of government, and by others, to formulate education plans, including vocational education, and training requirements. State employment security agencies utilize the national matrix as part of their own programs of developing occupational projections. Other government agencies and private organizations also use the matrix for analytical purposes. □

<sup>1</sup> See *Handbook of Methods*, Bulletin 2134 (Bureau of Labor Statistics, 1982), chapters 18–21.

<sup>2</sup> Table 1 includes only 370 detailed occupations with employment of 25,000 or more in 1982. Projections developed in greater detail with employment of 5,000 or more in 1982 will be published in the Spring of 1984 in *Occupational Projections and Training Data*, 1984 edition. Current and projected occupational employment estimates are developed by the Bureau in the National Industry-Occupational Employment Matrix program. The national matrix is developed by applying data on occupational staffing patterns of industries collected in the Occupational Employment

Statistics Survey program to estimates of annual average industry employment collected in the Current Employment Statistics program. These surveys count jobs rather than people; therefore, the employment estimates contained in this report are different from those derived from a count of individuals in the Current Population Survey.

<sup>3</sup> See Max L. Carey and Kevin Kasunic, "Evaluating the 1980 projections of occupational employment," *Monthly Labor Review*, July 1982, pp. 22–30.

<sup>4</sup> U.S. Bureau of the Census, *Current Business Report*, Series BR, Monthly Retail Trade.

# Appendix Tables

A-1. Civilian labor force and participation rates by age, sex, and race, 1986-95, middle growth path

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Total, 16 and over .....	118,693	120,421	122,002	123,563	124,951	65.9	66.1	66.4	66.7	66.9
16 to 24 .....	23,605	23,326	22,920	22,503	22,087	70.0	70.2	70.7	71.3	71.8
20 and over .....	110,557	112,170	113,715	115,360	117,050	66.6	66.8	67.0	67.3	67.5
25 to 54 .....	80,261	82,442	84,578	86,728	88,676	83.0	83.4	83.8	84.1	84.5
55 and over .....	14,827	14,653	14,504	14,332	14,188	29.8	29.3	28.8	28.3	27.8
Men, 16 and over .....	65,480	66,112	66,678	67,238	67,701	76.7	76.6	76.5	76.5	76.5
16 to 24 .....	12,294	12,086	11,818	11,545	11,274	74.2	74.0	74.2	74.5	74.7
16 to 19 .....	4,274	4,330	4,344	4,293	4,123	60.2	60.5	61.3	62.1	62.3
16 and 17 .....	1,850	1,894	1,820	1,713	1,664	49.7	50.1	50.4	50.7	51.0
18 and 19 .....	2,424	2,436	2,524	2,580	2,459	72.0	72.2	72.7	73.0	73.2
20 and over .....	61,206	61,782	62,334	62,945	63,578	78.2	78.0	77.9	77.8	77.7
20 to 24 .....	8,020	7,756	7,474	7,252	7,151	84.6	84.5	84.5	84.4	84.4
25 to 54 .....	44,438	45,414	46,369	47,334	48,180	94.1	94.0	93.9	93.9	93.8
25 to 34 .....	19,154	19,406	19,541	19,625	19,569	94.2	94.1	93.9	93.8	93.7
25 to 29 .....	9,892	9,879	9,842	9,759	9,557	93.4	93.3	93.1	93.0	92.9
30 to 34 .....	9,262	9,527	9,699	9,866	10,012	95.1	95.0	94.8	94.6	94.5
35 to 44 .....	15,334	15,857	16,304	16,867	17,469	95.9	95.8	95.7	95.6	95.6
35 to 39 .....	8,751	8,703	8,870	9,069	9,281	96.6	96.5	96.4	96.3	96.2
40 to 44 .....	6,583	7,154	7,434	7,798	8,188	94.9	94.9	94.9	94.8	94.8
45 to 54 .....	9,950	10,151	10,524	10,842	11,142	91.4	91.3	91.3	91.3	91.3
45 to 49 .....	5,375	5,554	5,875	6,104	6,299	93.5	93.4	93.4	93.4	93.4
50 to 54 .....	4,575	4,597	4,649	4,738	4,843	89.0	88.9	88.8	88.7	88.7
55 and over .....	8,748	8,612	8,491	8,359	8,247	40.6	39.7	38.9	38.1	37.4
55 to 64 .....	6,899	6,762	6,647	6,523	6,419	67.5	66.9	66.4	65.9	65.5
55 to 59 .....	4,148	4,058	3,979	3,905	3,842	79.4	79.1	78.7	78.4	78.1
60 to 64 .....	2,751	2,704	2,668	2,618	2,577	55.1	54.4	53.8	53.3	52.8
60 and 61 .....	1,392	1,362	1,342	1,316	1,308	67.6	67.0	66.5	66.0	65.6
62 to 64 .....	1,359	1,342	1,326	1,302	1,269	46.3	45.7	45.1	44.6	44.0
65 and over .....	1,849	1,850	1,844	1,836	1,828	16.3	16.0	15.6	15.3	14.9
65 to 69 .....	1,042	1,046	1,040	1,030	1,019	25.3	24.8	24.3	23.7	23.3
70 to 74 .....	508	502	499	498	498	16.0	15.7	15.4	15.2	15.0
70 and 71 .....	240	234	233	235	236	17.3	17.0	16.6	16.4	16.0
72 to 74 .....	268	268	266	263	262	15.0	14.7	14.5	14.3	14.1
75 and over .....	299	302	305	308	311	7.4	7.3	7.1	7.0	6.9
Women, 16 and over .....	53,213	54,309	55,324	56,325	57,250	56.1	56.7	57.2	57.8	58.3
16 to 24 .....	11,311	11,240	11,102	10,958	10,813	66.1	66.6	67.4	68.3	69.1
16 to 19 .....	3,862	3,921	3,943	3,910	3,778	54.3	54.7	55.6	56.5	56.8
16 and 17 .....	1,611	1,650	1,587	1,500	1,461	44.6	45.0	45.4	45.8	46.2
18 and 19 .....	2,251	2,271	2,356	2,410	2,317	64.3	64.8	65.5	66.0	66.5
20 and over .....	49,351	50,388	51,381	52,415	53,472	56.3	56.8	57.4	57.9	58.4
20 to 24 .....	7,449	7,319	7,159	7,048	7,035	74.5	75.4	76.3	77.2	78.1
25 to 54 .....	35,823	37,028	38,209	39,394	40,496	72.3	73.2	74.0	74.8	75.6
25 to 34 .....	15,764	16,149	16,444	16,680	16,804	74.8	75.6	76.5	77.3	78.1
25 to 29 .....	8,189	8,267	8,329	8,355	8,290	75.0	75.9	76.8	77.7	78.5
30 to 34 .....	7,575	7,882	8,115	8,325	8,514	74.5	75.4	76.2	77.0	77.8
35 to 44 .....	12,526	13,126	13,660	14,296	14,974	74.5	75.6	76.6	77.6	78.6
35 to 39 .....	7,037	7,091	7,314	7,565	7,829	74.1	75.1	76.1	77.1	78.0
40 to 44 .....	5,489	6,035	6,346	6,731	7,145	75.0	76.1	77.2	78.2	79.2
45 to 54 .....	7,533	7,753	8,105	8,418	8,718	64.6	65.3	65.9	66.5	67.1
45 to 49 .....	4,100	4,265	4,539	4,747	4,926	67.2	67.8	68.3	68.7	69.2
50 to 54 .....	3,433	3,488	3,566	3,671	3,792	61.8	62.5	63.2	63.8	64.5
55 and over .....	6,079	6,041	6,013	5,973	5,941	21.6	21.3	21.0	20.8	20.5
55 to 64 .....	4,819	4,759	4,712	4,659	4,612	41.3	41.3	41.3	41.4	41.5
55 to 59 .....	2,937	2,893	2,856	2,821	2,791	50.4	50.6	50.8	50.9	51.1
60 to 64 .....	1,882	1,866	1,856	1,838	1,821	32.2	32.2	32.1	32.1	32.1
60 and 61 .....	937	922	914	904	899	39.5	39.5	39.6	39.6	39.6
62 to 64 .....	945	944	942	934	922	27.2	27.2	27.2	27.2	27.1
65 and over .....	1,260	1,282	1,301	1,314	1,329	7.7	7.6	7.6	7.5	7.4
65 to 69 .....	778	797	811	822	829	15.1	15.1	15.1	15.1	15.1
70 to 74 .....	320	321	323	323	328	7.3	7.3	7.3	7.2	7.2
70 and 71 .....	145	143	144	145	149	7.9	7.8	7.8	7.7	7.7
72 to 74 .....	175	178	179	178	179	6.9	7.0	7.0	6.9	6.9
75 and over .....	162	164	167	169	172	2.3	2.3	2.3	2.2	2.2

**A-1. Civilian labor force and participation rates by age, sex, and race, 1986-95, middle growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
<b>White</b>										
Total, 16 and over .....	103,064	104,388	105,571	106,726	107,734	66.3	66.5	66.8	67.0	67.3
Men, 16 and over .....	57,612	58,084	58,492	58,887	59,201	77.6	77.5	77.4	77.4	77.4
16 to 24 .....	10,728	10,554	10,325	10,088	9,854	77.2	77.2	77.6	78.1	78.5
16 to 19 .....	3,803	3,856	3,870	3,828	3,678	64.6	65.1	66.1	67.1	67.5
20 and over .....	53,809	54,228	54,622	55,059	55,523	78.7	78.5	78.4	78.2	78.1
20 to 24 .....	6,925	6,698	6,455	6,260	6,176	86.4	86.5	86.6	86.7	86.9
25 to 54 .....	38,917	39,692	40,445	41,204	41,864	95.1	95.0	94.9	94.9	94.8
25 to 34 .....	16,602	16,774	16,844	16,869	16,776	95.4	95.3	95.2	95.1	95.0
35 to 44 .....	13,478	13,912	14,267	14,725	15,216	96.5	96.5	96.4	96.4	96.3
45 to 54 .....	8,837	9,006	9,334	9,610	9,872	92.4	92.3	92.3	92.3	92.3
55 and over .....	7,967	7,838	7,722	7,595	7,483	41.0	40.1	39.3	38.5	37.8
55 to 64 .....	6,266	6,134	6,021	5,900	5,795	68.3	67.7	67.2	66.7	66.3
65 and over .....	1,701	1,704	1,701	1,695	1,688	16.6	16.2	15.9	15.6	15.3
Women, 16 and over .....	45,452	46,304	47,079	47,839	48,533	55.9	56.5	57.0	57.5	58.1
16 to 24 .....	9,764	9,692	9,561	9,422	9,285	69.1	69.7	70.6	71.6	72.5
16 to 19 .....	3,414	3,464	3,481	3,450	3,330	58.3	58.9	59.9	60.9	61.5
20 and over .....	42,038	42,840	43,598	44,389	45,203	55.7	56.3	56.8	57.3	57.8
20 to 24 .....	6,350	6,228	6,080	5,972	5,955	76.7	77.7	78.7	79.7	80.7
25 to 54 .....	30,354	31,322	32,264	33,209	34,081	72.2	73.1	74.0	74.8	75.6
25 to 34 .....	13,224	13,517	13,732	13,899	13,967	74.9	75.8	76.6	77.5	78.3
35 to 44 .....	10,652	11,142	11,567	12,078	12,627	74.3	75.4	76.4	77.4	78.4
45 to 54 .....	6,478	6,663	6,965	7,232	7,487	64.6	65.3	65.9	66.6	67.1
55 and over .....	5,334	5,290	5,254	5,208	5,167	21.3	20.9	20.7	20.4	20.1
55 to 64 .....	4,213	4,150	4,098	4,041	3,990	40.9	40.9	41.0	41.1	41.2
65 and over .....	1,121	1,140	1,156	1,167	1,177	7.6	7.5	7.5	7.4	7.4
<b>Black and other</b>										
Total, 16 and over .....	15,629	16,033	16,431	16,837	17,217	63.5	63.7	64.1	64.4	64.8
Men, 16 and over .....	7,868	8,028	8,186	8,351	8,500	71.0	70.9	70.8	70.9	71.0
16 to 24 .....	1,566	1,532	1,493	1,457	1,420	58.6	57.5	56.8	56.4	55.9
16 to 19 .....	471	474	474	465	445	39.1	38.5	38.5	38.5	37.9
20 and over .....	7,397	7,554	7,712	7,886	8,055	74.9	74.8	74.7	74.6	74.6
20 to 24 .....	1,095	1,058	1,019	992	975	74.5	73.7	72.9	72.1	71.4
25 to 54 .....	5,521	5,722	5,924	6,130	6,316	87.9	87.8	87.7	87.6	87.6
25 to 34 .....	2,552	2,632	2,697	2,756	2,793	87.3	87.2	87.0	86.8	86.7
35 to 44 .....	1,856	1,945	2,037	2,142	2,253	91.2	91.1	91.0	90.9	90.8
45 to 54 .....	1,113	1,145	1,190	1,232	1,270	84.1	84.1	84.1	84.1	84.1
55 and over .....	781	774	769	764	764	36.8	36.1	35.4	34.8	34.3
55 to 64 .....	633	628	626	623	624	60.5	60.1	59.6	59.2	58.9
65 and over .....	148	146	143	141	140	13.7	13.3	12.7	12.3	12.0
Women, 16 and over .....	7,761	8,005	8,245	8,486	8,717	57.3	57.9	58.5	59.1	59.7
16 to 24 .....	1,547	1,548	1,541	1,536	1,528	51.8	52.0	52.4	53.1	53.7
16 to 19 .....	448	457	462	460	448	35.4	35.5	35.9	36.4	36.5
20 and over .....	7,313	7,548	7,783	8,026	8,269	59.6	60.2	60.8	61.3	61.9
20 to 24 .....	1,099	1,091	1,079	1,076	1,080	63.8	64.6	65.3	66.0	66.7
25 to 54 .....	5,469	5,706	5,945	6,185	6,415	72.8	73.6	74.3	75.1	75.8
25 to 34 .....	2,540	2,632	2,712	2,781	2,837	74.1	75.0	75.9	76.7	77.5
35 to 44 .....	1,874	1,984	2,093	2,218	2,347	76.1	77.0	77.8	78.7	79.5
45 to 54 .....	1,055	1,090	1,140	1,186	1,231	64.8	65.3	65.8	66.2	66.6
55 and over .....	745	751	759	765	774	24.6	24.3	24.0	23.8	23.5
55 to 64 .....	606	609	614	618	622	44.0	43.9	43.7	43.6	43.6
65 and over .....	139	142	145	147	152	8.4	8.3	8.3	8.1	8.2

**A-1. Civilian labor force and participation rates by age, sex, and race, 1986-95, middle growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Total, 16 and over .....	126,350	127,587	128,860	130,102	131,387	67.2	67.3	67.5	67.6	67.8
16 to 24 .....	21,872	21,651	21,552	21,340	21,130	72.3	72.6	72.9	73.0	73.0
20 and over .....	118,743	120,087	121,315	122,445	123,583	67.7	67.9	68.0	68.2	68.3
25 to 54 .....	90,406	91,960	93,358	94,788	96,210	84.9	85.1	85.4	85.7	85.9
55 and over .....	14,072	13,976	13,950	13,974	14,047	27.4	27.1	26.8	26.7	26.6
Men, 16 and over .....	68,170	68,590	69,035	69,479	69,970	76.4	76.4	76.3	76.2	76.1
16 to 24 .....	11,113	10,953	10,860	10,713	10,573	74.8	74.9	74.8	74.7	74.5
16 to 19 .....	3,959	3,896	3,915	3,968	4,043	62.2	62.2	62.5	62.7	62.9
16 and 17 .....	1,665	1,681	1,707	1,745	1,790	51.4	51.8	52.1	52.4	52.7
18 and 19 .....	2,294	2,215	2,208	2,223	2,253	73.3	73.6	73.8	74.1	74.4
20 and over .....	64,211	64,694	65,120	65,511	65,927	77.5	77.4	77.3	77.2	77.1
20 to 24 .....	7,154	7,057	6,945	6,745	6,530	84.3	84.3	84.3	84.2	84.1
25 to 54 .....	48,908	49,571	50,148	50,749	51,358	93.7	93.6	93.5	93.5	93.4
25 to 34 .....	19,389	19,098	18,751	18,420	18,105	93.6	93.5	93.4	93.2	93.1
25 to 29 .....	9,221	8,936	8,625	8,377	8,262	92.7	92.6	92.5	92.4	92.3
30 to 34 .....	10,168	10,162	10,126	10,043	9,843	94.4	94.2	94.1	94.0	93.9
35 to 44 .....	18,105	18,343	18,702	19,075	19,446	95.5	95.5	95.4	95.4	95.3
35 to 39 .....	9,467	9,740	9,927	10,099	10,253	96.1	96.0	96.0	95.9	95.8
40 to 44 .....	8,638	8,603	8,775	8,976	9,193	94.9	94.8	94.8	94.8	94.8
45 to 54 .....	11,414	12,130	12,695	13,254	13,807	91.2	91.2	91.2	91.1	91.1
45 to 49 .....	6,442	6,994	7,264	7,612	7,987	93.3	93.3	93.3	93.2	93.2
50 to 54 .....	4,972	5,136	5,431	5,642	5,820	88.6	88.6	88.5	88.4	88.4
55 and over .....	8,149	8,066	8,027	8,017	8,039	36.8	36.2	35.8	35.5	35.3
55 to 64 .....	6,339	6,273	6,252	6,267	6,311	65.1	64.8	64.6	64.5	64.5
55 to 59 .....	3,814	3,823	3,859	3,924	4,006	77.8	77.5	77.2	77.0	76.7
60 to 64 .....	2,525	2,450	2,393	2,343	2,305	52.3	51.6	51.1	50.8	50.5
60 and 61 .....	1,281	1,225	1,195	1,183	1,180	65.1	64.6	64.2	63.8	63.4
62 to 64 .....	1,244	1,225	1,198	1,160	1,125	43.5	43.0	42.5	42.0	41.7
65 and over .....	1,810	1,793	1,775	1,750	1,728	14.6	14.3	13.9	13.6	13.3
65 to 69 .....	998	975	955	931	909	22.8	22.4	22.0	21.6	21.2
70 to 74 .....	500	505	505	502	499	14.7	14.5	14.3	14.0	13.8
70 and 71 .....	238	240	236	230	229	15.7	15.5	15.2	14.9	14.7
72 to 74 .....	262	265	269	272	270	13.9	13.7	13.5	13.3	13.1
75 and over .....	312	313	315	317	320	6.7	6.6	6.5	6.4	6.3
Women, 16 and over .....	58,180	58,997	59,825	60,623	61,417	58.8	59.2	59.6	60.0	60.3
16 to 24 .....	10,759	10,698	10,692	10,627	10,557	69.9	70.4	71.0	71.3	71.6
16 to 19 .....	3,648	3,604	3,630	3,689	3,761	57.0	57.2	57.6	57.9	58.2
16 and 17 .....	1,464	1,481	1,506	1,540	1,581	46.6	47.0	47.3	47.7	48.0
18 and 19 .....	2,184	2,123	2,124	2,149	2,180	67.0	67.5	68.0	68.4	68.9
20 and over .....	54,532	55,393	56,195	56,934	57,656	58.9	59.3	59.7	60.1	60.4
20 to 24 .....	7,111	7,094	7,062	6,938	6,796	79.0	79.8	80.6	81.4	82.0
25 to 54 .....	41,498	42,389	43,210	44,039	44,852	76.4	77.0	77.6	78.1	78.7
25 to 34 .....	16,812	16,717	16,569	16,431	16,300	78.9	79.7	80.4	81.1	81.7
25 to 29 .....	8,106	7,949	7,760	7,620	7,582	79.3	80.1	80.9	81.6	82.2
30 to 34 .....	8,706	8,768	8,809	8,811	8,718	78.6	79.3	80.0	80.7	81.3
35 to 44 .....	15,691	16,055	16,519	16,981	17,427	79.5	80.4	81.2	82.0	82.8
35 to 39 .....	8,074	8,395	8,635	8,848	9,034	78.9	79.8	80.6	81.3	82.0
40 to 44 .....	7,617	7,660	7,884	8,133	8,393	80.2	81.1	82.0	82.8	83.5
45 to 54 .....	8,995	9,617	10,122	10,627	11,125	67.6	68.1	68.6	69.1	69.5
45 to 49 .....	5,069	5,527	5,765	6,067	6,390	69.7	70.1	70.5	70.9	71.3
50 to 54 .....	3,926	4,090	4,357	4,560	4,735	65.1	65.7	66.2	66.8	67.3
55 and over .....	5,923	5,910	5,923	5,957	6,008	20.3	20.1	20.0	19.9	19.9
55 to 64 .....	4,587	4,571	4,581	4,618	4,671	41.6	41.7	41.9	42.2	42.5
55 to 59 .....	2,786	2,810	2,850	2,912	2,985	51.3	51.5	51.6	51.8	51.9
60 to 64 .....	1,801	1,761	1,731	1,706	1,686	32.2	32.0	32.0	32.0	32.1
60 and 61 .....	891	857	839	835	836	39.7	39.7	39.7	39.7	39.7
62 to 64 .....	910	904	892	871	850	27.1	27.1	27.1	27.0	27.0
65 and over .....	1,336	1,339	1,342	1,339	1,337	7.4	7.3	7.2	7.1	7.0
65 to 69 .....	829	824	821	814	808	15.2	15.2	15.2	15.2	15.2
70 to 74 .....	333	340	344	346	348	7.2	7.2	7.1	7.1	7.1
70 and 71 .....	151	154	153	151	151	7.5	7.5	7.5	7.4	7.3
72 to 74 .....	182	186	191	195	197	6.9	6.9	6.9	6.9	6.9
75 and over .....	174	175	177	179	181	2.2	2.1	2.1	2.1	2.0

**A-1. Civilian labor force and participation rates by age, sex, and race, 1986-95, middle growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
<b>White</b>										
Total, 16 and over .....	108,748	109,634	110,557	111,454	112,393	67.5	67.7	67.8	68.0	68.1
Men, 16 and over .....	59,518	59,799	60,102	60,408	60,757	77.3	77.2	77.1	77.1	77.0
16 to 24 .....	9,713	9,577	9,502	9,386	9,271	78.8	79.0	79.1	79.1	79.1
16 to 19 .....	3,538	3,489	3,512	3,565	3,639	67.6	67.9	68.3	68.7	69.1
20 and over .....	55,980	56,310	56,590	56,843	57,118	78.0	77.9	77.8	77.7	77.6
20 to 24 .....	6,175	6,088	5,990	5,821	5,632	87.0	87.1	87.2	87.3	87.3
25 to 54 .....	42,418	42,921	43,345	43,783	44,232	94.7	94.7	94.6	94.5	94.5
25 to 34 .....	16,576	16,283	15,943	15,621	15,324	94.9	94.8	94.7	94.6	94.6
35 to 44 .....	15,737	15,897	16,170	16,445	16,717	96.3	96.3	96.2	96.2	96.2
45 to 54 .....	10,105	10,741	11,232	11,717	12,191	92.2	92.2	92.2	92.1	92.1
55 and over .....	7,387	7,301	7,255	7,239	7,254	37.1	36.6	36.1	35.8	35.6
55 to 64 .....	5,712	5,642	5,612	5,617	5,651	66.0	65.7	65.5	65.4	65.5
65 and over .....	1,675	1,659	1,643	1,622	1,603	14.9	14.6	14.3	14.0	13.7
Women, 16 and over .....	49,230	49,835	50,455	51,046	51,636	58.5	58.9	59.3	59.7	60.0
16 to 24 .....	9,224	9,161	9,149	9,091	9,025	73.3	74.0	74.6	75.1	75.4
16 to 19 .....	3,215	3,177	3,201	3,253	3,318	61.7	62.0	62.5	62.9	63.3
20 and over .....	46,015	46,658	47,254	47,793	48,318	58.3	58.7	59.1	59.5	59.8
20 to 24 .....	6,009	5,984	5,948	5,838	5,707	81.6	82.5	83.3	84.1	84.9
25 to 54 .....	34,865	35,555	36,185	36,813	37,433	76.3	77.0	77.6	78.1	78.7
25 to 34 .....	13,936	13,819	13,657	13,503	13,365	79.1	79.8	80.5	81.2	81.8
35 to 44 .....	13,208	13,479	13,844	14,200	14,543	79.4	80.3	81.1	81.9	82.7
45 to 54 .....	7,721	8,257	8,684	9,110	9,525	67.7	68.3	68.8	69.2	69.7
55 and over .....	5,141	5,119	5,121	5,142	5,178	19.9	19.7	19.6	19.6	19.5
55 to 64 .....	3,959	3,937	3,938	3,964	4,004	41.3	41.4	41.7	42.0	42.2
65 and over .....	1,182	1,182	1,183	1,178	1,174	7.3	7.2	7.1	7.0	6.9
<b>Black and other</b>										
Total, 16 and over .....	17,602	17,953	18,303	18,648	18,994	65.1	65.3	65.5	65.6	65.7
Men, 16 and over .....	8,652	8,791	8,933	9,071	9,213	71.0	70.9	70.8	70.7	70.6
16 to 24 .....	1,400	1,376	1,358	1,327	1,302	55.6	55.0	54.4	53.5	52.7
16 to 19 .....	421	407	403	403	404	37.0	36.3	35.8	35.4	35.0
20 and over .....	8,231	8,384	8,530	8,668	8,809	74.5	74.4	74.3	74.2	74.1
20 to 24 .....	979	969	955	924	898	70.8	70.2	69.6	68.9	68.3
25 to 54 .....	6,490	6,650	6,803	6,966	7,126	87.5	87.4	87.4	87.3	87.2
25 to 34 .....	2,813	2,815	2,808	2,799	2,781	86.6	86.4	86.2	86.1	86.0
35 to 44 .....	2,368	2,446	2,532	2,630	2,729	90.8	90.7	90.7	90.6	90.5
45 to 54 .....	1,309	1,389	1,463	1,537	1,616	84.1	84.2	84.2	84.2	84.2
55 and over .....	762	765	772	778	785	33.7	33.4	33.2	32.9	32.6
55 to 64 .....	627	631	640	650	660	58.5	58.1	57.9	57.7	57.4
65 and over .....	135	134	132	128	125	11.4	11.1	10.8	10.3	9.9
Women, 16 and over .....	8,950	9,162	9,370	9,577	9,781	60.3	60.7	61.1	61.4	61.7
16 to 24 .....	1,535	1,537	1,543	1,536	1,532	54.4	54.7	55.1	55.2	55.3
16 to 19 .....	433	427	429	436	443	36.4	36.3	36.3	36.5	36.6
20 and over .....	8,517	8,735	8,941	9,141	9,338	62.4	62.8	63.1	63.5	63.8
20 to 24 .....	1,102	1,110	1,114	1,100	1,089	67.4	68.1	68.7	69.3	69.8
25 to 54 .....	6,633	6,834	7,025	7,226	7,419	76.5	77.1	77.7	78.2	78.7
25 to 34 .....	2,876	2,898	2,912	2,928	2,935	78.3	79.1	79.8	80.5	81.1
35 to 44 .....	2,483	2,576	2,675	2,781	2,884	80.3	81.1	81.8	82.5	83.1
45 to 54 .....	1,274	1,360	1,438	1,517	1,600	66.9	67.4	67.7	68.1	68.4
55 and over .....	782	791	802	815	830	23.3	23.1	22.9	22.8	22.8
55 to 64 .....	628	634	643	654	667	43.6	43.5	43.5	43.6	43.7
65 and over .....	154	157	159	161	163	8.0	8.0	7.9	7.8	7.7



A-2. Civilian labor force and participation rates by age, sex, and race, 1986-95, high growth path

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Total, 16 and over .....	122,292	124,726	127,008	129,268	131,319	67.9	68.5	69.1	69.8	70.3
16 to 24 .....	24,324	24,126	23,790	23,444	23,091	72.2	72.7	73.4	74.3	75.1
20 and over .....	113,876	116,148	118,356	120,663	122,990	68.6	69.2	69.8	70.4	70.9
25 to 54 .....	82,620	85,193	87,733	90,292	92,639	85.4	86.2	86.9	87.6	88.3
55 and over .....	15,348	15,407	15,485	15,532	15,589	30.9	30.8	30.7	30.6	30.6
Men, 16 and over .....	66,529	67,397	68,205	68,996	69,674	77.9	78.1	78.3	78.5	78.7
16 to 24 .....	12,594	12,444	12,229	12,007	11,782	76.0	76.2	76.7	77.5	78.0
16 to 19 .....	4,420	4,509	4,552	4,529	4,380	62.3	63.0	64.2	65.5	66.2
16 and 17 .....	1,921	1,982	1,919	1,822	1,783	51.6	52.4	53.1	53.9	54.7
18 and 19 .....	2,499	2,527	2,633	2,707	2,597	74.2	74.9	75.8	76.6	77.3
20 and over .....	62,109	62,888	63,653	64,467	65,294	79.4	79.4	79.5	79.6	79.7
20 to 24 .....	8,174	7,935	7,677	7,478	7,402	86.2	86.5	86.8	87.0	87.3
25 to 54 .....	44,758	45,830	46,888	47,953	48,894	94.8	94.9	95.0	95.1	95.2
25 to 34 .....	19,295	19,604	19,806	19,944	19,943	94.9	95.1	95.2	95.4	95.5
25 to 29 .....	10,035	10,052	10,045	9,989	9,809	94.8	94.9	95.1	95.2	95.3
30 to 34 .....	9,260	9,552	9,761	9,957	10,134	95.1	95.2	95.4	95.5	95.7
35 to 44 .....	15,457	16,004	16,475	17,066	17,696	96.6	96.6	96.7	96.8	96.8
35 to 39 .....	8,846	8,816	9,005	9,225	9,461	97.7	97.8	97.9	98.0	98.1
40 to 44 .....	6,611	7,188	7,470	7,841	8,235	95.3	95.3	95.3	95.4	95.4
45 to 54 .....	10,006	10,222	10,607	10,941	11,255	91.9	92.0	92.1	92.1	92.2
45 to 49 .....	5,400	5,586	5,914	6,151	6,352	93.9	94.0	94.1	94.1	94.2
50 to 54 .....	4,606	4,636	4,693	4,790	4,903	89.6	89.6	89.6	89.7	89.7
55 and over .....	9,177	9,123	9,088	9,036	8,998	42.6	42.1	41.7	41.2	40.8
55 to 64 .....	7,142	7,049	6,978	6,894	6,827	69.9	69.8	69.7	69.7	69.7
55 to 59 .....	4,246	4,172	4,111	4,053	4,004	81.3	81.3	81.3	81.4	81.4
60 to 64 .....	2,896	2,877	2,867	2,841	2,823	58.0	57.9	57.8	57.8	57.9
60 and 61 .....	1,453	1,433	1,423	1,405	1,406	70.5	70.5	70.6	70.5	70.5
62 to 64 .....	1,443	1,444	1,444	1,436	1,417	49.1	49.2	49.1	49.2	49.1
65 and over .....	2,035	2,074	2,110	2,142	2,171	17.9	17.9	17.9	17.8	17.7
65 to 69 .....	1,154	1,180	1,198	1,213	1,223	28.0	28.0	28.0	28.0	28.0
70 to 74 .....	553	556	564	571	581	17.4	17.4	17.4	17.4	17.5
70 and 71 .....	263	261	266	272	279	19.0	18.9	19.0	19.0	19.0
72 to 74 .....	290	295	298	299	302	16.2	16.2	16.2	16.2	16.3
75 and over .....	328	338	348	358	367	8.1	8.1	8.1	8.1	8.1
Women, 16 and over .....	55,763	57,329	58,803	60,272	61,645	58.8	59.8	60.8	61.8	62.8
16 to 24 .....	11,730	11,682	11,561	11,437	11,309	68.5	69.2	70.2	71.3	72.3
16 to 19 .....	3,996	4,069	4,100	4,076	3,949	56.1	56.8	57.8	58.9	59.4
16 and 17 .....	1,706	1,751	1,690	1,601	1,563	47.2	47.8	48.3	48.9	49.4
18 and 19 .....	2,290	2,318	2,410	2,475	2,386	65.4	66.1	67.0	67.8	68.5
20 and over .....	51,767	53,260	54,703	56,196	57,696	59.0	60.1	61.1	62.1	63.0
20 to 24 .....	7,734	7,613	7,461	7,361	7,360	77.3	78.4	79.6	80.7	81.8
25 to 54 .....	37,862	39,363	40,845	42,339	43,745	76.4	77.8	79.1	80.4	81.7
25 to 34 .....	16,906	17,384	17,767	18,087	18,287	80.2	81.4	82.7	83.9	85.0
25 to 29 .....	8,777	8,888	8,983	9,037	8,994	80.4	81.6	82.8	84.0	85.2
30 to 34 .....	8,129	8,496	8,784	9,050	9,293	80.0	81.2	82.5	83.7	84.9
35 to 44 .....	13,158	13,848	14,474	15,211	15,995	78.3	79.8	81.2	82.6	83.9
35 to 39 .....	7,410	7,510	7,792	8,103	8,430	78.1	79.6	81.1	82.5	84.0
40 to 44 .....	5,748	6,338	6,682	7,108	7,565	78.6	80.0	81.3	82.6	83.9
45 to 54 .....	7,798	8,131	8,604	9,041	9,463	66.9	68.5	70.0	71.4	72.8
45 to 49 .....	4,345	4,540	4,853	5,099	5,314	71.2	72.1	73.0	73.8	74.7
50 to 54 .....	3,453	3,591	3,751	3,942	4,149	62.1	64.3	66.4	68.5	70.5
55 and over .....	6,171	6,284	6,397	6,496	6,591	21.9	22.2	22.4	22.6	22.7
55 to 64 .....	4,860	4,940	5,024	5,097	5,168	41.6	42.9	44.1	45.3	46.5
55 to 59 .....	2,949	3,040	3,129	3,215	3,298	50.6	53.1	55.6	58.1	60.4
60 to 64 .....	1,911	1,900	1,895	1,882	1,870	32.7	32.7	32.8	32.9	33.0
60 and 61 .....	953	941	936	928	926	40.2	40.4	40.5	40.7	40.8
62 to 64 .....	958	959	959	954	944	27.6	27.6	27.7	27.7	27.8
65 and over .....	1,311	1,344	1,373	1,399	1,423	8.0	8.0	8.0	8.0	8.0
65 to 69 .....	800	824	843	859	871	15.5	15.6	15.7	15.8	15.9
70 to 74 .....	336	339	343	348	354	7.7	7.7	7.8	7.8	7.8
70 and 71 .....	152	151	152	156	160	8.3	8.3	8.2	8.2	8.2
72 to 74 .....	184	188	191	192	194	7.3	7.3	7.4	7.5	7.5
75 and over .....	175	181	187	192	198	2.5	2.5	2.5	2.5	2.5

**A-2. Civilian labor force and participation rates by age, sex, and race, 1986-95, high growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
<b>White</b>										
Total, 16 and over .....	105,660	107,529	109,256	110,948	112,471	67.9	68.5	69.1	69.7	70.2
Men, 16 and over .....	58,215	58,827	59,378	59,906	60,344	78.4	78.4	78.6	78.7	78.9
16 to 24 .....	10,819	10,660	10,445	10,220	9,997	77.8	78.0	78.5	79.1	79.6
16 to 19 .....	3,843	3,904	3,925	3,889	3,743	65.3	65.9	67.0	68.2	68.7
20 and over .....	54,372	54,923	55,453	56,017	56,601	79.5	79.5	79.6	79.6	79.6
20 to 24 .....	6,976	6,756	6,520	6,331	6,254	87.1	87.3	87.5	87.7	87.9
25 to 54 .....	39,062	39,890	40,702	41,514	42,222	95.4	95.5	95.5	95.6	95.6
25 to 34 .....	16,639	16,843	16,954	17,011	16,946	95.6	95.7	95.8	95.9	96.0
35 to 44 .....	13,557	14,004	14,372	14,844	15,349	97.1	97.1	97.1	97.1	97.2
45 to 54 .....	8,866	9,043	9,376	9,659	9,927	92.7	92.7	92.8	92.8	92.8
55 and over .....	8,334	8,277	8,231	8,172	8,125	42.9	42.4	41.9	41.4	41.0
55 to 64 .....	6,472	6,378	6,301	6,213	6,139	70.5	70.4	70.3	70.3	70.3
65 and over .....	1,862	1,899	1,930	1,959	1,986	18.1	18.1	18.1	18.0	17.9
Women, 16 and over .....	47,445	48,702	49,878	51,042	52,127	58.4	59.4	60.4	61.4	62.4
16 to 24 .....	10,048	9,977	9,845	9,707	9,569	71.1	71.8	72.7	73.8	74.7
16 to 19 .....	3,512	3,568	3,589	3,561	3,441	60.0	60.7	61.8	62.9	63.5
20 and over .....	43,933	45,134	46,289	47,481	48,686	58.3	59.3	60.3	61.3	62.3
20 to 24 .....	6,536	6,409	6,256	6,146	6,128	78.9	80.0	81.0	82.0	83.0
25 to 54 .....	31,991	33,217	34,424	35,640	36,779	76.1	77.5	78.9	80.3	81.6
25 to 34 .....	14,122	14,491	14,779	15,015	15,145	80.0	81.2	82.5	83.7	84.9
35 to 44 .....	11,156	11,723	12,227	12,826	13,466	77.8	79.3	80.7	82.2	83.6
45 to 54 .....	6,713	7,003	7,418	7,799	8,168	66.9	68.6	70.2	71.8	73.3
55 and over .....	5,406	5,508	5,609	5,695	5,779	21.5	21.8	22.1	22.3	22.5
55 to 64 .....	4,240	4,313	4,389	4,453	4,517	41.2	42.5	43.9	45.2	46.6
65 and over .....	1,166	1,195	1,220	1,242	1,262	7.9	7.9	7.9	7.9	7.9
<b>Black and other</b>										
Total, 16 and over .....	16,632	17,197	17,752	18,320	18,848	67.6	68.4	69.2	70.1	70.9
Men, 16 and over .....	8,314	8,570	8,827	9,090	9,330	75.0	75.7	76.4	77.2	77.9
16 to 24 .....	1,775	1,784	1,784	1,787	1,785	66.4	66.9	67.9	69.2	70.3
16 to 19 .....	577	605	627	640	637	47.9	49.1	51.0	52.9	54.3
20 and over .....	7,737	7,965	8,200	8,450	8,693	78.4	78.9	79.4	80.0	80.5
20 to 24 .....	1,198	1,179	1,157	1,147	1,148	81.6	82.2	82.8	83.4	84.1
25 to 54 .....	5,696	5,940	6,186	6,439	6,672	90.7	91.1	91.6	92.1	92.5
25 to 34 .....	2,656	2,761	2,852	2,935	2,997	90.9	91.4	92.0	92.5	93.0
35 to 44 .....	1,900	2,000	2,103	2,222	2,347	93.4	93.7	94.0	94.3	94.6
45 to 54 .....	1,140	1,179	1,231	1,282	1,328	86.1	86.6	87.0	87.5	87.9
55 and over .....	843	846	857	864	873	39.7	39.4	39.4	39.3	39.2
55 to 64 .....	670	671	677	681	688	64.1	64.2	64.4	64.7	64.9
65 and over .....	173	175	180	183	185	16.0	15.9	16.0	16.0	15.9
Women, 16 and over .....	8,318	8,627	8,925	9,230	9,518	61.4	62.4	63.3	64.3	65.2
16 to 24 .....	1,682	1,705	1,716	1,730	1,740	56.3	57.3	58.4	59.8	61.1
16 to 19 .....	484	501	511	515	508	38.2	38.9	39.7	40.7	41.4
20 and over .....	7,834	8,126	8,414	8,715	9,010	63.8	64.8	65.7	66.6	67.4
20 to 24 .....	1,198	1,204	1,205	1,215	1,232	69.6	71.3	72.9	74.5	76.1
25 to 54 .....	5,871	6,146	6,421	6,699	6,966	78.1	79.3	80.3	81.3	82.3
25 to 34 .....	2,784	2,893	2,988	3,072	3,142	81.3	82.5	83.6	84.7	85.8
35 to 44 .....	2,002	2,125	2,247	2,385	2,529	81.3	82.4	83.5	84.6	85.7
45 to 54 .....	1,085	1,128	1,186	1,242	1,295	66.7	67.6	68.4	69.3	70.0
55 and over .....	765	776	788	801	812	25.2	25.1	24.9	24.9	24.7
55 to 64 .....	620	627	635	644	651	45.0	45.2	45.2	45.5	45.6
65 and over .....	145	149	153	157	161	8.8	8.7	8.7	8.7	8.7

**A-2. Civilian labor force and participation rates by age, sex, and race, 1986-95, high growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Total, 16 and over .....	133,388	135,288	137,205	139,085	140,973	70.9	71.4	71.9	72.3	72.7
16 to 24 .....	22,948	22,796	22,769	22,623	22,476	75.9	76.5	77.0	77.4	77.7
20 and over .....	125,327	127,302	129,135	130,861	132,557	71.5	72.0	72.4	72.9	73.3
25 to 54 .....	94,760	96,709	98,486	100,292	102,070	89.0	89.5	90.1	90.6	91.1
55 and over .....	15,680	15,783	15,950	16,170	16,427	30.5	30.6	30.7	30.8	31.1
Men, 16 and over .....	70,364	70,999	71,656	72,311	73,005	78.9	79.0	79.2	79.3	79.4
16 to 24 .....	11,668	11,555	11,513	11,414	11,321	78.6	79.0	79.3	79.6	79.8
16 to 19 .....	4,236	4,196	4,244	4,328	4,436	66.5	67.0	67.7	68.4	69.1
16 and 17 .....	1,798	1,828	1,870	1,925	1,988	55.5	56.3	57.1	57.8	58.6
18 and 19 .....	2,438	2,368	2,374	2,403	2,448	77.9	78.6	79.4	80.1	80.8
20 and over .....	66,128	66,803	67,412	67,983	68,569	79.9	79.9	80.0	80.1	80.2
20 to 24 .....	7,432	7,359	7,269	7,086	6,885	87.6	87.9	88.2	88.4	88.7
25 to 54 .....	49,716	50,476	51,146	51,842	52,545	95.3	95.3	95.4	95.5	95.5
25 to 34 .....	19,813	19,569	19,265	18,977	18,701	95.6	95.8	95.9	96.1	96.2
25 to 29 .....	9,492	9,225	8,928	8,695	8,598	95.5	95.6	95.7	95.9	96.0
30 to 34 .....	10,321	10,344	10,337	10,282	10,103	95.8	95.9	96.1	96.2	96.3
35 to 44 .....	18,361	18,628	19,016	19,419	19,821	96.9	97.0	97.0	97.1	97.2
35 to 39 .....	9,670	9,969	10,179	10,375	10,553	98.2	98.3	98.4	98.5	98.6
40 to 44 .....	8,691	8,659	8,837	9,044	9,268	95.4	95.5	95.5	95.5	95.6
45 to 54 .....	11,542	12,279	12,865	13,446	14,023	92.2	92.4	92.4	92.5	92.5
45 to 49 .....	6,503	7,067	7,347	7,707	8,096	94.2	94.3	94.3	94.4	94.5
50 to 54 .....	5,039	5,212	5,518	5,739	5,927	89.8	89.9	89.9	90.0	90.0
55 and over .....	8,980	8,968	8,997	9,055	9,139	40.5	40.3	40.1	40.1	40.1
55 to 64 .....	6,787	6,758	6,771	6,822	6,899	69.7	69.8	70.0	70.2	70.5
55 to 59 .....	3,994	4,022	4,076	4,161	4,264	81.5	81.5	81.6	81.6	81.7
60 to 64 .....	2,793	2,736	2,695	2,661	2,635	57.8	57.6	57.6	57.7	57.8
60 and 61 .....	1,387	1,335	1,310	1,305	1,309	70.5	70.4	70.4	70.4	70.3
62 to 64 .....	1,406	1,401	1,385	1,356	1,326	49.1	49.1	49.1	49.1	49.1
65 and over .....	2,193	2,210	2,226	2,233	2,240	17.7	17.6	17.5	17.4	17.3
65 to 69 .....	1,223	1,217	1,215	1,207	1,199	27.9	27.9	28.0	28.0	28.0
70 to 74 .....	594	609	618	624	630	17.4	17.5	17.4	17.4	17.4
70 and 71 .....	287	294	294	293	295	18.9	19.0	19.0	19.0	18.9
72 to 74 .....	307	315	324	331	335	16.2	16.2	16.2	16.2	16.2
75 and over .....	376	384	393	402	411	8.1	8.1	8.1	8.1	8.1
Women, 16 and over .....	63,024	64,289	65,549	66,774	67,968	63.7	64.5	65.3	66.0	66.7
16 to 24 .....	11,280	11,241	11,256	11,209	11,155	73.2	74.0	74.7	75.2	75.7
16 to 19 .....	3,825	3,790	3,826	3,896	3,980	59.8	60.2	60.7	61.2	61.6
16 and 17 .....	1,570	1,592	1,621	1,661	1,709	50.0	50.5	51.0	51.4	51.9
18 and 19 .....	2,255	2,198	2,205	2,235	2,271	69.2	69.9	70.6	71.2	71.8
20 and over .....	59,199	60,499	61,723	62,878	63,988	64.0	64.8	65.6	66.4	67.1
20 to 24 .....	7,455	7,451	7,430	7,313	7,175	82.8	83.9	84.8	85.8	86.6
25 to 54 .....	45,044	46,233	47,340	48,450	49,525	82.9	84.0	85.0	86.0	86.9
25 to 34 .....	18,357	18,311	18,203	18,101	18,000	86.2	87.3	88.3	89.3	90.2
25 to 29 .....	8,819	8,671	8,486	8,353	8,329	86.3	87.4	88.4	89.4	90.3
30 to 34 .....	9,538	9,640	9,717	9,748	9,671	86.1	87.2	88.2	89.2	90.2
35 to 44 .....	16,822	17,279	17,835	18,389	18,921	85.2	86.5	87.7	88.8	89.9
35 to 39 .....	8,736	9,127	9,426	9,697	9,934	85.4	86.7	88.0	89.1	90.2
40 to 44 .....	8,086	8,152	8,409	8,692	8,987	85.1	86.3	87.4	88.5	89.4
45 to 54 .....	9,865	10,643	11,302	11,960	12,604	74.1	75.4	76.6	77.7	78.8
45 to 49 .....	5,490	6,010	6,293	6,647	7,023	75.5	76.2	77.0	77.7	78.3
50 to 54 .....	4,375	4,633	5,009	5,313	5,581	72.5	74.4	76.1	77.8	79.3
55 and over .....	6,700	6,815	6,953	7,115	7,288	22.9	23.2	23.5	23.8	24.2
55 to 64 .....	5,259	5,358	5,483	5,638	5,806	47.7	48.9	50.2	51.5	52.8
55 to 59 .....	3,405	3,540	3,691	3,867	4,052	62.7	64.8	66.9	68.7	70.4
60 to 64 .....	1,854	1,818	1,792	1,771	1,754	33.1	33.1	33.1	33.3	33.4
60 and 61 .....	921	888	873	871	875	41.0	41.1	41.3	41.4	41.5
62 to 64 .....	933	930	919	900	879	27.8	27.9	27.9	28.0	28.0
65 and over .....	1,441	1,457	1,470	1,477	1,482	7.9	7.9	7.9	7.8	7.7
65 to 69 .....	875	875	876	872	868	16.0	16.1	16.2	16.3	16.3
70 to 74 .....	363	375	381	387	391	7.8	7.9	7.9	7.9	7.9
70 and 71 .....	165	170	170	169	170	8.2	8.3	8.3	8.3	8.3
72 to 74 .....	198	205	211	218	221	7.5	7.6	7.6	7.7	7.7
75 and over .....	203	207	213	218	223	2.5	2.5	2.5	2.5	2.5

**A-2. Civilian labor force and participation rates by age, sex, and race, 1986-95, high growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
<b>White</b>										
Total, 16 and over .....	113,997	115,387	116,795	118,173	119,560	70.8	71.2	71.7	72.1	72.5
Men, 16 and over .....	60,784	61,180	61,592	62,006	62,451	79.0	79.0	79.0	79.1	79.2
16 to 24 .....	9,868	9,741	9,677	9,570	9,463	80.0	80.3	80.6	80.7	80.8
16 to 19 .....	3,607	3,561	3,590	3,648	3,728	69.0	69.3	69.8	70.3	70.8
20 and over .....	57,177	57,619	58,002	58,358	58,723	79.7	79.7	79.7	79.7	79.8
20 to 24 .....	6,261	6,180	6,087	5,922	5,735	88.2	88.4	88.6	88.8	88.9
25 to 54 .....	42,824	43,374	43,841	44,325	44,815	95.7	95.7	95.7	95.7	95.7
25 to 34 .....	16,773	16,504	16,185	15,886	15,608	96.0	96.1	96.2	96.2	96.3
35 to 44 .....	15,883	16,057	16,344	16,632	16,916	97.2	97.2	97.3	97.3	97.3
45 to 54 .....	10,168	10,813	11,312	11,807	12,291	92.8	92.9	92.8	92.8	92.9
55 and over .....	8,092	8,065	8,074	8,111	8,173	40.7	40.4	40.2	40.1	40.2
55 to 64 .....	6,087	6,045	6,041	6,073	6,130	70.3	70.3	70.5	70.7	71.0
65 and over .....	2,005	2,020	2,033	2,038	2,043	17.9	17.8	17.7	17.5	17.4
Women, 16 and over .....	53,213	54,207	55,203	56,167	57,109	63.3	64.1	64.9	65.7	66.4
16 to 24 .....	9,514	9,454	9,446	9,392	9,330	75.7	76.4	77.0	77.5	77.9
16 to 19 .....	3,329	3,294	3,322	3,379	3,451	63.9	64.3	64.8	65.3	65.8
20 and over .....	49,884	50,913	51,881	52,788	53,658	63.2	64.1	64.9	65.7	66.4
20 to 24 .....	6,185	6,160	6,124	6,013	5,879	84.0	84.9	85.8	86.6	87.4
25 to 54 .....	37,824	38,777	39,660	40,535	41,384	82.8	83.9	85.0	86.0	87.0
25 to 34 .....	15,165	15,089	14,958	14,833	14,719	86.0	87.1	88.2	89.2	90.1
35 to 44 .....	14,141	14,491	14,936	15,370	15,785	85.0	86.3	87.5	88.7	89.7
45 to 54 .....	8,518	9,197	9,766	10,332	10,880	74.7	76.0	77.3	78.5	79.6
55 and over .....	5,875	5,976	6,097	6,240	6,395	22.7	23.0	23.3	23.7	24.1
55 to 64 .....	4,599	4,689	4,800	4,940	5,093	48.0	49.4	50.8	52.3	53.7
65 and over .....	1,276	1,287	1,297	1,300	1,302	7.9	7.8	7.8	7.7	7.7
<b>Black and other</b>										
Total, 16 and over .....	19,391	19,901	20,410	20,912	21,413	71.7	72.4	73.0	73.6	74.1
Men, 16 and over .....	9,580	9,819	10,064	10,305	10,554	78.6	79.2	79.8	80.4	80.9
16 to 24 .....	1,800	1,814	1,836	1,844	1,858	71.5	72.5	73.5	74.4	75.2
16 to 19 .....	629	635	654	680	708	55.3	56.6	58.1	59.7	61.3
20 and over .....	8,951	9,184	9,410	9,625	9,846	81.0	81.5	81.9	82.4	82.8
20 to 24 .....	1,171	1,179	1,182	1,164	1,150	84.7	85.4	86.2	86.8	87.5
25 to 54 .....	6,892	7,102	7,305	7,517	7,730	93.0	93.4	93.8	94.2	94.6
25 to 34 .....	3,040	3,065	3,080	3,091	3,093	93.5	94.1	94.6	95.1	95.6
35 to 44 .....	2,478	2,571	2,672	2,787	2,905	95.0	95.3	95.7	96.0	96.4
45 to 54 .....	1,374	1,466	1,553	1,639	1,732	88.3	88.8	89.4	89.8	90.3
55 and over .....	888	903	923	944	966	39.3	39.4	39.7	39.9	40.1
55 to 64 .....	700	713	730	749	769	65.3	65.7	66.1	66.5	66.9
65 and over .....	188	190	193	195	197	15.8	15.8	15.8	15.7	15.6
Women, 16 and over .....	9,811	10,082	10,346	10,607	10,859	66.1	66.8	67.4	68.0	68.5
16 to 24 .....	1,766	1,787	1,810	1,817	1,825	62.5	63.6	64.6	65.3	65.8
16 to 19 .....	496	496	504	517	529	41.7	42.1	42.7	43.2	43.6
20 and over .....	9,315	9,586	9,842	10,090	10,330	68.2	68.9	69.5	70.1	70.6
20 to 24 .....	1,270	1,291	1,306	1,300	1,296	77.7	79.2	80.6	81.9	83.1
25 to 54 .....	7,220	7,456	7,680	7,915	8,141	83.3	84.2	84.9	85.7	86.4
25 to 34 .....	3,192	3,222	3,245	3,268	3,281	87.0	87.9	88.9	89.8	90.7
35 to 44 .....	2,681	2,788	2,899	3,019	3,136	86.7	87.8	88.7	89.6	90.4
45 to 54 .....	1,347	1,446	1,536	1,628	1,724	70.8	71.7	72.4	73.1	73.7
55 and over .....	825	839	856	875	893	24.6	24.5	24.5	24.5	24.5
55 to 64 .....	660	669	683	698	713	45.8	45.9	46.2	46.5	46.8
65 and over .....	165	170	173	177	180	8.6	8.7	8.6	8.5	8.5

**A-3. Civilian labor force and participation rates by age, sex, and race, 1986-95, low growth path**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Total, 16 and over .....	115,649	116,973	118,161	119,334	120,349	64.2	64.2	64.3	64.4	64.5
16 to 24 .....	23,014	22,622	22,118	21,615	21,129	68.3	68.1	68.2	68.5	68.7
20 and over .....	107,876	109,157	110,372	111,679	113,029	65.0	65.0	65.1	65.1	65.2
25 to 54 .....	78,166	80,122	82,033	83,947	85,658	80.8	81.0	81.2	81.4	81.6
55 and over .....	14,469	14,229	14,010	13,772	13,562	29.1	28.4	27.8	27.2	26.6
Men, 16 and over .....	64,464	64,915	65,311	65,701	66,006	75.5	75.2	75.0	74.8	74.6
16 to 24 .....	12,042	11,784	11,475	11,167	10,871	72.6	72.1	72.0	72.0	72.0
16 to 19 .....	4,081	4,097	4,078	4,000	3,813	57.5	57.2	57.6	57.9	57.6
16 and 17 .....	1,751	1,774	1,688	1,574	1,516	47.0	46.9	46.7	46.6	46.5
18 and 19 .....	2,330	2,323	2,390	2,426	2,297	69.2	68.9	68.8	68.7	68.4
20 and over .....	60,383	60,818	61,233	61,701	62,193	77.2	76.8	76.5	76.2	76.0
20 to 24 .....	7,961	7,687	7,397	7,167	7,058	84.0	83.8	83.6	83.4	83.3
25 to 54 .....	43,939	44,833	45,709	46,587	47,348	93.1	92.8	92.6	92.4	92.2
25 to 34 .....	18,860	19,074	19,182	19,229	19,141	92.8	92.5	92.2	91.9	91.7
25 to 29 .....	9,823	9,797	9,747	9,650	9,437	92.8	92.5	92.2	92.0	91.7
30 to 34 .....	9,037	9,277	9,435	9,579	9,704	92.8	92.5	92.2	91.9	91.6
35 to 44 .....	15,252	15,756	16,181	16,722	17,302	95.4	95.2	95.0	94.8	94.7
35 to 39 .....	8,723	8,670	8,831	9,022	9,229	96.3	96.2	96.0	95.8	95.7
40 to 44 .....	6,529	7,086	7,350	7,700	8,073	94.1	94.0	93.8	93.7	93.5
45 to 54 .....	9,827	10,003	10,346	10,636	10,905	90.2	90.0	89.8	89.6	89.3
45 to 49 .....	5,325	5,493	5,800	6,017	6,198	92.6	92.4	92.2	92.1	91.9
50 to 54 .....	4,502	4,510	4,546	4,619	4,707	87.6	87.2	86.8	86.5	86.2
55 and over .....	8,483	8,298	8,127	7,947	7,787	39.3	38.3	37.2	36.3	35.3
55 to 64 .....	6,705	6,534	6,384	6,228	6,094	65.6	64.7	63.8	62.9	62.2
55 to 59 .....	4,084	3,984	3,894	3,811	3,737	78.2	77.6	77.0	76.5	76.0
60 to 64 .....	2,621	2,550	2,490	2,417	2,357	52.5	51.3	50.2	49.2	48.3
60 and 61 .....	1,357	1,321	1,295	1,263	1,249	65.9	65.0	64.2	63.4	62.6
62 to 64 .....	1,264	1,229	1,195	1,154	1,108	43.1	41.8	40.7	39.5	38.4
65 and over .....	1,778	1,764	1,743	1,719	1,693	15.7	15.2	14.8	14.3	13.8
65 to 69 .....	1,036	1,036	1,029	1,018	1,005	25.1	24.5	24.0	23.5	23.0
70 to 74 .....	464	451	439	429	418	14.6	14.1	13.6	13.1	12.6
70 and 71 .....	222	214	209	207	204	16.0	15.5	14.9	14.4	13.9
72 to 74 .....	242	237	230	222	214	13.5	13.0	12.5	12.0	11.5
75 and over .....	278	277	275	272	270	6.9	6.7	6.4	6.2	6.0
Women, 16 and over .....	51,185	52,058	52,850	53,633	54,343	54.0	54.3	54.7	55.0	55.3
16 to 24 .....	10,972	10,838	10,643	10,448	10,258	64.1	64.2	64.6	65.1	65.6
16 to 19 .....	3,692	3,719	3,711	3,655	3,507	51.9	51.9	52.3	52.8	52.8
16 and 17 .....	1,526	1,547	1,473	1,379	1,331	42.2	42.2	42.1	42.1	42.1
18 and 19 .....	2,166	2,172	2,238	2,276	2,176	61.8	62.0	62.2	62.4	62.5
20 and over .....	47,493	48,339	49,139	49,978	50,836	54.2	54.5	54.8	55.2	55.5
20 to 24 .....	7,280	7,119	6,932	6,793	6,751	72.8	73.4	73.9	74.5	75.0
25 to 54 .....	34,227	35,289	36,324	37,360	38,310	69.1	69.8	70.4	71.0	71.5
25 to 34 .....	14,959	15,313	15,579	15,789	15,893	70.9	71.7	72.5	73.2	73.9
25 to 29 .....	7,843	7,909	7,959	7,973	7,903	71.8	72.6	73.4	74.1	74.8
30 to 34 .....	7,116	7,404	7,620	7,816	7,990	70.0	70.8	71.6	72.3	73.0
35 to 44 .....	11,959	12,494	12,966	13,532	14,132	71.2	72.0	72.7	73.5	74.2
35 to 39 .....	6,721	6,756	6,954	7,176	7,409	70.8	71.6	72.4	73.1	73.8
40 to 44 .....	5,238	5,738	6,012	6,356	6,723	71.6	72.4	73.1	73.8	74.5
45 to 54 .....	7,309	7,482	7,779	8,039	8,285	62.7	63.0	63.3	63.5	63.7
45 to 49 .....	3,989	4,129	4,372	4,551	4,701	65.4	65.6	65.7	65.9	66.0
50 to 54 .....	3,320	3,353	3,407	3,488	3,584	59.8	60.1	60.3	60.7	60.9
55 and over .....	5,986	5,931	5,883	5,825	5,775	21.3	20.9	20.6	20.2	19.9
55 to 64 .....	4,754	4,683	4,623	4,558	4,501	40.7	40.6	40.5	40.5	40.5
55 to 59 .....	2,889	2,838	2,792	2,750	2,713	49.5	49.6	49.6	49.7	49.7
60 to 64 .....	1,865	1,845	1,831	1,808	1,788	31.9	31.8	31.7	31.6	31.6
60 and 61 .....	914	897	885	870	862	38.6	38.5	38.3	38.1	38.0
62 to 64 .....	951	948	946	938	926	27.4	27.3	27.3	27.3	27.3
65 and over .....	1,232	1,248	1,260	1,267	1,274	7.5	7.4	7.3	7.2	7.1
65 to 69 .....	764	781	792	800	806	14.8	14.8	14.8	14.7	14.7
70 to 74 .....	322	321	322	323	325	7.4	7.3	7.3	7.2	7.2
70 and 71 .....	145	142	143	145	147	7.9	7.8	7.7	7.7	7.6
72 to 74 .....	177	179	179	178	178	7.0	7.0	7.0	6.9	6.9
75 and over .....	146	146	146	144	143	2.1	2.0	2.0	1.9	1.8

**A-3. Civilian labor force and participation rates by age, sex, and race, 1986-95, low growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
<b>White</b>										
Total, 16 and over .....	100,395	101,394	102,267	103,121	103,841	64.5	64.6	64.7	64.8	64.9
Men, 16 and over .....	56,775	57,106	57,382	57,648	57,843	76.4	76.2	75.9	75.8	75.6
16 to 24 .....	10,496	10,276	10,009	9,740	9,482	75.5	75.2	75.2	75.4	75.5
16 to 19 .....	3,619	3,634	3,617	3,549	3,382	61.5	61.3	61.8	62.3	62.1
20 and over .....	53,156	53,472	53,765	54,099	54,461	77.7	77.4	77.1	76.9	76.6
20 to 24 .....	6,877	6,642	6,392	6,191	6,100	85.8	85.8	85.8	85.8	85.8
25 to 54 .....	38,546	39,268	39,973	40,676	41,281	94.2	94.0	93.8	93.6	93.5
25 to 34 .....	16,377	16,526	16,585	16,589	16,479	94.1	93.9	93.7	93.5	93.3
35 to 44 .....	13,419	13,840	14,179	14,622	15,097	96.1	96.0	95.8	95.7	95.6
45 to 54 .....	8,750	8,902	9,209	9,465	9,705	91.5	91.3	91.1	90.9	90.7
55 and over .....	7,733	7,562	7,400	7,232	7,080	39.8	38.7	37.7	36.7	35.8
55 to 64 .....	6,093	5,932	5,787	5,638	5,507	66.4	65.5	64.6	63.8	63.0
65 and over .....	1,640	1,630	1,613	1,594	1,573	16.0	15.5	15.1	14.7	14.2
Women, 16 and over .....	43,620	44,288	44,885	45,473	45,998	53.7	54.0	54.3	54.7	55.0
16 to 24 .....	9,442	9,312	9,130	8,944	8,766	66.8	67.0	67.4	68.0	68.5
16 to 19 .....	3,257	3,276	3,266	3,212	3,077	55.7	55.7	56.2	56.7	56.8
20 and over .....	40,363	41,012	41,619	42,261	42,921	53.5	53.9	54.2	54.6	54.9
20 to 24 .....	6,185	6,036	5,864	5,732	5,689	74.7	75.3	75.9	76.5	77.1
25 to 54 .....	28,951	29,811	30,646	31,483	32,244	68.9	69.6	70.2	70.9	71.5
25 to 34 .....	12,498	12,773	12,973	13,128	13,189	70.8	71.6	72.4	73.2	73.9
35 to 44 .....	10,161	10,601	10,979	11,438	11,928	70.8	71.7	72.5	73.3	74.1
45 to 54 .....	6,292	6,437	6,694	6,917	7,127	62.7	63.1	63.4	63.7	63.9
55 and over .....	5,227	5,165	5,109	5,046	4,988	20.8	20.4	20.1	19.7	19.4
55 to 64 .....	4,138	4,064	3,999	3,930	3,869	40.2	40.1	40.0	39.9	39.9
65 and over .....	1,089	1,101	1,110	1,116	1,119	7.4	7.3	7.2	7.1	7.0
<b>Black and other</b>										
Total, 16 and over .....	15,254	15,579	15,894	16,213	16,508	62.0	61.9	62.0	62.0	62.1
Men, 16 and over .....	7,689	7,809	7,929	8,053	8,163	69.4	68.9	68.6	68.4	68.2
16 to 24 .....	1,546	1,508	1,466	1,427	1,389	57.8	56.6	55.8	55.2	54.7
16 to 19 .....	462	463	461	451	431	38.3	37.6	37.5	37.3	36.7
20 and over .....	7,227	7,346	7,468	7,602	7,732	73.2	72.8	72.3	71.9	71.6
20 to 24 .....	1,084	1,045	1,005	976	958	73.8	72.8	71.9	71.0	70.2
25 to 54 .....	5,393	5,565	5,736	5,911	6,067	85.9	85.4	84.9	84.5	84.1
25 to 34 .....	2,483	2,548	2,597	2,640	2,662	85.0	84.4	83.7	83.2	82.6
35 to 44 .....	1,833	1,916	2,002	2,100	2,205	90.1	89.7	89.5	89.1	88.9
45 to 54 .....	1,077	1,101	1,137	1,171	1,200	81.3	80.8	80.4	79.9	79.5
55 and over .....	750	736	727	715	707	35.3	34.3	33.4	32.5	31.8
55 to 64 .....	612	602	597	590	587	58.5	57.6	56.8	56.0	55.4
65 and over .....	138	134	130	125	120	12.8	12.2	11.6	10.9	10.3
Women, 16 and over .....	7,565	7,770	7,965	8,160	8,345	55.9	56.2	56.5	56.9	57.2
16 to 24 .....	1,530	1,526	1,513	1,504	1,492	51.2	51.2	51.5	52.0	52.4
16 to 19 .....	435	443	445	443	430	34.4	34.4	34.6	35.0	35.0
20 and over .....	7,130	7,327	7,520	7,717	7,915	58.1	58.4	58.7	59.0	59.2
20 to 24 .....	1,095	1,083	1,068	1,061	1,062	63.6	64.1	64.6	65.1	65.6
25 to 54 .....	5,276	5,478	5,678	5,877	6,066	70.2	70.6	71.0	71.3	71.7
25 to 34 .....	2,461	2,540	2,606	2,661	2,704	71.8	72.4	72.9	73.4	73.9
35 to 44 .....	1,798	1,893	1,987	2,094	2,204	73.0	73.4	73.9	74.3	74.7
45 to 54 .....	1,017	1,045	1,085	1,122	1,158	62.5	62.6	62.6	62.6	62.6
55 and over .....	759	766	774	779	787	25.0	24.8	24.5	24.2	23.9
55 to 64 .....	616	619	624	628	632	44.7	44.6	44.4	44.4	44.3
65 and over .....	143	147	150	151	155	8.6	8.6	8.5	8.4	8.3

**A-3. Civilian labor force and participation rates by age, sex, and race, 1986-95, low growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Total, 16 and over .....	121,378	122,265	123,180	124,095	125,053	64.5	64.5	64.5	64.5	64.5
16 to 24 .....	20,839	20,547	20,366	20,083	19,805	68.9	68.9	68.9	68.7	68.5
20 and over .....	114,388	115,420	116,342	117,197	118,063	65.2	65.2	65.2	65.2	65.2
25 to 54 .....	87,150	88,486	89,661	90,881	92,094	81.8	81.9	82.0	82.1	82.2
55 and over .....	13,389	13,232	13,153	13,131	13,154	26.1	25.6	25.3	25.0	24.9
<b>Men, 16 and over .....</b>	<b>66,318</b>	<b>66,587</b>	<b>66,879</b>	<b>67,182</b>	<b>67,536</b>	<b>74.4</b>	<b>74.1</b>	<b>73.9</b>	<b>73.7</b>	<b>73.5</b>
16 to 24 .....	10,680	10,491	10,364	10,184	10,013	71.9	71.7	71.4	71.0	70.6
16 to 19 .....	3,628	3,544	3,535	3,560	3,606	57.0	56.6	56.4	56.3	56.1
16 and 17 .....	1,502	1,504	1,515	1,537	1,566	46.4	46.3	46.2	46.2	46.1
18 and 19 .....	2,126	2,040	2,020	2,023	2,040	68.0	67.8	67.6	67.5	67.3
20 and over .....	62,690	63,043	63,344	63,622	63,930	75.7	75.4	75.2	75.0	74.8
20 to 24 .....	7,052	6,947	6,829	6,624	6,407	83.1	83.0	82.8	82.7	82.5
25 to 54 .....	47,989	48,572	49,068	49,594	50,130	92.0	91.8	91.5	91.3	91.2
25 to 34 .....	18,931	18,616	18,249	17,901	17,573	91.4	91.1	90.9	90.6	90.4
25 to 29 .....	9,093	8,800	8,483	8,229	8,108	91.5	91.2	91.0	90.7	90.5
30 to 34 .....	9,838	9,816	9,766	9,672	9,465	91.3	91.0	90.8	90.5	90.3
35 to 44 .....	17,911	18,130	18,469	18,821	19,170	94.5	94.4	94.2	94.1	94.0
35 to 39 .....	9,407	9,673	9,854	10,019	10,166	95.5	95.4	95.3	95.1	95.0
40 to 44 .....	8,504	8,457	8,615	8,802	9,004	93.4	93.2	93.1	93.0	92.9
45 to 54 .....	11,147	11,826	12,350	12,872	13,387	89.1	89.0	88.7	88.5	88.3
45 to 49 .....	6,329	6,862	7,114	7,445	7,802	91.7	91.6	91.4	91.2	91.0
50 to 54 .....	4,818	4,964	5,236	5,427	5,585	85.9	85.6	85.3	85.1	84.8
55 and over .....	7,649	7,524	7,447	7,404	7,393	34.5	33.8	33.2	32.8	32.5
55 to 64 .....	5,985	5,893	5,844	5,836	5,855	61.5	60.9	60.4	60.1	59.8
55 to 59 .....	3,700	3,700	3,723	3,777	3,847	75.5	75.0	74.5	74.1	73.7
60 to 64 .....	2,285	2,193	2,121	2,059	2,008	47.3	46.2	45.3	44.6	44.0
60 and 61 .....	1,218	1,159	1,126	1,110	1,102	61.9	61.2	60.5	59.9	59.2
62 to 64 .....	1,067	1,034	995	949	906	37.3	36.3	35.3	34.4	33.6
65 and over .....	1,664	1,631	1,603	1,568	1,538	13.4	13.0	12.6	12.2	11.8
65 to 69 .....	984	962	944	922	903	22.5	22.1	21.7	21.4	21.1
70 to 74 .....	413	406	397	386	376	12.1	11.6	11.2	10.8	10.4
70 and 71 .....	203	199	192	184	180	13.4	12.9	12.4	11.9	11.6
72 to 74 .....	210	207	205	202	196	11.1	10.7	10.3	9.9	9.5
75 and over .....	267	263	262	260	259	5.8	5.6	5.4	5.3	5.1
<b>Women, 16 and over .....</b>	<b>55,060</b>	<b>55,678</b>	<b>56,301</b>	<b>56,913</b>	<b>57,517</b>	<b>55.7</b>	<b>55.9</b>	<b>56.1</b>	<b>56.3</b>	<b>56.5</b>
16 to 24 .....	10,159	10,056	10,002	9,899	9,792	66.0	66.2	66.4	66.4	66.4
16 to 19 .....	3,362	3,301	3,303	3,338	3,384	52.5	52.4	52.4	52.4	52.4
16 and 17 .....	1,322	1,328	1,339	1,360	1,386	42.1	42.1	42.1	42.1	42.1
18 and 19 .....	2,040	1,973	1,964	1,978	1,998	62.6	62.7	62.8	63.0	63.1
20 and over .....	51,698	52,377	52,998	53,575	54,133	55.9	56.1	56.3	56.5	56.7
20 to 24 .....	6,797	6,755	6,699	6,561	6,408	75.5	76.0	76.5	76.9	77.3
25 to 54 .....	39,161	39,914	40,593	41,287	41,964	72.1	72.5	72.9	73.3	73.6
25 to 34 .....	15,883	15,778	15,625	15,483	15,347	74.6	75.2	75.8	76.4	76.9
25 to 29 .....	7,717	7,558	7,370	7,230	7,186	75.5	76.2	76.8	77.4	77.9
30 to 34 .....	8,166	8,220	8,255	8,253	8,161	73.7	74.3	75.0	75.5	76.1
35 to 44 .....	14,769	15,076	15,474	15,874	16,260	74.8	75.5	76.1	76.7	77.2
35 to 39 .....	7,624	7,912	8,122	8,308	8,470	74.5	75.2	75.8	76.4	76.9
40 to 44 .....	7,145	7,164	7,352	7,566	7,790	75.2	75.8	76.4	77.0	77.5
45 to 54 .....	8,509	9,060	9,494	9,930	10,357	63.9	64.2	64.4	64.5	64.7
45 to 49 .....	4,817	5,231	5,434	5,699	5,981	66.2	66.3	66.5	66.6	66.7
50 to 54 .....	3,692	3,829	4,060	4,231	4,376	61.2	61.5	61.7	62.0	62.2
55 and over .....	5,740	5,708	5,706	5,727	5,761	19.7	19.4	19.3	19.2	19.1
55 to 64 .....	4,466	4,439	4,440	4,467	4,509	40.5	40.5	40.6	40.8	41.0
55 to 59 .....	2,702	2,718	2,750	2,804	2,869	49.8	49.8	49.8	49.8	49.9
60 to 64 .....	1,764	1,721	1,690	1,663	1,640	31.5	31.3	31.3	31.2	31.2
60 and 61 .....	851	814	795	789	787	37.9	37.7	37.6	37.5	37.4
62 to 64 .....	913	907	895	874	853	27.2	27.2	27.2	27.1	27.1
65 and over .....	1,274	1,269	1,266	1,260	1,252	7.0	6.9	6.8	6.7	6.5
65 to 69 .....	804	798	794	786	778	14.7	14.7	14.7	14.7	14.6
70 to 74 .....	329	332	335	338	340	7.1	7.0	6.9	6.9	6.9
70 and 71 .....	150	151	150	149	149	7.5	7.4	7.3	7.3	7.2
72 to 74 .....	179	181	185	189	191	6.8	6.7	6.7	6.6	6.6
75 and over .....	141	139	137	136	134	1.7	1.7	1.6	1.6	1.5

**A-3. Civilian labor force and participation rates by age, sex, and race, 1986-95, low growth path—Continued**

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
<b>White</b>										
Total, 16 and over .....	104,576	105,193	105,838	106,481	107,165	64.9	64.9	64.9	65.0	65.0
Men, 16 and over .....	58,046	58,211	58,397	58,593	58,834	75.4	75.2	74.9	74.8	74.6
16 to 24 .....	9,316	9,153	9,047	8,900	8,755	75.6	75.5	75.3	75.0	74.7
16 to 19 .....	3,224	3,154	3,151	3,177	3,223	61.6	61.4	61.3	61.2	61.2
20 and over .....	54,822	55,057	55,246	55,416	55,611	76.4	76.2	75.9	75.7	75.5
20 to 24 .....	6,092	5,999	5,896	5,723	5,532	85.8	85.8	85.8	85.8	85.8
25 to 54 .....	41,782	42,234	42,609	43,001	43,406	93.3	93.2	93.0	92.8	92.7
25 to 34 .....	16,264	15,959	15,611	15,283	14,982	93.1	92.9	92.8	92.6	92.4
35 to 44 .....	15,600	15,748	16,008	16,269	16,527	95.4	95.3	95.3	95.2	95.1
45 to 54 .....	9,918	10,527	10,990	11,449	11,897	90.5	90.4	90.2	90.0	89.9
55 and over .....	6,948	6,824	6,741	6,692	6,673	34.9	34.2	33.6	33.1	32.8
55 to 64 .....	5,400	5,307	5,254	5,239	5,250	62.4	61.8	61.3	61.0	60.8
65 and over .....	1,548	1,517	1,487	1,453	1,423	13.8	13.3	12.9	12.5	12.1
Women, 16 and over .....	46,530	46,982	47,441	47,888	48,331	55.3	55.6	55.8	56.0	56.2
16 to 24 .....	8,664	8,563	8,508	8,415	8,316	68.9	69.2	69.4	69.5	69.5
16 to 19 .....	2,948	2,893	2,895	2,924	2,965	56.6	56.5	56.5	56.5	56.5
20 and over .....	43,582	44,089	44,546	44,964	45,366	55.3	55.5	55.7	56.0	56.1
20 to 24 .....	5,716	5,670	5,613	5,491	5,351	77.6	78.2	78.6	79.1	79.6
25 to 54 .....	32,920	33,512	34,041	34,574	35,097	72.1	72.5	73.0	73.4	73.8
25 to 34 .....	13,155	13,040	12,883	12,735	12,601	74.6	75.3	76.0	76.6	77.2
35 to 44 .....	12,448	12,679	12,996	13,308	13,608	74.8	75.5	76.2	76.8	77.4
45 to 54 .....	7,317	7,793	8,162	8,531	8,888	64.2	64.4	64.6	64.8	65.0
55 and over .....	4,946	4,907	4,892	4,899	4,918	19.1	18.9	18.7	18.6	18.6
55 to 64 .....	3,828	3,795	3,786	3,802	3,831	39.9	40.0	40.1	40.2	40.4
65 and over .....	1,118	1,112	1,106	1,097	1,087	6.9	6.8	6.6	6.5	6.4
<b>Black and other</b>										
Total, 16 and over .....	16,802	17,072	17,342	17,614	17,888	62.1	62.1	62.0	62.0	61.9
Men, 16 and over .....	8,272	8,376	8,482	8,589	8,702	67.8	67.6	67.3	67.0	66.7
16 to 24 .....	1,364	1,338	1,317	1,284	1,258	54.1	53.5	52.7	51.8	50.9
16 to 19 .....	404	390	384	383	383	35.5	34.8	34.1	33.6	33.2
20 and over .....	7,868	7,986	8,098	8,206	8,319	71.2	70.8	70.5	70.2	70.0
20 to 24 .....	960	948	933	901	875	69.5	68.7	68.0	67.2	66.5
25 to 54 .....	6,207	6,338	6,459	6,593	6,724	83.7	83.3	82.9	82.6	82.3
25 to 34 .....	2,667	2,657	2,638	2,618	2,591	82.1	81.6	81.0	80.6	80.1
35 to 44 .....	2,311	2,382	2,461	2,552	2,643	88.6	88.3	88.1	87.9	87.7
45 to 54 .....	1,229	1,299	1,360	1,423	1,490	79.0	78.7	78.3	78.0	77.6
55 and over .....	701	700	706	712	720	31.0	30.6	30.4	30.1	29.9
55 to 64 .....	585	586	590	597	605	54.6	54.0	53.4	53.0	52.7
65 and over .....	116	114	116	115	115	9.8	9.5	9.5	9.3	9.1
Women, 16 and over .....	8,530	8,696	8,860	9,025	9,186	57.5	57.6	57.8	57.9	58.0
16 to 24 .....	1,495	1,493	1,494	1,484	1,476	52.9	53.2	53.3	53.3	53.2
16 to 19 .....	414	408	408	414	419	34.8	34.7	34.5	34.6	34.6
20 and over .....	8,116	8,288	8,452	8,611	8,767	59.4	59.6	59.7	59.8	59.9
20 to 24 .....	1,081	1,085	1,086	1,070	1,057	66.1	66.5	67.0	67.4	67.8
25 to 54 .....	6,241	6,402	6,552	6,713	6,867	72.0	72.3	72.5	72.7	72.9
25 to 34 .....	2,728	2,738	2,742	2,748	2,746	74.3	74.7	75.1	75.5	75.9
35 to 44 .....	2,321	2,397	2,478	2,566	2,652	75.1	75.4	75.8	76.1	76.4
45 to 54 .....	1,192	1,267	1,332	1,399	1,469	62.6	62.8	62.7	62.8	62.8
55 and over .....	794	801	814	828	843	23.7	23.4	23.3	23.2	23.1
55 to 64 .....	638	644	654	665	678	44.2	44.2	44.2	44.3	44.5
65 and over .....	156	157	160	163	165	8.2	8.0	7.9	7.9	7.8



**A-4. Black civilian labor force and participation rates by age, sex, and growth path, 1986-95**

(Numbers in thousands)

Growth path, sex, and age	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
<b>Middle</b>										
Total, 16 and over .....	12,476	12,767	13,040	13,324	13,600	62.6	62.9	63.2	63.7	64.1
Men, 16 and over .....	6,245	6,358	6,464	6,577	6,687	70.1	70.0	70.1	70.2	70.4
16 to 24 .....	1,296	1,262	1,223	1,187	1,156	58.2	57.1	56.5	56.1	55.9
16 to 19 .....	369	370	367	358	346	36.8	36.3	36.3	36.3	36.3
20 and over .....	5,876	5,988	6,097	6,219	6,341	74.3	74.3	74.2	74.2	74.1
20 to 24 .....	927	892	856	829	810	75.8	75.0	74.2	73.4	72.7
25 to 54 .....	4,323	4,480	4,635	4,791	4,939	87.6	87.5	87.5	87.4	87.4
25 to 34 .....	2,071	2,143	2,200	2,250	2,286	88.4	88.3	88.1	87.9	87.8
35 to 44 .....	1,404	1,473	1,542	1,624	1,712	89.8	89.8	89.8	89.8	89.8
45 to 54 .....	848	864	893	917	941	82.3	82.3	82.3	82.3	82.3
55 and over .....	626	616	606	599	592	35.8	35.1	34.4	33.8	33.2
55 to 59 .....	505	497	490	485	481	59.3	58.8	58.3	57.9	57.5
65 and over .....	121	119	116	114	111	13.5	13.1	12.6	12.2	11.7
Women, 16 and over .....	6,231	6,409	6,576	6,747	6,913	56.5	57.1	57.7	58.4	59.0
16 to 24 .....	1,262	1,256	1,239	1,223	1,210	50.4	50.5	50.8	51.2	51.8
16 to 19 .....	358	363	360	351	340	33.7	33.7	33.7	33.7	33.7
20 and over .....	5,873	6,046	6,216	6,396	6,573	58.9	59.5	60.2	60.8	61.4
20 to 24 .....	904	893	879	872	870	62.6	63.3	64.0	64.7	65.5
25 to 54 .....	4,353	4,536	4,716	4,899	5,073	72.6	73.4	74.2	74.9	75.7
25 to 34 .....	2,056	2,132	2,197	2,254	2,296	74.1	75.0	75.9	76.7	77.5
35 to 44 .....	1,461	1,542	1,623	1,719	1,821	76.0	76.9	77.7	78.6	79.4
45 to 54 .....	836	862	896	926	956	64.2	64.8	65.2	65.6	66.0
55 and over .....	616	617	621	625	630	24.4	24.1	23.9	23.7	23.6
55 to 59 .....	505	505	506	507	509	44.6	44.5	44.5	44.6	44.6
65 and over .....	111	112	115	118	121	8.0	7.8	7.9	7.9	7.9
<b>High</b>										
Total, 16 and over .....	13,129	13,560	13,951	14,353	14,737	65.8	66.8	67.6	68.6	69.4
Men, 16 and over .....	6,540	6,731	6,909	7,093	7,269	73.4	74.1	74.9	75.7	76.5
16 to 24 .....	1,436	1,438	1,429	1,421	1,413	64.5	65.1	66.0	67.2	68.4
16 to 19 .....	440	461	475	481	478	43.9	45.2	47.0	48.7	50.2
20 and over .....	6,100	6,270	6,434	6,612	6,791	77.2	77.8	78.3	78.9	79.4
20 to 24 .....	996	977	954	940	935	81.4	82.1	82.7	83.3	83.9
25 to 54 .....	4,432	4,622	4,808	4,998	5,179	89.8	90.3	90.7	91.2	91.6
25 to 34 .....	2,137	2,229	2,306	2,376	2,430	91.2	91.8	92.4	92.8	93.4
35 to 44 .....	1,431	1,507	1,582	1,672	1,770	91.6	91.9	92.1	92.5	92.8
45 to 54 .....	864	886	920	950	979	83.9	84.4	84.8	85.3	85.7
55 and over .....	672	671	672	674	677	38.5	38.3	38.1	38.0	37.9
55 to 59 .....	532	529	528	528	529	62.4	62.6	62.8	63.0	63.3
65 and over .....	140	142	144	146	148	15.6	15.6	15.6	15.6	15.6
Women, 16 and over .....	6,589	6,829	7,042	7,260	7,468	59.7	60.8	61.8	62.8	63.7
16 to 24 .....	1,354	1,369	1,371	1,373	1,375	54.0	55.0	56.2	57.5	58.8
16 to 19 .....	384	397	403	402	396	36.2	36.9	37.7	38.6	39.3
20 and over .....	6,205	6,432	6,639	6,858	7,072	62.2	63.3	64.3	65.2	66.1
20 to 24 .....	970	972	968	971	979	67.1	68.9	70.5	72.1	73.7
25 to 54 .....	4,608	4,829	5,037	5,249	5,451	76.8	78.1	79.2	80.3	81.3
25 to 34 .....	2,212	2,308	2,385	2,454	2,507	79.7	81.2	82.4	83.5	84.6
35 to 44 .....	1,539	1,633	1,724	1,830	1,943	80.1	81.4	82.6	83.7	84.7
45 to 54 .....	857	888	928	965	1,001	65.8	66.7	67.5	68.4	69.1
55 and over .....	627	631	634	638	642	24.8	24.6	24.4	24.2	24.0
55 to 59 .....	512	514	515	516	517	45.2	45.3	45.3	45.3	45.3
65 and over .....	115	117	119	122	125	8.2	8.2	8.1	8.2	8.2

**A-4. Black civilian labor force and participation rates by age, sex, and growth path, 1986-95—Continued**

(Numbers in thousands)

Growth path, sex, and age	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
<b>Low</b>										
Total, 16 and over .....	12,222	12,452	12,657	12,874	13,078	61.3	61.3	61.4	61.5	61.6
Men, 16 and over .....	6,126	6,207	6,279	6,359	6,431	68.8	68.4	68.1	67.9	67.7
16 to 24 .....	1,280	1,244	1,200	1,161	1,122	57.5	56.3	55.4	54.9	54.3
16 to 19 .....	362	362	356	345	326	36.1	35.5	35.2	35.0	34.2
20 and over .....	5,764	5,845	5,923	6,014	6,105	72.9	72.5	72.1	71.7	71.4
20 to 24 .....	918	882	844	816	796	75.1	74.1	73.1	72.3	71.5
25 to 54 .....	4,241	4,373	4,502	4,634	4,756	85.9	85.4	85.0	84.5	84.1
25 to 34 .....	2,028	2,087	2,130	2,169	2,191	86.6	86.0	85.3	84.8	84.2
35 to 44 .....	1,387	1,450	1,513	1,588	1,670	88.7	88.4	88.1	87.8	87.6
45 to 54 .....	826	836	859	877	895	80.2	79.6	79.2	78.7	78.3
55 and over .....	605	590	577	564	553	34.6	33.7	32.7	31.8	31.0
55 to 59 .....	490	479	470	462	455	57.5	56.7	55.9	55.1	54.4
65 and over .....	115	111	107	102	98	12.8	12.2	11.6	10.9	10.3
Women, 16 and over .....	6,096	6,245	6,378	6,515	6,647	55.3	55.6	56.0	56.4	56.7
16 to 24 .....	1,252	1,243	1,223	1,205	1,188	50.0	50.0	50.1	50.4	50.8
16 to 19 .....	352	357	354	346	334	33.2	33.2	33.1	33.2	33.1
20 and over .....	5,744	5,888	6,024	6,169	6,313	57.6	58.0	58.3	58.7	59.0
20 to 24 .....	900	886	869	859	854	62.3	62.8	63.3	63.8	64.3
25 to 54 .....	4,232	4,388	4,539	4,691	4,835	70.6	71.0	71.4	71.8	72.1
25 to 34 .....	2,005	2,071	2,125	2,171	2,203	72.3	72.8	73.4	73.9	74.4
35 to 44 .....	1,416	1,487	1,557	1,640	1,729	73.7	74.1	74.6	75.0	75.4
45 to 54 .....	811	830	857	880	903	62.3	62.4	62.4	62.4	62.4
55 and over .....	612	614	616	619	624	24.2	24.0	23.7	23.5	23.3
55 to 59 .....	503	502	501	502	504	44.4	44.3	44.1	44.1	44.2
65 and over .....	109	112	115	117	120	7.8	7.8	7.9	7.8	7.8

**A-4. Black civilian labor force and participation rates by age, sex, and growth path, 1986-95—Continued**

(Numbers in thousands)

Growth path, sex, and age	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
<b>Middle</b>										
Total, 16 and over .....	13,877	14,119	14,361	14,593	14,833	64.5	64.8	65.0	65.2	65.4
Men, 16 and over .....	6,800	6,895	6,990	7,086	7,187	70.5	70.6	70.5	70.5	70.5
16 to 24 .....	1,140	1,121	1,105	1,077	1,055	56.0	55.7	55.3	54.6	54.0
16 to 19 .....	332	326	326	329	333	36.3	36.3	36.3	36.3	36.3
20 and over .....	6,468	6,569	6,664	6,757	6,854	74.1	74.0	74.0	73.9	73.9
20 to 24 .....	808	795	779	748	722	72.1	71.4	70.9	70.2	69.6
25 to 54 .....	5,073	5,190	5,304	5,428	5,549	87.3	87.2	87.1	87.1	87.0
25 to 34 .....	2,302	2,301	2,293	2,281	2,261	87.7	87.5	87.3	87.2	87.1
35 to 44 .....	1,807	1,870	1,941	2,024	2,109	89.8	89.8	89.8	89.8	89.8
45 to 54 .....	964	1,019	1,070	1,123	1,179	82.3	82.3	82.3	82.3	82.3
55 and over .....	587	584	581	581	583	32.6	32.3	31.8	31.5	31.3
55 to 59 .....	479	478	478	481	485	57.2	56.9	56.6	56.3	56.2
65 and over .....	108	106	103	100	98	11.2	10.9	10.5	10.1	9.8
Women, 16 and over .....	7,077	7,224	7,371	7,507	7,646	59.6	60.1	60.5	60.9	61.2
16 to 24 .....	1,210	1,206	1,205	1,189	1,180	52.5	52.9	53.2	53.2	53.2
16 to 19 .....	327	321	322	324	328	33.7	33.6	33.7	33.7	33.7
20 and over .....	6,750	6,903	7,049	7,183	7,318	61.9	62.4	62.8	63.2	63.6
20 to 24 .....	883	885	883	865	852	66.1	66.8	67.5	68.0	68.5
25 to 54 .....	5,234	5,379	5,521	5,665	5,805	76.4	77.0	77.6	78.1	78.6
25 to 34 .....	2,323	2,333	2,340	2,343	2,338	78.3	79.1	79.8	80.5	81.1
35 to 44 .....	1,929	2,005	2,086	2,171	2,257	80.2	81.0	81.7	82.4	83.0
45 to 54 .....	982	1,041	1,095	1,151	1,210	66.4	66.8	67.1	67.5	67.8
55 and over .....	633	639	645	653	661	23.3	23.2	23.1	23.0	22.9
55 to 59 .....	510	513	517	522	527	44.6	44.6	44.6	44.6	44.5
65 and over .....	123	126	128	131	134	7.8	7.9	7.8	7.9	7.9
<b>High</b>										
Total, 16 and over .....	15,126	15,476	15,832	16,174	16,517	70.3	71.0	71.7	72.3	72.8
Men, 16 and over .....	7,448	7,612	7,783	7,953	8,125	77.2	77.9	78.5	79.1	79.7
16 to 24 .....	1,417	1,421	1,431	1,429	1,432	69.6	70.7	71.6	72.4	73.2
16 to 19 .....	469	472	486	505	525	51.3	52.6	54.1	55.7	57.3
20 and over .....	6,979	7,140	7,297	7,448	7,600	80.0	80.5	81.0	81.4	81.9
20 to 24 .....	948	949	945	924	907	84.6	85.3	86.0	86.7	87.4
25 to 54 .....	5,348	5,502	5,655	5,815	5,974	92.1	92.5	92.9	93.3	93.7
25 to 34 .....	2,465	2,484	2,494	2,497	2,492	93.9	94.4	95.0	95.5	96.0
35 to 44 .....	1,874	1,946	2,028	2,123	2,220	93.1	93.5	93.8	94.2	94.5
45 to 54 .....	1,009	1,072	1,133	1,195	1,262	86.2	86.6	87.2	87.6	88.1
55 and over .....	683	689	697	709	719	38.0	38.1	38.2	38.4	38.6
55 to 59 .....	533	538	544	554	563	63.7	64.0	64.4	64.9	65.2
65 and over .....	150	151	153	155	156	15.6	15.6	15.6	15.6	15.6
Women, 16 and over .....	7,678	7,864	8,049	8,221	8,392	64.7	65.5	66.1	66.7	67.2
16 to 24 .....	1,390	1,399	1,411	1,407	1,407	60.3	61.4	62.3	63.0	63.5
16 to 19 .....	385	383	388	396	405	39.7	40.1	40.6	41.2	41.6
20 and over .....	7,293	7,481	7,661	7,825	7,987	66.9	67.6	68.3	68.9	69.4
20 to 24 .....	1,005	1,016	1,023	1,011	1,002	75.3	76.7	78.2	79.5	80.6
25 to 54 .....	5,642	5,813	5,979	6,148	6,311	82.3	83.2	84.0	84.8	85.4
25 to 34 .....	2,544	2,559	2,571	2,580	2,579	85.7	86.7	87.7	88.6	89.5
35 to 44 .....	2,063	2,150	2,241	2,337	2,432	85.8	86.8	87.7	88.7	89.4
45 to 54 .....	1,035	1,104	1,167	1,231	1,300	69.9	70.8	71.6	72.2	72.9
55 and over .....	646	652	659	666	674	23.8	23.7	23.6	23.5	23.4
55 to 59 .....	518	522	526	530	536	45.3	45.4	45.3	45.3	45.3
65 and over .....	128	130	133	136	138	8.2	8.1	8.1	8.2	8.1

**A-4. Black civilian labor force and participation rates by age, sex, and growth path, 1986-95—Continued**

(Numbers in thousands)

Growth path, sex, and age	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
<b>Low</b>										
Total, 16 and over .....	13,284	13,456	13,636	13,808	13,987	61.8	61.8	61.7	61.7	61.7
Men, 16 and over .....	6,507	6,568	6,633	6,703	6,773	67.5	67.2	66.9	66.7	66.4
16 to 24 .....	1,098	1,071	1,048	1,015	986	53.9	53.3	52.5	51.4	50.4
16 to 19 .....	305	292	287	285	283	33.3	32.5	31.9	31.4	30.9
20 and over .....	6,202	6,276	6,346	6,418	6,490	71.1	70.7	70.4	70.2	70.0
20 to 24 .....	793	779	761	730	703	70.7	70.0	69.2	68.5	67.7
25 to 54 .....	4,864	4,958	5,047	5,148	5,244	83.7	83.3	82.9	82.6	82.2
25 to 34 .....	2,196	2,187	2,169	2,149	2,121	83.7	83.2	82.6	82.1	81.7
35 to 44 .....	1,756	1,811	1,875	1,951	2,028	87.3	87.0	86.8	86.6	86.4
45 to 54 .....	912	960	1,003	1,048	1,095	77.9	77.5	77.2	76.8	76.5
55 and over .....	545	539	538	540	543	30.3	29.8	29.5	29.3	29.1
55 to 59 .....	450	446	444	445	447	53.8	53.1	52.5	52.1	51.8
65 and over .....	95	93	94	95	96	9.9	9.6	9.6	9.6	9.6
Women, 16 and over .....	6,777	6,888	7,003	7,105	7,214	57.1	57.3	57.5	57.7	57.8
16 to 24 .....	1,186	1,179	1,176	1,159	1,149	51.5	51.8	51.9	51.9	51.8
16 to 19 .....	322	316	317	319	323	33.2	33.1	33.2	33.2	33.2
20 and over .....	6,455	6,572	6,686	6,786	6,891	59.2	59.4	59.6	59.7	59.9
20 to 24 .....	864	863	859	840	826	64.7	65.2	65.6	66.0	66.5
25 to 54 .....	4,963	5,076	5,187	5,300	5,410	72.4	72.7	72.9	73.1	73.2
25 to 34 .....	2,218	2,218	2,216	2,212	2,201	74.8	75.2	75.6	76.0	76.3
35 to 44 .....	1,822	1,885	1,953	2,024	2,096	75.8	76.1	76.5	76.8	77.1
45 to 54 .....	923	973	1,018	1,064	1,113	62.4	62.4	62.4	62.4	62.4
55 and over .....	628	633	640	646	655	23.2	23.0	22.9	22.8	22.7
55 to 59 .....	505	508	512	516	522	44.1	44.1	44.1	44.1	44.1
65 and over .....	123	125	128	130	133	7.8	7.8	7.8	7.8	7.8

**A-5. Labor force and participation rates by sex and growth path, 1986-95**

(Numbers in thousands)

Growth path and year	Labor force			Participation rate		
	Number			Percent		
	Total	Men	Women	Total	Men	Women
<b>Middle</b>						
1986 .....	120,314	66,941	53,373	66.1	77.0	56.2
1987 .....	122,049	67,575	54,474	66.4	76.9	56.7
1988 .....	123,635	68,146	55,489	66.6	76.8	57.3
1989 .....	125,191	68,701	56,490	66.9	76.8	57.9
1990 .....	126,577	69,162	57,415	67.2	76.8	58.4
1991 .....	127,974	69,629	58,345	67.4	76.8	58.9
1992 .....	129,210	70,048	59,162	67.6	76.6	59.3
1993 .....	130,484	70,494	59,990	67.7	76.5	59.7
1994 .....	131,730	70,942	60,788	67.9	76.4	60.0
1995 .....	133,018	71,436	61,582	68.0	76.4	60.3
<b>High</b>						
1986 .....	124,057	68,134	55,923	68.2	78.4	58.9
1987 .....	126,504	69,010	57,494	68.8	78.5	59.9
1988 .....	128,786	69,818	58,968	69.4	78.7	60.9
1989 .....	131,046	70,609	60,437	70.0	78.9	61.9
1990 .....	133,097	71,287	61,810	70.6	79.1	62.8
1991 .....	135,166	71,977	63,189	71.2	79.3	63.8
1992 .....	137,066	72,612	64,454	71.7	79.4	64.6
1993 .....	138,983	73,269	65,714	72.1	79.5	65.4
1994 .....	140,863	73,924	66,939	72.6	79.6	66.1
1995 .....	142,751	74,618	68,133	73.0	79.8	66.8
<b>Low</b>						
1986 .....	117,414	66,069	51,345	64.5	76.0	54.1
1987 .....	118,751	66,528	52,223	64.6	75.7	54.4
1988 .....	119,939	66,924	53,015	64.6	75.4	54.7
1989 .....	121,112	67,314	53,798	64.7	75.2	55.1
1990 .....	122,127	67,619	54,508	64.8	75.0	55.4
1991 .....	123,156	67,931	55,225	64.9	74.8	55.7
1992 .....	124,043	68,200	55,843	64.9	74.6	56.0
1993 .....	124,958	68,492	56,466	64.9	74.3	56.2
1994 .....	125,873	68,795	57,078	64.8	74.1	56.4
1995 .....	126,831	69,149	57,682	64.8	73.9	56.5

NOTE: Includes the resident Armed Forces.

**B-1. Values of selected aggregate economic assumptions, 1968, 1973, 1977, 1982, and projected 1990 and 1995**

Variable	1968	1973	1977	1982	1990 alternatives			1995 alternatives		
					Low	Moderate	High	Low	Moderate	High
<b>Demographic</b>										
Total population (millions) .....	200.75	211.94	220.29	232.05	249.56	249.56	249.56	257.68	257.68	257.68
Civilian labor force (millions) .....	78.71	89.41	98.98	110.25	123.62	124.95	126.36	129.94	131.39	133.84
<b>Government expenditures</b>										
Armed Forces (millions) .....	3.53	2.33	2.13	2.18	2.40	2.35	2.37	2.40	2.35	2.37
Implicit wage rate (dollars per hour) .....	2.62	4.66	5.61	8.87	13.28	13.28	13.71	16.16	16.16	17.08
Civilian defense employment (millions) .....	1.11	0.96	0.92	0.94	1.15	0.99	1.10	1.15	1.00	1.15
Implicit wage rate (dollars per hour) .....	4.63	6.88	9.42	13.82	20.26	20.26	20.75	25.86	25.86	27.21
Civilian nondefense employment (millions) .....	1.15	1.18	1.29	1.26	1.33	1.30	1.30	1.38	1.34	1.36
Implicit wage rate (dollars per hour) .....	3.91	6.36	8.76	12.43	18.35	18.35	19.05	23.42	23.42	25.49
State and local government employment (millions) .....	8.57	10.43	11.64	12.23	13.11	13.01	15.09	13.60	13.50	22.39
Defense purchases less compensation (billions of current dollars) .....	46.9	36.6	50.0	111.4	261.8	241.8	269.6	331.6	307.6	422.5
Nondefense purchases less compensation (billions of current dollars) .....	11.8	13.5	27.1	46.6	56.5	55.7	62.5	79.0	75.9	103.3
Grants-in-aid to State and local governments (billions of current dollars) .....	18.6	40.6	67.6	83.5	142.9	137.9	138.5	192.7	191.2	203.5
Federal health insurance transfers (billions of current dollars) .....	5.6	9.7	21.7	50.7	122.2	109.4	112.5	193.5	154.8	189.6
Federal retirement transfers (billions of current dollars) ..	4.5	9.7	18.4	35.3	69.4	65.1	66.4	107.9	96.7	103.2
Other assumed Federal transfers (billions of current dollars) .....	9.0	18.9	33.5	51.3	101.5	95.3	97.5	148.9	133.4	147.0
<b>Government revenues</b>										
Tax life (years):										
Equipment .....	9.7	8.5	8.4	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Commercial structures .....	35.0	35.0	35.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Other structures .....	25.0	21.6	19.5	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Tax rate (percent):										
Basic corporate tax .....	53.0	48.0	48.0	46.0	43.0	46.0	44.0	42.0	46.0	44.0
Average marginal personal tax .....	24.0	25.0	28.0	26.0	24.0	23.0	22.0	24.0	23.0	22.0
Social security .....	4.0	6.0	6.0	7.0	7.7	8.0	7.7	7.7	8.0	7.7
Tax base, social security (dollars) .....	7,800	10,800	16,500	32,400	55,800	55,800	55,800	82,500	82,500	82,500
Federal indirect business taxes (billions of current dollars) .....	18.0	21.2	25.1	50.0	87.1	87.2	104.2	125.9	104.2	146.1
<b>Monetary</b>										
Borrowed reserves (billions of current dollars) .....	0.6	1.7	0.5	1.1	1.2	1.2	1.2	1.2	1.2	1.2
Money market funds (billions of current dollars) .....	( <sup>1</sup> )	( <sup>1</sup> )	2.8	170.8	439.1	396.7	366.2	866.0	716.2	605.0
Monetary base less currency (billions of current dollars) ..	22.6	29.4	37.3	48.2	80.8	83.2	85.6	101.5	109.7	118.3
<b>Other assumptions</b>										
Industrial production index, rest of world (index, 1975 = 100) .....	( <sup>1</sup> )	106.7	110.4	114.3	144.7	146.7	148.6	167.0	171.0	175.7
Average value of the U.S. dollar (index, 1975 = 100) .....	114.3	98.1	108.0	127.2	144.6	149.9	151.4	151.7	159.9	162.9
Cost of imported oil (current dollars per barrel) .....	2.29	3.37	13.27	32.23	42.86	41.01	41.01	57.25	51.80	51.75
Percent of new passenger cars imported .....	11.0	16.0	19.0	28.0	30.0	30.0	28.0	33.0	30.0	28.0
Producer Price Index for gas fuels (index, 1967 = 100) ..	92.7	126.7	387.8	1,060.9	2,877.5	2,877.5	2,916.4	4,459.1	4,459.1	4,706.7
Domestic oil production (million barrels per day) .....	( <sup>1</sup> )	11.2	10.2	9.9	9.5	9.5	9.7	9.5	9.5	9.8
Average miles per gallon, new domestic cars .....	15.7	15.5	18.5	26.7	37.7	37.7	37.7	41.7	41.7	41.7
Ratio of domestic to import oil price .....	( <sup>1</sup> )	( <sup>1</sup> )	0.66	0.92	0.95	0.95	0.95	0.95	0.95	0.95

<sup>1</sup> Not available.

**B-2. Rates of change in selected aggregate economic assumptions, 1968, 1973, 1977, 1982, and projected 1990 and 1995**

(Average annual percent change)

Variable	1968-73	1973-77	1977-82	Low		Moderate			High	
				1982-90	1990-95	1982-90	1990-95	1982-95	1982-90	1990-95
<b>Demographic</b>										
Total population .....	1.1	1.0	1.0	0.9	0.8	0.9	0.6	0.8	0.9	0.8
Civilian labor force .....	2.6	2.6	2.2	1.4	1.0	1.6	1.0	1.4	1.7	1.2
<b>Government expenditures</b>										
Armed Forces .....	-8.0	-2.2	0.5	1.2	0.0	0.9	0.0	0.6	1.1	0.0
Implicit wage rate .....	12.2	4.7	9.6	5.9	4.0	5.2	4.0	4.7	5.6	4.5
Civilian defense employment .....	-2.9	-1.1	0.4	2.6	1.0	0.6	0.2	0.5	2.0	0.9
Implicit wage rate .....	8.2	8.2	8.0	4.9	5.0	4.9	5.0	4.9	5.2	5.6
Civilian nondefense employment .....	0.9	2.3	-0.5	0.7	0.7	0.4	0.6	0.5	0.5	0.8
Implicit wage rate .....	10.2	8.3	7.2	5.0	5.0	5.0	5.0	5.0	5.5	6.0
State and local government employment .....	4.0	2.8	1.0	0.9	0.7	0.8	0.7	0.8	2.7	8.2
Defense purchases less compensation .....	-4.8	8.1	17.4	11.3	4.8	10.2	4.9	8.1	11.7	9.4
Nondefense purchases less compensation .....	2.7	19.0	11.5	2.4	6.9	2.3	6.4	3.8	3.7	10.6
Grants-in-aid to State and local governments .....	16.9	13.6	4.3	6.9	6.2	6.5	6.8	6.6	6.5	8.0
Federal health insurance transfers .....	11.6	22.3	18.5	11.6	9.6	10.1	7.2	9.0	10.5	11.0
Federal retirement transfers .....	16.6	17.4	13.9	8.8	9.2	7.9	8.2	8.1	8.2	9.2
Other assumed Federal transfers .....	22.1	23.8	12.1	9.5	8.2	8.7	7.2	8.1	9.0	9.0
<b>Government revenues</b>										
Tax life:										
Equipment .....	-2.6	-0.3	-4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial structures .....	0.0	0.0	-15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other structures .....	-2.9	-2.5	-6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax rate:										
Basic corporate tax .....	-2.0	0.0	-0.8	0.0	0.0	0.0	0.0	0.0	-0.6	0.0
Average marginal personal tax .....	0.8	2.9	-1.5	-7.7	0.0	-1.5	0.0	-0.9	-2.1	0.0
Social security .....	8.4	0.0	3.1	1.2	0.0	1.7	0.0	1.0	1.2	0.0
Tax base, social security .....	3.3	3.4	14.8	7.0	8.1	7.2	3.6	5.8	7.0	8.1
Federal indirect business taxes .....	6.7	11.2	14.4	7.2	7.7	7.0	8.1	7.5	9.6	7.0
<b>Monetary</b>										
Borrowed reserves .....	24.6	-27.6	17.9	1.1	0.0	1.7	0.0	1.0	1.1	0.0
Money market funds .....	( <sup>1</sup> )	( <sup>1</sup> )	127.5	12.5	14.5	11.1	12.5	11.7	10.0	10.6
Monetary base less currency .....	5.4	6.1	5.3	6.7	4.7	7.1	5.7	6.5	7.4	6.7
<b>Other assumptions</b>										
Industrial production index, rest of world .....	( <sup>1</sup> )	0.9	0.7	3.0	2.9	3.2	3.1	3.1	3.3	3.4
Average value of the U.S. dollar .....	-3.0	2.4	3.3	1.6	0.0	2.1	1.3	1.8	2.2	1.5
Cost of imported oil .....	8.0	40.9	19.4	3.6	6.0	3.1	4.8	3.7	3.1	4.8
Percent of new passenger cars imported .....	7.8	4.4	8.1	0.9	1.9	0.9	0.0	0.5	0.0	0.0
Producer Price Index for gas fuels .....	6.4	32.3	22.3	13.3	9.2	13.3	9.2	11.7	13.5	10.0
Domestic oil production .....	( <sup>1</sup> )	-2.3	-0.6	-0.5	1.0	-0.5	0.0	-0.3	-2.0	0.2
Average miles per gallon, new domestic cars .....	-0.3	4.5	7.6	4.4	2.0	4.4	2.0	3.5	4.4	2.0
Ratio of domestic to import oil price .....	( <sup>1</sup> )	( <sup>1</sup> )	6.9	0.4	0.0	0.4	0.0	0.2	0.4	0.0

<sup>1</sup> Not applicable.

**C-1. Gross national product and major components by industry, 1972**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
Total .....	1,185,934	737,055	78,389	44,840	61,575	10,225
1. Dairy and poultry products .....	1,337	1,269	0	0	0	-20
2. Meat animals and livestock .....	470	170	0	0	0	459
3. Cotton .....	700	0	0	0	0	289
4. Food and feed grains .....	3,119	163	0	4	15	1,318
5. Other agricultural products .....	6,316	4,417	0	20	90	447
6. Forestry and fishery products .....	-707	844	0	0	0	18
7. Agricultural, forestry, fishery services .....	294	117	0	13	67	0
8. Iron and ferroalloy ores mining .....	-533	0	0	0	0	8
9. Copper ore mining .....	-43	0	0	0	0	23
10. Nonferrous metal ores mining except copper .....	-120	0	199	0	0	4
11. Coal mining .....	771	125	0	0	0	81
12. Crude petroleum and gas, except drilling .....	-2,633	0	53	0	0	75
13. Stone and clay mining and quarrying .....	921	5	0	244	152	23
14. Chemical and fertilizer mineral mining .....	26	3	0	0	0	-8
15. Maintenance and repair construction .....	9,441	0	0	9	18	0
16. Ordnance .....	2,866	457	0	4	3	73
17. Guided missiles and space vehicles .....	3,711	0	80	0	0	-9
18. Meat products .....	21,195	20,976	0	2	4	289
19. Dairy products .....	11,038	10,318	0	0	0	69
20. Canned and frozen foods .....	9,707	9,382	0	0	0	134
21. Grain mill products .....	4,361	3,525	0	0	0	188
22. Bakery products .....	6,903	6,762	0	0	0	14
23. Sugar .....	60	1,021	0	0	0	12
24. Confectionery products .....	2,710	2,703	0	1	2	28
25. Alcoholic beverages .....	7,471	8,105	0	5	8	241
26. Soft drinks and flavorings .....	4,676	4,510	0	0	0	39
27. Other food products .....	6,973	5,975	0	0	0	233
28. Tobacco manufacturing .....	7,078	6,087	0	2	3	217
29. Fabric, yarn, and thread mills .....	537	639	0	0	0	279
30. Floor covering mills .....	2,689	1,391	597	39	505	140
31. Other textile mill products .....	-79	122	8	7	82	54
32. Hosiery and knit goods .....	1,487	1,551	0	0	0	89
33. Apparel .....	19,661	21,012	0	2	5	653
34. Other fabricated textile products .....	3,106	2,774	0	1	2	166
35. Logging .....	391	5	0	2	0	9
36. Sawmills and planing mills .....	1,969	0	0	232	2,334	265
37. Other millwork, plywood, and wood products .....	6,430	379	5	1,031	4,861	358
38. Wooden containers .....	15	0	0	0	0	3
39. Household furniture .....	6,753	5,706	680	4	83	356
40. Furniture and fixtures, except household .....	3,456	257	2,388	109	104	78
41. Paper products .....	2,741	2,389	0	67	255	180
42. Paperboard .....	254	106	0	1	2	61
43. Newspaper printing and publishing .....	1,958	1,949	0	0	0	14
44. Periodical, book printing and publishing .....	4,138	2,901	0	2	3	92
45. Other printing and publishing .....	2,275	880	0	5	10	158
46. Industrial inorganic and organic chemicals .....	1,792	20	164	50	12	57
47. Agricultural chemicals .....	475	153	0	1	6	59
48. Other chemical products .....	1,323	371	0	121	74	99
49. Plastic materials and synthetic rubber .....	562	0	0	0	0	87
50. Synthetic fibers .....	-13	0	0	0	0	-14
51. Drugs .....	5,695	4,175	0	0	0	212
52. Cleaning and toilet preparations .....	7,580	7,068	0	0	0	169
53. Paints and allied products .....	919	123	0	178	266	116
54. Petroleum refining and related products .....	14,896	13,503	0	577	344	42
55. Tires and inner tubes .....	2,668	2,587	0	51	59	178

See footnotes at end of table.



**C-1. Gross national product and major components by industry, 1972—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
56. Rubber products except tires and tubes .....	1,237	1,079	33	10	59	48
57. Plastic products .....	2,070	688	12	239	557	310
58. Leather tanning and industrial leather .....	-40	0	0	0	0	45
59. Leather products including footwear .....	4,122	4,923	0	1	2	206
60. Glass .....	906	563	0	84	49	156
61. Cement and concrete products .....	6,872	1	0	1,895	2,686	134
62. Structural clay products .....	860	0	0	186	545	29
63. Pottery and related products .....	555	414	0	144	154	31
64. Other stone and clay products .....	1,639	205	0	643	374	116
65. Blast furnaces and basic steel products .....	-392	4	0	1,180	328	463
66. Iron and steel foundries and forgings .....	839	0	2	78	99	26
67. Primary copper and copper products .....	2,699	8	64	1,657	543	194
68. Primary aluminum and aluminum products .....	-310	20	0	14	5	-29
69. Primary nonferrous metals and products .....	-1,194	0	0	1	0	107
70. Metal containers .....	73	0	13	0	0	32
71. Heating apparatus and plumbing fixtures .....	1,371	80	0	282	736	121
72. Fabricated structural metal products .....	11,835	49	1,197	5,030	2,130	407
73. Screw machine products .....	123	40	0	22	14	55
74. Metal stampings .....	1,025	421	0	8	0	148
75. Cutlery, handtools, general hardware .....	1,840	849	30	216	388	207
76. Other fabricated metal products .....	3,594	298	683	1,743	171	232
77. Engines, turbines, and generators .....	2,789	138	1,606	0	0	173
78. Farm machinery .....	4,533	66	4,202	0	0	194
79. Construction, mining, oilfield machinery .....	6,427	0	3,774	167	62	342
80. Material handling equipment .....	2,293	0	1,641	336	41	51
81. Metalworking machinery .....	4,627	168	3,878	4	8	126
82. Special industry machinery .....	4,772	45	4,261	0	0	121
83. General industrial machinery .....	3,298	0	2,170	150	195	138
84. Other nonelectrical machinery .....	432	17	39	3	6	59
85. Computers and peripheral equipment .....	5,322	12	3,713	0	0	25
86. Typewriters and other office equipment .....	1,141	199	610	0	0	5
87. Service industry machines .....	4,864	485	2,078	389	671	298
88. Electric transmission equipment .....	3,723	29	2,318	350	289	98
89. Electrical industrial apparatus .....	1,654	24	992	16	1	115
90. Household appliances .....	5,952	4,572	1,005	50	160	380
91. Electric lighting and wiring .....	3,113	925	82	958	413	179
92. Radio and television receiving sets .....	3,501	4,816	220	1	3	262
93. Telephone and telegraph apparatus .....	3,100	17	2,748	0	0	149
94. Radio and communication equipment .....	7,309	78	1,444	33	51	6
95. Electronic components .....	1,410	319	14	0	0	-1
96. Other electrical machinery and equipment .....	1,874	1,140	414	16	29	121
97. Motor vehicles .....	43,118	28,507	16,286	13	13	851
98. Aircraft .....	12,771	106	1,981	0	0	203
99. Ship and boat building and repair .....	3,978	973	1,145	0	0	230
100. Railroad equipment .....	1,747	0	1,491	0	0	1
101. Motorcycles, bicycles, and parts .....	357	1,313	46	0	0	85
102. Other transportation equipment .....	4,882	1,630	184	0	2,922	190
103. Scientific and controlling instruments .....	2,683	33	1,146	235	87	44
104. Medical and dental instruments .....	1,690	275	973	0	0	68
105. Optical and ophthalmic equipment .....	917	486	393	0	0	66
106. Photographic equipment and supplies .....	3,567	1,072	1,682	4	7	2
107. Watches and clocks .....	322	524	1	3	1	31
108. Jewelry and silverware .....	2,104	2,255	0	1	2	188
109. Musical instruments and sporting goods .....	3,623	3,396	323	1	2	169
110. Other manufactured products .....	2,188	1,342	443	22	79	159

See footnotes at end of table.

**C-1. Gross national product and major components by industry, 1972—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
111. Railroad transportation .....	5,593	2,485	403	249	495	248
112. Local transit and intercity buses .....	4,896	4,158	0	4	8	0
113. Truck transportation .....	12,301	6,673	686	730	771	238
114. Water transportation .....	3,504	1,026	25	50	74	31
115. Air transportation .....	7,173	5,759	81	20	40	9
116. Pipeline transportation .....	388	290	0	4	0	3
117. Transportation services .....	411	196	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	17,784	12,879	2,167	90	182	0
120. Electric utilities, public and private .....	14,550	12,220	0	14	27	0
121. Gas utilities, excluding public .....	7,009	6,555	0	2	3	0
122. Water and sanitary services, except public .....	2,997	2,801	0	26	54	0
123. Wholesale trade .....	60,932	38,172	6,588	1,813	2,433	999
124. Eating and drinking places .....	36,593	37,496	0	140	283	0
125. Retail trade, except eating and drinking .....	110,476	102,254	2,634	1,045	3,808	2
126. Banking .....	14,041	11,238	0	95	191	0
127. Credit agencies and financial brokers .....	7,723	7,527	0	10	16	0
128. Insurance .....	20,393	19,545	0	103	160	0
129. Owner-occupied real estate .....	76,783	76,783	0	0	0	0
130. Real estate .....	41,128	32,005	0	386	4,626	0
131. Hotels and lodging places .....	5,964	5,249	0	5	10	0
132. Personal and repair services .....	12,180	11,362	192	3	6	0
133. Barber and beauty shops .....	4,310	4,310	0	0	0	0
134. Miscellaneous business services .....	8,343	1,851	0	432	542	0
135. Advertising .....	688	123	0	14	29	0
136. Miscellaneous professional services .....	14,398	5,350	0	2,346	2,167	0
137. Automobile repair .....	14,697	13,779	0	141	178	0
138. Motion pictures .....	2,061	1,672	0	0	0	-164
139. Amusements and recreation services .....	6,941	7,360	0	3	6	0
140. Doctors' and dentists' services .....	23,305	21,676	0	0	0	0
141. Hospitals .....	22,296	19,653	0	0	0	0
142. Medical services, except hospitals .....	8,226	4,883	0	0	0	0
143. Educational services (private) .....	12,779	11,124	0	1	2	0
144. Nonprofit organizations .....	13,105	13,025	0	15	32	0
145. Post Office .....	2,900	1,869	0	9	20	0
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	421	300	0	0	0	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	2,051	1,987	0	2	4	0
150. Noncomparable imports .....	-5,062	6,550	5	11	23	4
151. Scrap, used and secondhand goods .....	-1,670	2,163	-3,902	-207	-1,116	204
152. New construction industry .....	55,090	0	0	18,315	23,248	0
153. Government industry .....	132,652	0	0	0	0	0
154. Rest-of-world industry .....	11,064	-3,524	0	0	0	0
155. Private households .....	4,631	4,631	0	0	0	0
156. Inventory valuation adjustment .....	-7,716	0	0	0	0	-7,716

See footnotes at end of table.

**C-1. Gross national product and major components by industry, 1972—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
Total .....	743	77,470	-76,727	253,107	101,686	151,421
1. Dairy and poultry products .....	15	17	-2	72	2	70
2. Meat animals and livestock .....	-163	94	-257	4	2	2
3. Cotton .....	389	403	-14	22	22	0
4. Food and feed grains .....	2,415	2,465	-50	-794	-815	21
5. Other agricultural products .....	1,329	1,896	-567	14	-178	192
6. Forestry and fishery products .....	-1,047	105	-1,152	-522	-530	7
7. Agricultural, forestry, fishery services .....	18	19	-2	79	16	63
8. Iron and ferroalloy ores mining .....	-517	102	-619	-24	-24	0
9. Copper ore mining .....	-66	17	-83	0	0	0
10. Nonferrous metal ores mining except copper .....	-316	15	-331	-7	-7	0
11. Coal mining .....	495	496	-1	69	47	22
12. Crude petroleum and gas, except drilling .....	-2,762	1	-2,763	0	0	0
13. Stone and clay mining and quarrying .....	-89	90	-179	585	60	525
14. Chemical and fertilizer mineral mining .....	-16	79	-96	47	-2	49
15. Maintenance and repair construction .....	6	6	0	9,409	2,067	7,342
16. Ordnance .....	233	314	-81	2,095	2,077	18
17. Guided missiles and space vehicles .....	11	11	0	3,629	3,629	0
18. Meat products .....	-928	569	-1,496	853	28	825
19. Dairy products .....	0	187	-187	651	191	461
20. Canned and frozen foods .....	-225	339	-564	415	11	404
21. Grain mill products .....	545	619	-75	104	39	65
22. Bakery products .....	-33	11	-44	160	4	156
23. Sugar .....	-991	9	-1,000	19	1	18
24. Confectionery products .....	-94	39	-133	71	1	70
25. Alcoholic beverages .....	-881	33	-913	-7	1	-9
26. Soft drinks and flavorings .....	70	85	-15	56	2	55
27. Other food products .....	542	971	-428	222	32	190
28. Tobacco manufacturing .....	767	839	-71	1	0	1
29. Fabric, yarn, and thread mills .....	-464	432	-895	83	25	58
30. Floor covering mills .....	-65	33	-98	82	12	69
31. Other textile mill products .....	-365	123	-488	14	8	5
32. Hosiery and knit goods .....	-153	26	-178	0	0	0
33. Apparel .....	-2,225	235	-2,460	214	130	84
34. Other fabricated textile products .....	-31	103	-134	194	144	50
35. Logging .....	375	407	-32	1	0	0
36. Sawmills and planing mills .....	-973	336	-1,310	111	16	95
37. Other millwork, plywood, and wood products .....	-624	106	-730	421	81	339
38. Wooden containers .....	-1	3	-4	13	13	0
39. Household furniture .....	-183	33	-216	107	64	42
40. Furniture and fixtures, except household .....	-100	28	-128	620	130	491
41. Paper products .....	-828	957	-1,785	678	141	537
42. Paperboard .....	26	33	-6	58	19	40
43. Newspaper printing and publishing .....	-8	4	-12	3	1	2
44. Periodical, book printing and publishing .....	107	276	-169	1,033	38	996
45. Other printing and publishing .....	35	91	-56	1,187	347	839
46. Industrial inorganic and organic chemicals .....	556	1,569	-1,013	933	696	236
47. Agricultural chemicals .....	149	329	-181	107	16	91
48. Other chemical products .....	231	400	-170	427	330	97
49. Plastic materials and synthetic rubber .....	454	576	-122	21	20	1
50. Synthetic fibers .....	-14	188	-202	15	15	0
51. Drugs .....	270	539	-269	1,039	153	886
52. Cleaning and toilet preparations .....	121	167	-46	222	48	174
53. Paints and allied products .....	67	69	-2	169	20	149
54. Petroleum refining and related products .....	-2,161	712	-2,873	2,592	898	1,694
55. Tires and inner tubes .....	-337	91	-428	129	70	60

See footnotes at end of table.

**C-1. Gross national product and major components by industry, 1972—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
56. Rubber products except tires and tubes .....	-257	153	-410	266	143	123
57. Plastic products .....	21	341	-321	243	70	173
58. Leather tanning and industrial leather .....	-86	71	-157	1	1	0
59. Leather products including footwear .....	-1,028	36	-1,064	18	8	9
60. Glass .....	-129	206	-336	184	36	148
61. Cement and concrete products .....	-82	12	-94	2,237	194	2,043
62. Structural clay products .....	-34	40	-74	133	12	121
63. Pottery and related products .....	-236	36	-271	47	11	36
64. Other stone and clay products .....	-31	167	-197	331	53	278
65. Blast furnaces and basic steel products .....	-2,813	624	-3,437	445	137	308
66. Iron and steel foundries and forgings .....	115	175	-60	519	90	429
67. Primary copper and copper products .....	-166	306	-472	399	163	236
68. Primary aluminum and aluminum products .....	-346	241	-587	26	23	3
69. Primary nonferrous metals and products .....	-1,264	268	-1,533	-38	-38	0
70. Metal containers .....	10	26	-16	18	8	10
71. Heating apparatus and plumbing fixtures .....	-1	68	-68	153	24	129
72. Fabricated structural metal products .....	243	323	-80	2,779	586	2,193
73. Screw machine products .....	-92	81	-173	84	71	12
74. Metal stampings .....	413	474	-61	36	9	27
75. Cutlery, handtools, general hardware .....	-100	201	-301	249	73	176
76. Other fabricated metal products .....	-166	411	-577	633	225	408
77. Engines, turbines, and generators .....	461	710	-248	411	325	86
78. Farm machinery .....	14	470	-456	58	14	44
79. Construction, mining, oilfield machinery .....	1,791	1,968	-177	291	139	152
80. Material handling equipment .....	70	198	-128	154	84	71
81. Metalworking machinery .....	285	582	-297	159	118	41
82. Special industry machinery .....	264	1,139	-875	80	64	16
83. General industrial machinery .....	343	876	-534	302	220	82
84. Other nonelectrical machinery .....	72	79	-7	237	58	179
85. Computers and peripheral equipment .....	977	1,525	-548	595	506	89
86. Typewriters and other office equipment .....	-51	135	-186	378	189	188
87. Service industry machines .....	451	528	-77	492	80	412
88. Electric transmission equipment .....	94	410	-316	546	310	237
89. Electrical industrial apparatus .....	193	418	-224	312	236	76
90. Household appliances .....	-289	216	-505	73	14	59
91. Electric lighting and wiring .....	65	237	-172	490	97	393
92. Radio and television receiving sets .....	-1,924	208	-2,132	124	70	53
93. Telephone and telegraph apparatus .....	-16	81	-97	204	203	1
94. Radio and communication equipment .....	316	604	-288	5,380	5,227	153
95. Electronic components .....	436	1,008	-572	642	621	21
96. Other electrical machinery and equipment .....	-19	301	-321	173	124	49
97. Motor vehicles .....	-4,336	4,123	-8,459	1,783	640	1,143
98. Aircraft .....	2,483	3,045	-562	7,999	7,994	4
99. Ship and boat building and repair .....	18	189	-171	1,611	1,594	17
100. Railroad equipment .....	148	174	-26	107	3	104
101. Motorcycles, bicycles, and parts .....	-1,105	7	-1,112	19	1	18
102. Other transportation equipment .....	-67	79	-146	22	3	18
103. Scientific and controlling instruments .....	454	573	-119	684	496	188
104. Medical and dental instruments .....	143	209	-66	231	105	126
105. Optical and ophthalmic equipment .....	-151	74	-225	123	100	23
106. Photographic equipment and supplies .....	192	575	-383	609	278	331
107. Watches and clocks .....	-275	14	-289	37	29	8
108. Jewelry and silverware .....	-338	226	-564	-2	-22	19
109. Musical instruments and sporting goods .....	-448	257	-705	181	5	176
110. Other manufactured products .....	-309	204	-513	452	102	349

See footnotes at end of table.

**C-1. Gross national product and major components by industry, 1972—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
111. Railroad transportation .....	1,085	1,142	-57	628	320	308
112. Local transit and intercity buses .....	1	1	0	725	39	687
113. Truck transportation .....	887	887	0	2,315	1,138	1,178
114. Water transportation .....	1,690	1,838	-148	607	510	97
115. Air transportation .....	128	1,075	-947	1,135	822	313
116. Pipeline transportation .....	56	56	0	36	16	20
117. Transportation services .....	215	215	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	389	389	0	2,076	852	1,224
120. Electric utilities, public and private .....	-29	38	-67	2,318	505	1,813
121. Gas utilities, excluding public .....	-237	110	-347	687	79	607
122. Water and sanitary services, except public .....	11	11	0	104	55	49
123. Wholesale trade .....	6,973	3,960	2,993	3,955	1,354	2,601
124. Eating and drinking places .....	0	0	0	-1,326	366	-1,692
125. Retail trade, except eating and drinking .....	118	118	0	615	8	606
126. Banking .....	8	8	0	2,509	752	1,758
127. Credit agencies and financial brokers .....	11	11	0	159	-20	179
128. Insurance .....	71	236	-165	513	-3	516
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	2,035	2,035	0	2,076	442	1,634
131. Hotels and lodging places .....	4	4	0	697	605	92
132. Personal and repair services .....	0	0	0	618	91	526
133. Barber and beauty shops .....	0	0	0	0	0	0
134. Miscellaneous business services .....	399	401	-2	5,119	2,995	2,124
135. Advertising .....	31	40	-10	492	17	474
136. Miscellaneous professional services .....	400	400	0	4,136	645	3,491
137. Automobile repair .....	0	0	0	600	127	472
138. Motion pictures .....	426	438	-12	128	96	31
139. Amusements and recreation services .....	0	0	0	-429	47	-476
140. Doctors' and dentists' services .....	0	0	0	1,629	203	1,426
141. Hospitals .....	0	0	0	2,643	319	2,324
142. Medical services, except hospitals .....	0	0	0	3,343	92	3,252
143. Educational services (private) .....	0	0	0	1,652	1,659	-7
144. Nonprofit organizations .....	23	53	-30	10	1	9
145. Post Office .....	21	21	0	980	422	558
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	118	118	0	3	3	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	0	0	0	58	17	42
150. Noncomparable imports .....	-15,162	681	-15,843	3,508	3,496	12
151. Scrap, used and secondhand goods .....	-210	919	-1,130	1,398	360	1,038
152. New construction industry .....	10	10	0	13,517	2,104	11,413
153. Government industry .....	0	0	0	132,652	49,305	83,347
154. Rest-of-world industry .....	14,790	18,841	-4,050	-202	-202	0
155. Private households .....	0	0	0	0	0	0
156. Inventory valuation adjustment .....	0	0	0	0	0	0

NOTE: Detail may not add to totals because of rounding.

## C-2. Gross national product and major components by industry, 1977

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
Total .....	1,369,770	864,357	101,674	41,508	57,885	13,302
1. Dairy and poultry products .....	1,276	1,218	0	0	0	-32
2. Meat animals and livestock .....	468	188	0	0	0	332
3. Cotton .....	704	0	0	0	0	93
4. Food and feed grains .....	4,459	175	0	3	12	2,138
5. Other agricultural products .....	7,144	5,005	0	15	75	634
6. Forestry and fishery products .....	-297	725	0	0	0	18
7. Agricultural, forestry, fishery services .....	302	131	0	9	51	0
8. Iron and ferroalloy ores mining .....	-446	0	0	0	0	3
9. Copper ore mining .....	-10	0	0	0	0	-4
10. Nonferrous metal ores mining except copper .....	-39	0	193	0	0	4
11. Coal mining .....	586	68	0	0	0	7
12. Crude petroleum and gas, except drilling .....	-6,130	0	129	0	0	67
13. Stone and clay mining and quarrying .....	1,166	7	0	333	191	50
14. Chemical and fertilizer mineral mining .....	23	1	0	0	0	-6
15. Maintenance and repair construction .....	9,341	0	0	7	19	0
16. Ordnance .....	2,320	567	0	16	7	39
17. Guided missiles and space vehicles .....	3,218	0	72	0	0	-35
18. Meat products .....	19,984	19,135	0	1	4	170
19. Dairy products .....	11,977	11,149	0	0	0	49
20. Canned and frozen foods .....	10,963	10,026	0	0	0	284
21. Grain mill products .....	5,455	4,398	0	0	0	171
22. Bakery products .....	6,468	6,278	0	0	0	19
23. Sugar .....	-2	953	0	0	0	21
24. Confectionery products .....	2,995	3,089	0	1	2	34
25. Alcoholic beverages .....	8,060	8,952	0	3	6	145
26. Soft drinks and flavorings .....	5,353	5,077	0	0	0	122
27. Other food products .....	6,729	5,447	0	0	0	223
28. Tobacco manufacturing .....	7,649	6,604	0	2	4	35
29. Fabric, yarn, and thread mills .....	858	574	0	0	0	230
30. Floor covering mills .....	3,145	1,649	861	35	448	121
31. Other textile mill products .....	59	147	8	4	31	15
32. Hosiery and knit goods .....	1,716	1,663	0	0	0	50
33. Apparel .....	21,008	23,186	0	2	6	216
34. Other fabricated textile products .....	3,348	3,015	0	1	2	86
35. Logging .....	472	3	0	2	0	15
36. Sawmills and planing mills .....	2,042	0	0	225	2,318	248
37. Other millwork, plywood, and wood products .....	7,054	376	7	1,139	5,189	340
38. Wooden containers .....	4	0	0	0	0	-5
39. Household furniture .....	6,880	6,060	676	4	84	102
40. Furniture and fixtures, except household .....	3,686	336	2,670	87	103	79
41. Paper products .....	3,462	2,844	0	50	211	289
42. Paperboard .....	241	105	0	1	2	17
43. Newspaper printing and publishing .....	2,000	1,994	0	0	0	19
44. Periodical, book printing and publishing .....	4,866	3,249	0	1	3	78
45. Other printing and publishing .....	2,383	914	0	4	11	54
46. Industrial inorganic and organic chemicals .....	1,578	19	166	83	10	27
47. Agricultural chemicals .....	505	103	0	1	4	96
48. Other chemical products .....	1,441	454	0	166	69	47
49. Plastic materials and synthetic rubber .....	648	0	0	0	0	177
50. Synthetic fibers .....	229	0	0	0	0	22
51. Drugs .....	7,317	5,188	0	0	0	135
52. Cleaning and toilet preparations .....	8,346	7,797	0	0	0	82
53. Paints and allied products .....	894	136	0	158	245	100
54. Petroleum refining and related products .....	17,509	15,672	0	610	371	285
55. Tires and inner tubes .....	2,984	2,969	0	61	55	174

See footnotes at end of table.

**C-2. Gross national product and major components by industry, 1977—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
56. Rubber products except tires and tubes .....	1,265	1,238	33	9	63	46
57. Plastic products .....	2,364	828	12	208	555	405
58. Leather tanning and industrial leather .....	7	0	0	0	0	23
59. Leather products including footwear .....	3,874	5,162	0	1	2	60
60. Glass .....	1,161	710	0	69	59	53
61. Cement and concrete products .....	6,505	1	0	1,867	2,709	107
62. Structural clay products .....	778	0	0	146	514	24
63. Pottery and related products .....	540	399	0	143	152	29
64. Other stone and clay products .....	1,904	191	0	740	483	151
65. Blast furnaces and basic steel products .....	-810	4	0	1,456	233	47
66. Iron and steel foundries and forgings .....	854	0	2	49	65	37
67. Primary copper and copper products .....	2,516	20	82	1,613	593	122
68. Primary aluminum and aluminum products .....	-107	14	0	26	5	176
69. Primary nonferrous metals and products .....	-926	0	0	1	0	44
70. Metal containers .....	170	0	11	0	0	137
71. Heating apparatus and plumbing fixtures .....	1,349	188	0	220	704	40
72. Fabricated structural metal products .....	12,057	37	1,622	5,110	2,042	465
73. Screw machine products .....	54	41	0	23	9	64
74. Metal stampings .....	1,025	453	0	6	0	102
75. Cutlery, handtools, general hardware .....	1,960	1,040	42	153	377	171
76. Other fabricated metal products .....	3,587	304	725	1,670	131	464
77. Engines, turbines, and generators .....	3,124	166	1,253	0	0	86
78. Farm machinery .....	5,970	77	5,643	0	0	123
79. Construction, mining, oilfield machinery .....	7,909	0	4,592	365	58	65
80. Material handling equipment .....	2,390	0	1,728	209	8	97
81. Metalworking machinery .....	5,368	222	4,626	4	10	215
82. Special industry machinery .....	4,497	86	3,576	0	0	55
83. General industrial machinery .....	4,378	0	2,888	191	179	215
84. Other nonelectrical machinery .....	469	18	33	2	6	57
85. Computers and peripheral equipment .....	11,515	26	8,072	0	0	362
86. Typewriters and other office equipment .....	1,730	403	963	0	0	5
87. Service industry machines .....	5,165	407	2,238	311	696	87
88. Electric transmission equipment .....	4,277	27	2,909	263	257	77
89. Electrical industrial apparatus .....	2,130	26	1,312	17	0	108
90. Household appliances .....	6,871	5,227	1,220	45	169	273
91. Electric lighting and wiring .....	2,826	762	109	837	385	82
92. Radio and television receiving sets .....	4,848	6,993	344	1	4	281
93. Telephone and telegraph apparatus .....	3,755	20	3,413	0	0	79
94. Radio and communication equipment .....	9,316	115	1,995	31	57	29
95. Electronic components .....	2,678	1,131	45	0	0	183
96. Other electrical machinery and equipment .....	3,166	1,458	1,130	13	30	119
97. Motor vehicles .....	59,091	36,868	22,408	17	12	793
98. Aircraft .....	12,067	588	1,578	0	0	58
99. Ship and boat building and repair .....	4,826	992	1,222	0	0	85
100. Railroad equipment .....	1,818	0	1,532	0	0	15
101. Motorcycles, bicycles, and parts .....	423	922	29	0	0	43
102. Other transportation equipment .....	3,626	1,303	127	0	2,088	33
103. Scientific and controlling instruments .....	3,928	34	1,811	255	92	135
104. Medical and dental instruments .....	2,291	343	1,245	0	0	65
105. Optical and ophthalmic equipment .....	1,542	726	817	0	0	55
106. Photographic equipment and supplies .....	4,865	1,189	2,773	3	9	13
107. Watches and clocks .....	287	684	1	2	1	22
108. Jewelry and silverware .....	2,379	2,770	0	1	2	245
109. Musical instruments and sporting goods .....	3,996	3,875	280	1	2	129
110. Other manufactured products .....	2,369	1,432	416	19	86	102

See footnotes at end of table.

**C-2. Gross national product and major components by industry, 1977—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
111. Railroad transportation .....	5,435	2,274	424	227	455	319
112. Local transit and intercity buses .....	4,669	4,200	0	3	8	0
113. Truck transportation .....	12,920	6,884	871	486	717	357
114. Water transportation .....	4,026	979	26	54	68	41
115. Air transportation .....	8,954	7,394	107	18	43	13
116. Pipeline transportation .....	343	232	0	4	0	4
117. Transportation services .....	567	298	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	27,065	19,120	3,700	86	244	0
120. Electric utilities, public and private .....	19,287	15,962	0	10	27	0
121. Gas utilities, excluding public .....	6,556	6,544	0	0	2	0
122. Water and sanitary services, except public .....	3,000	3,041	0	18	53	0
123. Wholesale trade .....	66,356	43,042	7,973	1,233	1,348	1,445
124. Eating and drinking places .....	42,709	44,517	0	106	298	0
125. Retail trade, except eating and drinking .....	132,593	124,963	3,358	737	3,168	3
126. Banking .....	20,172	15,085	0	83	235	0
127. Credit agencies and financial brokers .....	8,379	8,045	0	13	18	0
128. Insurance .....	23,710	22,835	0	122	181	0
129. Owner-occupied real estate .....	99,043	99,043	0	0	0	0
130. Real estate .....	50,185	37,801	0	388	6,723	0
131. Hotels and lodging places .....	7,059	6,078	0	4	11	0
132. Personal and repair services .....	13,017	11,988	203	2	7	0
133. Barber and beauty shops .....	3,557	3,557	0	0	0	0
134. Miscellaneous business services .....	10,620	2,361	0	543	566	0
135. Advertising .....	860	142	0	11	31	0
136. Miscellaneous professional services .....	17,108	6,238	0	2,071	2,914	0
137. Automobile repair .....	17,618	16,580	0	175	184	0
138. Motion pictures .....	2,626	1,821	0	0	0	70
139. Amusements and recreation services .....	9,227	9,514	0	3	10	0
140. Doctors' and dentists' services .....	29,294	27,112	0	0	0	0
141. Hospitals .....	30,127	26,233	0	0	0	0
142. Medical services, except hospitals .....	11,083	6,995	0	0	0	0
143. Educational services (private) .....	13,544	11,677	0	1	3	0
144. Nonprofit organizations .....	13,232	13,121	0	13	37	0
145. Post Office .....	3,138	1,952	0	6	20	0
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	355	188	0	0	0	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	2,702	2,624	0	1	4	0
150. Noncomparable imports .....	-5,565	5,400	3	6	18	4
151. Scrap, used and secondhand goods .....	-1,672	2,686	-4,629	-145	-359	277
152. New construction industry .....	46,022	0	0	16,108	18,470	0
153. Government industry .....	143,982	0	0	0	0	0
154. Rest-of-world industry .....	15,711	-5,162	0	0	0	0
155. Private households .....	3,826	3,826	0	0	0	0
156. Inventory valuation adjustment .....	-4,067	0	0	0	0	-4,067

See footnotes at end of table.



**C-2. Gross national product and major components by industry, 1977—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
Total .....	22,006	112,877	-90,871	269,038	100,369	168,669
1. Dairy and poultry products .....	6	11	-4	84	3	81
2. Meat animals and livestock .....	-58	273	-331	7	4	3
3. Cotton .....	589	592	-3	22	22	0
4. Food and feed grains .....	3,800	3,853	-53	-1,670	-1,696	26
5. Other agricultural products .....	1,493	2,243	-750	-78	-312	234
6. Forestry and fishery products .....	-600	249	-849	-439	-445	6
7. Agricultural, forestry, fishery services .....	23	24	-2	87	15	71
8. Iron and ferroalloy ores mining .....	-431	155	-586	-18	-18	0
9. Copper ore mining .....	-6	9	-15	0	0	0
10. Nonferrous metal ores mining except copper .....	-231	42	-273	-4	-4	0
11. Coal mining .....	443	458	-15	69	52	17
12. Crude petroleum and gas, except drilling .....	-6,361	10	-6,370	34	34	0
13. Stone and clay mining and quarrying .....	-52	180	-231	636	158	478
14. Chemical and fertilizer mineral mining .....	-10	76	-86	38	-1	39
15. Maintenance and repair construction .....	0	0	0	9,315	2,127	7,188
16. Ordnance .....	348	415	-67	1,343	1,331	11
17. Guided missiles and space vehicles .....	64	64	0	3,118	3,118	0
18. Meat products .....	-125	1,019	-1,144	799	32	768
19. Dairy products .....	-45	128	-173	823	214	609
20. Canned and frozen foods .....	153	618	-465	500	14	486
21. Grain mill products .....	772	839	-66	114	36	78
22. Bakery products .....	-23	12	-35	195	4	191
23. Sugar .....	-993	38	-1,031	17	1	17
24. Confectionery products .....	-212	57	-269	82	1	81
25. Alcoholic beverages .....	-1,016	60	-1,075	-31	2	-32
26. Soft drinks and flavorings .....	79	108	-29	76	2	74
27. Other food products .....	842	1,297	-455	216	38	178
28. Tobacco manufacturing .....	1,003	1,090	-87	1	0	0
29. Fabric, yarn, and thread mills .....	-42	642	-684	95	22	73
30. Floor covering mills .....	-37	80	-117	69	13	56
31. Other textile mill products .....	-169	163	-332	22	17	5
32. Hosiery and knit goods .....	3	47	-44	0	0	0
33. Apparel .....	-2,625	470	-3,095	222	158	64
34. Other fabricated textile products .....	62	211	-150	182	117	66
35. Logging .....	451	486	-36	1	0	0
36. Sawmills and planing mills .....	-849	411	-1,261	101	27	74
37. Other millwork, plywood, and wood products .....	-407	209	-616	410	130	280
38. Wooden containers .....	-1	2	-3	9	9	0
39. Household furniture .....	-185	89	-274	139	77	61
40. Furniture and fixtures, except household .....	-87	59	-146	499	98	401
41. Paper products .....	-771	1,196	-1,966	838	193	645
42. Paperboard .....	49	55	-7	67	18	49
43. Newspaper printing and publishing .....	-16	4	-20	4	1	3
44. Periodical, book printing and publishing .....	200	347	-147	1,335	55	1,280
45. Other printing and publishing .....	29	100	-71	1,372	348	1,024
46. Industrial inorganic and organic chemicals .....	274	1,403	-1,129	998	720	278
47. Agricultural chemicals .....	190	487	-297	111	17	94
48. Other chemical products .....	374	552	-178	330	235	95
49. Plastic materials and synthetic rubber .....	453	586	-134	19	18	1
50. Synthetic fibers .....	189	332	-143	18	18	0
51. Drugs .....	580	1,036	-456	1,414	177	1,238
52. Cleaning and toilet preparations .....	186	254	-68	282	58	224
53. Paints and allied products .....	95	100	-5	160	33	127
54. Petroleum refining and related products .....	-1,460	554	-2,014	2,030	937	1,093
55. Tires and inner tubes .....	-373	169	-542	98	56	42

See footnotes at end of table.

**C-2. Gross national product and major components by industry, 1977—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
56. Rubber products except tires and tubes .....	-446	245	-691	321	143	178
57. Plastic products .....	105	546	-441	251	78	173
58. Leather tanning and industrial leather .....	-16	99	-115	0	0	0
59. Leather products including footwear .....	-1,373	73	-1,446	21	8	13
60. Glass .....	24	359	-335	247	49	198
61. Cement and concrete products .....	-39	33	-72	1,860	330	1,530
62. Structural clay products .....	-41	42	-83	135	17	118
63. Pottery and related products .....	-231	46	-277	48	14	34
64. Other stone and clay products .....	43	236	-193	296	77	219
65. Blast furnaces and basic steel products .....	-2,904	656	-3,560	353	128	225
66. Iron and steel foundries and forgings .....	157	242	-85	544	71	473
67. Primary copper and copper products .....	-292	329	-622	378	159	218
68. Primary aluminum and aluminum products .....	-357	277	-633	28	2	5
69. Primary nonferrous metals and products .....	-969	208	-1,178	-1	-24	0
70. Metal containers .....	5	33	-28	18	6	11
71. Heating apparatus and plumbing fixtures .....	61	98	-37	135	24	111
72. Fabricated structural metal products .....	457	552	-96	2,324	705	1,619
73. Screw machine products .....	-162	105	-268	79	67	12
74. Metal stampings .....	420	464	-44	44	9	35
75. Cutlery, handtools, general hardware .....	-48	308	-356	225	71	154
76. Other fabricated metal products .....	-223	575	-798	516	177	339
77. Engines, turbines, and generators .....	1,293	1,564	-271	325	288	37
78. Farm machinery .....	46	719	-673	81	17	65
79. Construction, mining, oilfield machinery .....	2,572	2,959	-387	257	124	133
80. Material handling equipment .....	187	299	-112	160	104	56
81. Metalworking machinery .....	133	610	-477	158	122	35
82. Special industry machinery .....	716	1,434	-718	64	41	24
83. General industrial machinery .....	516	1,356	-840	389	282	107
84. Other nonelectrical machinery .....	108	118	-9	245	45	200
85. Computers and peripheral equipment .....	2,022	3,211	-1,189	1,033	903	130
86. Typewriters and other office equipment .....	-126	199	-325	485	180	305
87. Service industry machines .....	855	950	-95	571	103	468
88. Electric transmission equipment .....	269	540	-271	474	275	199
89. Electrical industrial apparatus .....	357	608	-251	308	243	65
90. Household appliances .....	-134	468	-602	71	13	58
91. Electric lighting and wiring .....	234	365	-131	416	119	297
92. Radio and television receiving sets .....	-2,925	490	-3,414	148	109	39
93. Telephone and telegraph apparatus .....	71	147	-76	172	171	1
94. Radio and communication equipment .....	91	1,118	-1,027	6,997	6,766	231
95. Electronic components .....	313	2,564	-2,251	1,006	958	49
96. Other electrical machinery and equipment .....	181	597	-416	235	183	52
97. Motor vehicles .....	-3,344	6,151	-9,495	2,336	635	1,701
98. Aircraft .....	3,719	4,160	-441	6,125	6,118	7
99. Ship and boat building and repair .....	205	298	-93	2,322	2,289	33
100. Railroad equipment .....	130	162	-32	141	3	138
101. Motorcycles, bicycles, and parts .....	-578	25	-603	8	1	7
102. Other transportation equipment .....	59	91	-32	15	2	13
103. Scientific and controlling instruments .....	818	987	-169	783	532	250
104. Medical and dental instruments .....	340	462	-122	299	143	156
105. Optical and ophthalmic equipment .....	-249	178	-427	193	171	22
106. Photographic equipment and supplies .....	221	905	-684	658	261	396
107. Watches and clocks .....	-454	125	-579	30	24	6
108. Jewelry and silverware .....	-653	303	-957	14	-7	21
109. Musical instruments and sporting goods .....	-526	312	-838	236	5	230
110. Other manufactured products .....	-111	331	-441	425	103	322

See footnotes at end of table.

**C-2. Gross national product and major components by industry, 1977—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
111. Railroad transportation .....	1,301	1,353	-52	434	247	186
112. Local transit and intercity buses .....	12	12	0	446	43	403
113. Truck transportation .....	1,276	1,276	0	2,329	948	1,381
114. Water transportation .....	2,498	2,280	217	361	272	89
115. Air transportation .....	219	1,518	-1,299	1,160	847	313
116. Pipeline transportation .....	69	69	0	33	14	19
117. Transportation services .....	270	270	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	635	635	0	3,279	879	2,401
120. Electric utilities, public and private .....	-145	45	-190	3,434	531	2,902
121. Gas utilities, excluding public .....	-517	89	-605	526	55	471
122. Water and sanitary services, except public .....	13	13	0	-126	50	-176
123. Wholesale trade .....	7,613	5,581	2,032	3,702	1,083	2,619
124. Eating and drinking places .....	0	0	0	-2,212	267	-2,480
125. Retail trade, except eating and drinking .....	42	42	0	322	43	279
126. Banking .....	12	12	0	4,757	1,161	3,596
127. Credit agencies and financial brokers .....	15	15	0	288	-33	321
128. Insurance .....	-8	345	-354	579	-21	601
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	3,026	3,026	0	2,248	609	1,638
131. Hotels and lodging places .....	6	6	0	960	626	334
132. Personal and repair services .....	1	1	0	817	122	695
133. Barber and beauty shops .....	0	0	0	0	0	0
134. Miscellaneous business services .....	537	540	-3	6,613	3,380	3,233
135. Advertising .....	39	52	-14	638	16	622
136. Miscellaneous professional services .....	622	622	0	5,263	797	4,466
137. Automobile repair .....	0	0	0	679	97	583
138. Motion pictures .....	589	615	-26	146	104	42
139. Amusements and recreation services .....	0	0	0	-299	453	-753
140. Doctors' and dentists' services .....	0	0	0	2,183	221	1,961
141. Hospitals .....	0	0	0	3,895	724	3,171
142. Medical services, except hospitals .....	0	0	0	4,089	173	3,916
143. Educational services (private) .....	0	0	0	1,863	1,868	-5
144. Nonprofit organizations .....	54	77	-24	8	0	8
145. Post Office .....	27	27	0	1,132	439	693
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	163	163	0	3	3	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	0	0	0	73	18	54
150. Noncomparable imports .....	-13,774	696	-14,470	2,778	2,769	9
151. Scrap, used and secondhand goods .....	-112	1,213	-1,325	610	214	396
152. New construction industry .....	0	0	0	11,444	2,352	9,092
153. Government industry .....	0	0	0	143,982	47,793	96,190
154. Rest-of-world industry .....	21,438	27,992	-6,555	-565	-565	0
155. Private households .....	0	0	0	0	0	0
156. Inventory valuation adjustment .....	0	0	0	0	0	0

NOTE: Detail may not add to totals because of rounding.

### C-3. Gross national product and major components by industry, 1995 low alternative

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
Total .....	2,126,746	1,349,086	162,499	45,600	65,702	11,900
1. Dairy and poultry products .....	1,542	1,475	0	0	0	-28
2. Meat animals and livestock .....	1,062	289	0	0	0	297
3. Cotton .....	902	0	0	0	0	83
4. Food and feed grains .....	10,231	207	0	3	12	1,913
5. Other agricultural products .....	9,332	6,386	0	20	75	567
6. Forestry and fishery products .....	-632	763	0	0	0	16
7. Agricultural, forestry, fishery services .....	416	222	0	13	52	0
8. Iron and ferroalloy ores mining .....	-148	0	0	0	0	2
9. Copper ore mining .....	21	0	0	0	0	-4
10. Nonferrous metal ores mining except copper .....	-14	0	308	0	0	3
11. Coal mining .....	1,266	138	0	0	0	6
12. Crude petroleum and gas, except drilling .....	-6,723	0	207	0	0	60
13. Stone and clay mining and quarrying .....	1,817	11	0	352	211	45
14. Chemical and fertilizer mineral mining .....	128	2	0	0	0	-6
15. Maintenance and repair construction .....	9,074	0	0	8	17	0
16. Ordnance .....	4,557	865	0	20	8	35
17. Guided missiles and space vehicles .....	5,847	0	113	0	0	-32
18. Meat products .....	24,911	22,217	0	2	4	152
19. Dairy products .....	13,024	12,275	0	0	0	44
20. Canned and frozen foods .....	15,027	13,615	0	0	0	254
21. Grain mill products .....	7,052	4,951	0	0	0	153
22. Bakery products .....	5,908	5,740	0	0	0	17
23. Sugar .....	85	928	0	0	0	19
24. Confectionery products .....	3,960	4,249	0	1	2	30
25. Alcoholic beverages .....	14,161	15,004	0	4	6	129
26. Soft drinks and flavorings .....	9,372	8,879	0	0	0	110
27. Other food products .....	10,796	7,694	0	0	0	200
28. Tobacco manufacturing .....	8,136	6,817	0	2	4	31
29. Fabric, yarn, and thread mills .....	829	677	0	0	0	206
30. Floor covering mills .....	5,552	2,926	1,600	46	542	108
31. Other textile mill products .....	269	212	13	4	30	13
32. Hosiery and knit goods .....	2,918	2,849	0	0	0	45
33. Apparel .....	23,773	28,354	0	3	6	193
34. Other fabricated textile products .....	4,895	4,283	0	1	2	77
35. Logging .....	809	5	0	2	0	13
36. Sawmills and planing mills .....	2,427	0	0	191	2,258	222
37. Other millwork, plywood, and wood products .....	9,014	744	11	1,039	6,105	304
38. Wooden containers .....	12	0	0	0	0	-4
39. Household furniture .....	8,520	7,353	930	4	104	92
40. Furniture and fixtures, except household .....	5,157	506	3,698	114	127	70
41. Paper products .....	8,171	5,135	0	52	236	259
42. Paperboard .....	375	147	0	1	2	15
43. Newspaper printing and publishing .....	2,021	2,021	0	0	0	17
44. Periodical, book printing and publishing .....	7,513	5,733	0	2	3	70
45. Other printing and publishing .....	2,928	1,358	0	5	10	48
46. Industrial inorganic and organic chemicals .....	2,108	27	265	103	10	24
47. Agricultural chemicals .....	1,353	187	0	1	4	86
48. Other chemical products .....	3,137	797	0	212	96	42
49. Plastic materials and synthetic rubber .....	869	0	0	0	0	158
50. Synthetic fibers .....	612	0	0	0	0	19
51. Drugs .....	18,928	14,310	0	0	0	121
52. Cleaning and toilet preparations .....	12,218	11,091	0	0	0	73
53. Paints and allied products .....	1,098	202	0	172	321	89
54. Petroleum refining and related products .....	18,467	15,328	0	656	377	255
55. Tires and inner tubes .....	1,669	2,602	0	71	55	156

See footnotes at end of table.

**C-3. Gross national product and major components by industry, 1995 low alternative—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
56. Rubber products except tires and tubes .....	1,082	1,346	53	12	66	41
57. Plastic products .....	5,393	2,227	20	226	654	363
58. Leather tanning and industrial leather .....	87	0	0	0	0	20
59. Leather products including footwear .....	2,612	5,083	0	1	2	54
60. Glass .....	1,801	899	0	96	58	48
61. Cement and concrete products .....	7,111	2	0	1,975	2,867	96
62. Structural clay products .....	622	0	0	62	435	21
63. Pottery and related products .....	371	406	0	123	164	26
64. Other stone and clay products .....	2,635	332	0	729	530	135
65. Blast furnaces and basic steel products .....	-763	6	0	1,149	267	42
66. Iron and steel foundries and forgings .....	1,166	0	4	57	75	33
67. Primary copper and copper products .....	2,725	28	130	1,627	752	109
68. Primary aluminum and aluminum products .....	338	15	0	21	6	158
69. Primary nonferrous metals and products .....	-1,524	0	0	1	0	40
70. Metal containers .....	181	0	17	0	0	123
71. Heating apparatus and plumbing fixtures .....	1,609	213	0	210	872	36
72. Fabricated structural metal products .....	15,262	56	2,739	5,377	2,474	416
73. Screw machine products .....	54	61	0	28	11	57
74. Metal stampings .....	1,271	592	0	9	0	91
75. Cutlery, handtools, general hardware .....	2,696	1,493	66	181	383	153
76. Other fabricated metal products .....	5,190	374	1,398	1,555	179	415
77. Engines, turbines, and generators .....	6,267	426	1,250	0	0	77
78. Farm machinery .....	7,190	134	6,155	0	0	110
79. Construction, mining, oilfield machinery .....	12,769	0	5,079	462	57	58
80. Material handling equipment .....	3,587	0	2,533	252	14	87
81. Metalworking machinery .....	7,858	334	6,709	5	9	193
82. Special industry machinery .....	5,600	129	3,757	0	0	49
83. General industrial machinery .....	7,112	0	3,410	231	208	192
84. Other nonelectrical machinery .....	651	34	52	2	6	51
85. Computers and peripheral equipment .....	52,550	6,182	32,431	0	0	324
86. Typewriters and other office equipment .....	4,245	1,344	2,286	0	0	5
87. Service industry machines .....	11,145	856	5,087	395	733	78
88. Electric transmission equipment .....	6,444	49	3,810	315	347	69
89. Electrical industrial apparatus .....	3,601	40	1,727	16	1	97
90. Household appliances .....	11,127	8,319	1,951	56	194	244
91. Electric lighting and wiring .....	3,811	988	174	903	484	74
92. Radio and television receiving sets .....	12,342	15,983	545	2	4	252
93. Telephone and telegraph apparatus .....	9,295	388	6,893	0	0	71
94. Radio and communication equipment .....	25,271	338	5,178	39	74	26
95. Electronic components .....	4,684	2,956	71	0	0	164
96. Other electrical machinery and equipment .....	5,986	2,761	1,429	16	30	107
97. Motor vehicles .....	61,490	40,607	19,259	19	13	710
98. Aircraft .....	21,843	936	1,768	0	0	52
99. Ship and boat building and repair .....	7,434	1,525	1,200	0	0	76
100. Railroad equipment .....	1,583	0	1,320	0	0	13
101. Motorcycles, bicycles, and parts .....	355	1,160	46	0	0	39
102. Other transportation equipment .....	4,365	1,679	202	0	2,275	30
103. Scientific and controlling instruments .....	5,343	53	2,140	251	103	121
104. Medical and dental instruments .....	4,545	776	2,363	0	0	58
105. Optical and ophthalmic equipment .....	3,746	1,566	1,829	0	0	49
106. Photographic equipment and supplies .....	10,856	2,676	4,800	4	8	12
107. Watches and clocks .....	34	869	2	3	1	20
108. Jewelry and silverware .....	2,686	3,614	0	1	2	219
109. Musical instruments and sporting goods .....	5,585	4,982	447	1	2	116
110. Other manufactured products .....	3,326	1,682	514	22	88	91

See footnotes at end of table.

**C-3. Gross national product and major components by industry, 1995 low alternative—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
111. Railroad transportation .....	6,975	3,189	448	248	479	286
112. Local transit and intercity buses .....	4,540	4,080	0	4	8	0
113. Truck transportation .....	18,640	9,033	1,450	501	771	319
114. Water transportation .....	5,416	1,106	41	60	67	36
115. Air transportation .....	17,936	14,422	170	20	41	12
116. Pipeline transportation .....	438	222	0	4	0	3
117. Transportation services .....	1,054	443	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	71,270	48,795	11,473	107	224	0
120. Electric utilities, public and private .....	30,721	27,200	0	12	25	0
121. Gas utilities, excluding public .....	4,302	4,500	0	0	2	0
122. Water and sanitary services, except public .....	3,913	3,911	0	23	49	0
123. Wholesale trade .....	100,498	63,990	13,352	1,246	1,502	1,293
124. Eating and drinking places .....	50,839	52,467	0	132	274	0
125. Retail trade, except eating and drinking .....	201,459	191,748	5,090	798	3,385	3
126. Banking .....	38,150	33,308	0	104	216	0
127. Credit agencies and financial brokers .....	20,386	20,026	0	15	17	0
128. Insurance .....	41,418	40,139	0	141	178	0
129. Owner-occupied real estate .....	179,783	179,783	0	0	0	0
130. Real estate .....	76,602	58,390	0	270	9,344	0
131. Hotels and lodging places .....	13,102	11,525	0	5	10	0
132. Personal and repair services .....	14,235	12,956	324	3	6	0
133. Barber and beauty shops .....	4,040	4,040	0	0	0	0
134. Miscellaneous business services .....	19,857	5,944	0	877	560	0
135. Advertising .....	1,020	269	0	13	28	0
136. Miscellaneous professional services .....	23,279	10,813	0	2,350	3,061	0
137. Automobile repair .....	24,393	23,248	0	200	181	0
138. Motion pictures .....	3,594	2,308	0	0	0	63
139. Amusements and recreation services .....	20,016	19,952	0	4	9	0
140. Doctors' and dentists' services .....	51,661	48,672	0	0	0	0
141. Hospitals .....	53,287	48,053	0	0	0	0
142. Medical services, except hospitals .....	22,978	17,849	0	0	0	0
143. Educational services (private) .....	18,355	16,459	0	1	3	0
144. Nonprofit organizations .....	22,061	21,857	0	17	34	0
145. Post Office .....	3,598	2,178	0	8	19	0
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	656	280	0	0	0	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	3,421	3,329	0	2	4	0
150. Noncomparable imports .....	-2,771	7,819	5	8	17	3
151. Scrap, used and secondhand goods .....	-1,063	4,984	-7,838	-39	-526	247
152. New construction industry .....	53,403	0	0	18,928	20,590	0
153. Government industry .....	171,499	0	0	0	0	0
154. Rest-of-world industry .....	51,386	-8,931	0	0	0	0
155. Private households .....	2,653	2,653	0	0	0	0
156. Inventory valuation adjustment .....	-3,639	0	0	0	0	-3,639

See footnotes at end of table.

**C-3. Gross national product and major components by industry, 1995 low alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
Total .....	148,499	267,898	-119,399	343,461	156,961	186,500
1. Dairy and poultry products .....	12	14	-2	84	3	81
2. Meat animals and livestock .....	469	642	-172	7	4	2
3. Cotton .....	798	799	-2	22	22	0
4. Food and feed grains .....	11,449	11,483	-34	-3,354	-3,377	24
5. Other agricultural products .....	2,836	3,515	-679	-553	-769	217
6. Forestry and fishery products .....	-667	428	-1,095	-744	-751	6
7. Agricultural, forestry, fishery services .....	40	42	-2	90	27	62
8. Iron and ferroalloy ores mining .....	-110	541	-651	-41	-41	0
9. Copper ore mining .....	25	30	-6	0	0	0
10. Nonferrous metal ores mining except copper .....	-316	106	-421	-10	-10	0
11. Coal mining .....	1,011	1,037	-26	111	96	15
12. Crude petroleum and gas, except drilling .....	-7,023	24	-7,048	34	34	0
13. Stone and clay mining and quarrying .....	360	597	-237	839	251	587
14. Chemical and fertilizer mineral mining .....	98	207	-108	34	-3	36
15. Maintenance and repair construction .....	0	0	0	9,049	2,966	6,083
16. Ordnance .....	587	641	-53	3,041	3,025	16
17. Guided missiles and space vehicles .....	99	99	0	5,666	5,666	0
18. Meat products .....	1,749	2,631	-881	787	36	751
19. Dairy products .....	-89	90	-179	793	213	580
20. Canned and frozen foods .....	664	1,114	-450	494	14	480
21. Grain mill products .....	1,836	1,887	-51	113	43	71
22. Bakery products .....	-34	17	-51	186	4	182
23. Sugar .....	-879	86	-965	17	0	17
24. Confectionery products .....	-393	149	-542	71	1	70
25. Alcoholic beverages .....	-955	227	-1,182	-27	3	-30
26. Soft drinks and flavorings .....	308	368	-60	76	2	74
27. Other food products .....	2,691	2,900	-209	210	35	176
28. Tobacco manufacturing .....	1,281	1,356	-75	0	0	0
29. Fabric, yarn, and thread mills .....	-188	1,205	-1,393	134	49	85
30. Floor covering mills .....	273	383	-110	58	18	40
31. Other textile mill products .....	-28	423	-451	24	19	5
32. Hosiery and knit goods .....	24	90	-66	0	0	0
33. Apparel .....	-5,128	897	-6,024	344	255	89
34. Other fabricated textile products .....	218	423	-205	314	240	73
35. Logging .....	789	798	-9	1	0	1
36. Sawmills and planing mills .....	-360	720	-1,080	115	39	76
37. Other millwork, plywood, and wood products .....	310	869	-559	501	207	294
38. Wooden containers .....	2	7	-5	15	15	0
39. Household furniture .....	-115	212	-327	153	91	61
40. Furniture and fixtures, except household .....	147	265	-118	495	131	365
41. Paper products .....	1,647	3,184	-1,537	842	229	613
42. Paperboard .....	130	136	-7	80	28	52
43. Newspaper printing and publishing .....	-21	2	-23	5	2	2
44. Periodical, book printing and publishing .....	565	709	-143	1,141	84	1,056
45. Other printing and publishing .....	63	171	-109	1,444	505	939
46. Industrial inorganic and organic chemicals .....	213	1,977	-1,764	1,465	1,193	273
47. Agricultural chemicals .....	963	1,401	-438	111	24	87
48. Other chemical products .....	1,412	1,577	-165	578	481	97
49. Plastic materials and synthetic rubber .....	669	1,062	-393	42	41	1
50. Synthetic fibers .....	550	796	-246	42	42	0
51. Drugs .....	2,439	2,933	-494	2,058	272	1,786
52. Cleaning and toilet preparations .....	746	830	-84	307	87	220
53. Paints and allied products .....	141	147	-6	173	50	123
54. Petroleum refining and related products .....	-710	830	-1,540	2,561	1,411	1,150
55. Tires and inner tubes .....	-1,361	269	-1,630	146	95	51

See footnotes at end of table.

**C-3. Gross national product and major components by industry, 1995 low alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
56. Rubber products except tires and tubes .....	-959	439	-1,397	522	293	230
57. Plastic products .....	1,594	2,101	-507	311	136	174
58. Leather tanning and industrial leather .....	66	126	-60	1	1	0
59. Leather products including footwear .....	-2,561	197	-2,758	33	14	20
60. Glass .....	403	736	-332	299	81	218
61. Cement and concrete products .....	-28	105	-133	2,198	512	1,686
62. Structural clay products .....	-27	35	-62	131	23	108
63. Pottery and related products .....	-406	106	-512	60	21	38
64. Other stone and clay products .....	573	733	-160	336	118	218
65. Blast furnaces and basic steel products .....	-2,621	771	-3,392	394	232	162
66. Iron and steel foundries and forgings .....	437	537	-99	560	152	407
67. Primary copper and copper products .....	-382	257	-639	461	235	226
68. Primary aluminum and aluminum products .....	81	759	-678	58	54	4
69. Primary nonferrous metals and products .....	-1,515	236	-1,751	-50	-50	0
70. Metal containers .....	17	45	-28	24	14	9
71. Heating apparatus and plumbing fixtures .....	139	185	-46	138	37	101
72. Fabricated structural metal products .....	1,367	1,486	-119	2,834	1,149	1,685
73. Screw machine products .....	-222	219	-442	120	109	11
74. Metal stampings .....	558	609	-51	22	14	8
75. Cutlery, handtools, general hardware .....	175	582	-406	244	106	138
76. Other fabricated metal products .....	574	1,517	-943	697	289	407
77. Engines, turbines, and generators .....	3,961	4,725	-764	553	519	34
78. Farm machinery .....	699	1,501	-802	93	29	64
79. Construction, mining, oilfield machinery .....	6,722	7,227	-504	391	255	136
80. Material handling equipment .....	491	748	-257	211	154	57
81. Metalworking machinery .....	380	1,018	-639	230	198	32
82. Special industry machinery .....	1,580	2,382	-802	85	66	20
83. General industrial machinery .....	2,455	3,360	-906	616	508	108
84. Other nonelectrical machinery .....	251	266	-15	254	83	171
85. Computers and peripheral equipment .....	11,503	14,174	-2,671	2,110	1,998	112
86. Typewriters and other office equipment .....	131	525	-394	479	209	270
87. Service industry machines .....	3,397	3,537	-140	600	178	423
88. Electric transmission equipment .....	1,147	1,553	-406	707	528	179
89. Electrical industrial apparatus .....	1,212	1,530	-318	509	450	60
90. Household appliances .....	284	984	-699	79	20	59
91. Electric lighting and wiring .....	708	801	-93	481	178	303
92. Radio and television receiving sets .....	-4,611	799	-5,410	168	135	33
93. Telephone and telegraph apparatus .....	892	975	-83	1,051	1,050	1
94. Radio and communication equipment .....	2,235	3,803	-1,568	17,381	17,147	234
95. Electronic components .....	-85	9,100	-9,185	1,579	1,525	54
96. Other electrical machinery and equipment .....	1,279	1,844	-564	365	307	58
97. Motor vehicles .....	-1,678	5,956	-7,634	2,560	852	1,707
98. Aircraft .....	7,932	9,660	-1,728	11,156	11,145	11
99. Ship and boat building and repair .....	322	699	-377	4,312	4,262	50
100. Railroad equipment .....	118	196	-79	133	5	128
101. Motorcycles, bicycles, and parts .....	-902	49	-952	13	3	10
102. Other transportation equipment .....	164	205	-41	14	3	11
103. Scientific and controlling instruments .....	1,445	1,613	-168	1,231	963	268
104. Medical and dental instruments .....	965	1,122	-157	383	193	190
105. Optical and ophthalmic equipment .....	5	498	-493	297	275	22
106. Photographic equipment and supplies .....	2,493	3,451	-958	862	456	406
107. Watches and clocks .....	-922	379	-1,301	60	54	6
108. Jewelry and silverware .....	-1,190	583	-1,773	40	21	19
109. Musical instruments and sporting goods .....	-172	800	-972	209	10	198
110. Other manufactured products .....	510	942	-433	420	146	274

See footnotes at end of table.



**C-3. Gross national product and major components by industry, 1995 low alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
111. Railroad transportation .....	1,682	1,802	-120	644	449	195
112. Local transit and intercity buses .....	28	28	0	421	79	342
113. Truck transportation .....	3,311	3,311	0	3,255	1,798	1,457
114. Water transportation .....	3,392	3,254	138	713	618	95
115. Air transportation .....	1,406	3,511	-2,105	1,864	1,569	295
116. Pipeline transportation .....	157	157	0	51	30	21
117. Transportation services .....	611	611	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	4,093	4,093	0	6,578	3,410	3,168
120. Electric utilities, public and private .....	-126	103	-229	3,611	978	2,633
121. Gas utilities, excluding public .....	-715	201	-916	515	95	419
122. Water and sanitary services, except public .....	31	31	0	-101	110	-211
123. Wholesale trade .....	14,706	10,312	4,395	4,409	1,787	2,622
124. Eating and drinking places .....	0	0	0	-2,034	438	-2,472
125. Retail trade, except eating and drinking .....	96	96	0	340	-25	365
126. Banking .....	28	28	0	4,494	1,163	3,331
127. Credit agencies and financial brokers .....	35	35	0	293	-31	324
128. Insurance .....	375	783	-408	585	-1	586
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	6,284	6,284	0	2,313	781	1,532
131. Hotels and lodging places .....	12	12	0	1,549	1,132	417
132. Personal and repair services .....	1	1	0	946	189	757
133. Barber and beauty shops .....	0	0	0	0	0	0
134. Miscellaneous business services .....	1,178	1,181	-3	11,297	8,139	3,158
135. Advertising .....	107	119	-12	603	36	567
136. Miscellaneous professional services .....	1,408	1,408	0	5,647	1,297	4,349
137. Automobile repair .....	0	0	0	764	171	592
138. Motion pictures .....	971	1,002	-31	252	214	38
139. Amusements and recreation services .....	0	0	0	52	667	-615
140. Doctors' and dentists' services .....	0	0	0	2,989	508	2,481
141. Hospitals .....	0	0	0	5,234	1,219	4,015
142. Medical services, except hospitals .....	0	0	0	5,129	176	4,953
143. Educational services (private) .....	1	1	0	1,892	1,876	16
144. Nonprofit organizations .....	145	175	-31	9	2	7
145. Post Office .....	61	61	0	1,332	603	729
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	370	370	0	6	6	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	0	0	0	87	34	53
150. Noncomparable imports .....	-14,100	1,287	-15,386	3,477	3,469	8
151. Scrap, used and secondhand goods .....	1,543	2,545	-1,002	565	236	329
152. New construction industry .....	0	0	0	13,885	3,984	9,901
153. Government industry .....	0	0	0	171,499	60,059	111,440
154. Rest-of-world industry .....	61,187	72,973	-11,786	-870	-870	0
155. Private households .....	0	0	0	0	0	0
156. Inventory valuation adjustment .....	0	0	0	0	0	0

NOTE: Detail may not add to totals because of rounding.

**C-4. Gross national product and major components by industry, 1995 moderate alternative**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
Total .....	2,166,782	1,412,389	180,099	71,100	74,200	11,800
1. Dairy and poultry products .....	1,649	1,580	0	0	0	-28
2. Meat animals and livestock .....	872	297	0	0	0	294
3. Cotton .....	874	0	0	0	0	82
4. Food and feed grains .....	10,133	222	0	5	14	1,897
5. Other agricultural products .....	9,460	6,802	0	29	88	563
6. Forestry and fishery products .....	-709	808	0	0	0	16
7. Agricultural, forestry, fishery services .....	433	228	0	18	60	0
8. Iron and ferroalloy ores mining .....	-164	0	0	0	0	2
9. Copper ore mining .....	18	0	0	0	0	-4
10. Nonferrous metal ores mining except copper .....	-29	0	342	0	0	3
11. Coal mining .....	1,220	148	0	0	0	6
12. Crude petroleum and gas, except drilling .....	-7,014	0	229	0	0	59
13. Stone and clay mining and quarrying .....	1,883	11	0	526	241	45
14. Chemical and fertilizer mineral mining .....	103	2	0	0	0	-5
15. Maintenance and repair construction .....	8,857	0	0	11	20	0
16. Ordnance .....	4,117	926	0	30	9	35
17. Guided missiles and space vehicles .....	5,003	0	126	0	0	-31
18. Meat products .....	25,309	23,802	0	2	5	151
19. Dairy products .....	13,806	13,151	0	0	0	44
20. Canned and frozen foods .....	15,481	14,586	0	0	0	252
21. Grain mill products .....	7,128	5,304	0	0	0	151
22. Bakery products .....	6,300	6,149	0	0	0	16
23. Sugar .....	72	994	0	0	0	19
24. Confectionery products .....	4,014	4,552	0	2	2	30
25. Alcoholic beverages .....	14,538	16,074	0	5	7	128
26. Soft drinks and flavorings .....	9,968	9,512	0	0	0	109
27. Other food products .....	11,165	8,243	0	0	0	198
28. Tobacco manufacturing .....	8,348	7,102	0	3	5	31
29. Fabric, yarn, and thread mills .....	753	725	0	0	0	205
30. Floor covering mills .....	5,878	3,120	1,694	64	626	107
31. Other textile mill products .....	242	225	14	6	34	13
32. Hosiery and knit goods .....	3,112	3,077	0	0	0	45
33. Apparel .....	23,948	30,616	0	4	7	192
34. Other fabricated textile products .....	4,956	4,484	0	2	2	77
35. Logging .....	783	5	0	3	0	13
36. Sawmills and planing mills .....	2,296	0	0	277	2,562	220
37. Other millwork, plywood, and wood products .....	9,782	793	12	1,509	6,849	302
38. Wooden containers .....	9	0	0	0	0	-4
39. Household furniture .....	8,935	7,840	1,012	6	115	91
40. Furniture and fixtures, except household .....	5,598	539	4,106	167	141	70
41. Paper products .....	7,658	5,379	0	76	264	256
42. Paperboard .....	373	154	0	2	3	15
43. Newspaper printing and publishing .....	2,095	2,105	0	0	0	17
44. Periodical, book printing and publishing .....	7,832	6,114	0	2	4	69
45. Other printing and publishing .....	2,892	1,415	0	7	12	48
46. Industrial inorganic and organic chemicals .....	1,893	28	295	160	12	24
47. Agricultural chemicals .....	1,266	195	0	2	5	85
48. Other chemical products .....	3,116	847	0	320	108	42
49. Plastic materials and synthetic rubber .....	796	0	0	0	0	157
50. Synthetic fibers .....	557	0	0	0	0	19
51. Drugs .....	19,235	14,908	0	0	0	120
52. Cleaning and toilet preparations .....	12,615	11,557	0	0	0	73
53. Paints and allied products .....	1,226	210	0	270	353	89
54. Petroleum refining and related products .....	18,854	16,520	0	991	434	253
55. Tires and inner tubes .....	1,587	2,805	0	108	63	154

See footnotes at end of table.

C-4. Gross national product and major components by industry, 1995 moderate alternative—Continued

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
56. Rubber products except tires and tubes .....	1,094	1,445	58	17	76	41
57. Plastic products .....	5,256	2,367	22	328	728	359
58. Leather tanning and industrial leather .....	70	0	0	0	0	20
59. Leather products including footwear .....	2,623	5,488	0	1	2	53
60. Glass .....	1,728	956	0	134	66	47
61. Cement and concrete products .....	8,378	2	0	2,920	3,267	95
62. Structural clay products .....	686	0	0	94	496	21
63. Pottery and related products .....	390	432	0	187	185	25
64. Other stone and clay products .....	3,051	344	0	1,169	599	134
65. Blast furnaces and basic steel products .....	-1,706	6	0	1,771	304	41
66. Iron and steel foundries and forgings .....	1,164	0	4	86	85	33
67. Primary copper and copper products .....	3,210	30	144	2,491	827	108
68. Primary aluminum and aluminum products .....	11	16	0	34	7	156
69. Primary nonferrous metals and products .....	-1,594	0	0	1	0	39
70. Metal containers .....	166	0	19	0	0	122
71. Heating apparatus and plumbing fixtures .....	1,786	229	0	312	961	36
72. Fabricated structural metal products .....	18,366	60	2,375	8,743	2,777	412
73. Screw machine products .....	-6	63	0	42	13	57
74. Metal stampings .....	1,270	632	0	12	0	90
75. Cutlery, handtools, general hardware .....	2,715	1,585	74	260	438	152
76. Other fabricated metal products .....	5,755	393	1,285	2,895	197	412
77. Engines, turbines, and generators .....	6,166	460	1,388	0	0	77
78. Farm machinery .....	7,270	143	6,833	0	0	109
79. Construction, mining, oilfield machinery .....	13,115	0	5,639	715	65	58
80. Material handling equipment .....	3,945	0	2,812	489	16	86
81. Metalworking machinery .....	8,272	356	7,449	7	10	191
82. Special industry machinery .....	5,577	138	4,171	0	0	48
83. General industrial machinery .....	7,051	0	3,786	350	238	191
84. Other nonelectrical machinery .....	644	37	58	3	6	51
85. Computers and peripheral equipment .....	53,149	6,591	36,007	0	0	321
86. Typewriters and other office equipment .....	4,371	1,433	2,538	0	0	5
87. Service industry machines .....	11,414	918	5,381	579	835	77
88. Electric transmission equipment .....	6,740	51	4,230	462	380	69
89. Electrical industrial apparatus .....	3,546	42	1,918	25	1	96
90. Household appliances .....	11,243	8,685	2,003	81	219	242
91. Electric lighting and wiring .....	4,339	1,042	194	1,388	533	73
92. Radio and television receiving sets .....	12,732	17,867	596	2	4	249
93. Telephone and telegraph apparatus .....	9,855	413	7,653	0	0	70
94. Radio and communication equipment .....	23,129	362	5,749	57	81	26
95. Electronic components .....	4,584	3,165	78	0	0	163
96. Other electrical machinery and equipment .....	5,994	2,956	1,587	23	34	106
97. Motor vehicles .....	69,149	49,162	24,714	29	14	704
98. Aircraft .....	19,610	1,009	1,963	0	0	51
99. Ship and boat building and repair .....	6,929	1,645	1,332	0	0	75
100. Railroad equipment .....	1,691	0	1,465	0	0	13
101. Motorcycles, bicycles, and parts .....	379	1,251	51	0	0	38
102. Other transportation equipment .....	5,298	1,810	224	1	3,080	30
103. Scientific and controlling instruments .....	5,467	56	2,377	381	117	120
104. Medical and dental instruments .....	4,726	822	2,623	0	0	57
105. Optical and ophthalmic equipment .....	3,791	1,689	2,031	0	0	48
106. Photographic equipment and supplies .....	10,934	2,815	5,330	6	9	12
107. Watches and clocks .....	-4	933	2	5	2	19
108. Jewelry and silverware .....	2,746	3,894	0	1	2	218
109. Musical instruments and sporting goods .....	5,601	5,237	496	1	2	115
110. Other manufactured products .....	3,263	1,778	571	32	100	90

See footnotes at end of table.

**C-4. Gross national product and major components by industry, 1995 moderate alternative—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
111. Railroad transportation .....	7,064	3,394	493	388	543	283
112. Local transit and intercity buses .....	4,719	4,257	0	5	9	0
113. Truck transportation .....	18,897	9,611	1,340	795	877	316
114. Water transportation .....	5,398	1,166	45	92	77	36
115. Air transportation .....	17,986	15,731	189	29	48	12
116. Pipeline transportation .....	450	239	0	7	0	3
117. Transportation services .....	1,056	463	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	73,235	50,901	12,072	150	259	0
120. Electric utilities, public and private .....	31,765	28,400	0	17	28	0
121. Gas utilities, excluding public .....	4,224	4,700	0	1	2	0
122. Water and sanitary services, except public .....	4,077	4,085	0	32	57	0
123. Wholesale trade .....	103,468	66,349	13,590	1,954	1,679	1,282
124. Eating and drinking places .....	54,527	56,209	0	184	316	0
125. Retail trade, except eating and drinking .....	212,899	201,659	5,651	1,197	3,937	3
126. Banking .....	39,093	34,216	0	145	249	0
127. Credit agencies and financial brokers .....	20,956	20,571	0	23	19	0
128. Insurance .....	42,495	41,458	0	210	204	0
129. Owner-occupied real estate .....	181,690	181,690	0	0	0	0
130. Real estate .....	77,299	59,023	0	386	9,727	0
131. Hotels and lodging places .....	13,135	11,711	0	7	12	0
132. Personal and repair services .....	14,661	13,345	359	3	7	0
133. Barber and beauty shops .....	4,150	4,150	0	0	0	0
134. Miscellaneous business services .....	19,481	6,147	0	1,347	640	0
135. Advertising .....	1,042	276	0	18	33	0
136. Miscellaneous professional services .....	25,074	11,107	0	3,427	3,564	0
137. Automobile repair .....	24,856	23,584	0	306	207	0
138. Motion pictures .....	3,582	2,371	0	0	0	62
139. Amusements and recreation services .....	20,445	20,495	0	5	10	0
140. Doctors' and dentists' services .....	52,994	49,999	0	0	0	0
141. Hospitals .....	54,553	49,362	0	0	0	0
142. Medical services, except hospitals .....	23,611	18,335	0	0	0	0
143. Educational services (private) .....	18,545	16,907	0	1	3	0
144. Nonprofit organizations .....	22,650	22,453	0	23	39	0
145. Post Office .....	3,635	2,273	0	11	22	0
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	656	291	0	0	0	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	3,551	3,460	0	3	4	0
150. Noncomparable imports .....	-7,662	8,071	5	11	20	3
151. Scrap, used and secondhand goods .....	-2,905	5,385	-8,702	-61	-544	245
152. New construction industry .....	66,664	0	0	29,643	23,330	0
153. Government industry .....	171,095	0	0	0	0	0
154. Rest-of-world industry .....	34,281	-9,178	0	0	0	0
155. Private households .....	2,769	2,769	0	0	0	0
156. Inventory valuation adjustment .....	-3,608	0	0	0	0	-3,608

See footnotes at end of table.

C-4. Gross national product and major components by industry, 1995 moderate alternative—Continued

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
Total .....	86,099	260,098	-173,999	331,099	139,199	191,900
1. Dairy and poultry products .....	10	13	-3	87	3	84
2. Meat animals and livestock .....	275	526	-251	6	4	3
3. Cotton .....	774	776	-2	19	19	0
4. Food and feed grains .....	10,905	10,955	-50	-2,910	-2,934	25
5. Other agricultural products .....	2,423	3,412	-990	-444	-669	224
6. Forestry and fishery products .....	-888	416	-1,304	-646	-652	7
7. Agricultural, forestry, fishery services .....	38	41	-3	88	23	65
8. Iron and ferroalloy ores mining .....	-132	526	-658	-34	-34	0
9. Copper ore mining .....	21	30	-8	0	0	0
10. Nonferrous metal ores mining except copper .....	-366	103	-468	-9	-9	0
11. Coal mining .....	969	1,007	-38	97	81	16
12. Crude petroleum and gas, except drilling .....	-7,332	24	-7,356	29	29	0
13. Stone and clay mining and quarrying .....	234	580	-346	825	218	607
14. Chemical and fertilizer mineral mining .....	72	201	-129	35	-2	38
15. Maintenance and repair construction .....	0	0	0	8,826	2,534	6,292
16. Ordnance .....	544	622	-78	2,572	2,555	17
17. Guided missiles and space vehicles .....	96	96	0	4,812	4,812	0
18. Meat products .....	541	1,971	-1,430	808	31	777
19. Dairy products .....	-174	87	-261	785	185	600
20. Canned and frozen foods .....	135	790	-656	508	12	496
21. Grain mill products .....	1,563	1,638	-74	110	37	73
22. Bakery products .....	-58	16	-74	192	3	189
23. Sugar .....	-958	84	-1,042	18	0	17
24. Confectionery products .....	-645	145	-790	73	1	72
25. Alcoholic beverages .....	-1,648	221	-1,869	-28	2	-31
26. Soft drinks and flavorings .....	270	358	-88	78	2	76
27. Other food products .....	2,512	2,816	-304	212	30	182
28. Tobacco manufacturing .....	1,207	1,317	-109	0	0	0
29. Fabric, yarn, and thread mills .....	-306	1,170	-1,476	129	41	88
30. Floor covering mills .....	212	372	-160	57	15	41
31. Other textile mill products .....	-72	410	-482	22	16	6
32. Hosiery and knit goods .....	-9	87	-97	0	0	0
33. Apparel .....	-7,180	871	-8,051	310	218	92
34. Other fabricated textile products .....	112	411	-299	279	204	76
35. Logging .....	762	775	-13	1	0	1
36. Sawmills and planing mills .....	-875	699	-1,574	112	33	79
37. Other millwork, plywood, and wood products .....	-165	650	-815	482	177	305
38. Wooden containers .....	1	7	-6	13	13	0
39. Household furniture .....	-270	206	-476	142	79	63
40. Furniture and fixtures, except household .....	85	257	-172	489	112	377
41. Paper products .....	851	3,092	-2,240	831	197	634
42. Paperboard .....	122	132	-10	77	24	54
43. Newspaper printing and publishing .....	-31	2	-33	4	2	2
44. Periodical, book printing and publishing .....	479	688	-209	1,165	72	1,093
45. Other printing and publishing .....	8	166	-158	1,403	432	971
46. Industrial inorganic and organic chemicals .....	78	1,919	-1,842	1,298	1,016	282
47. Agricultural chemicals .....	868	1,360	-492	111	21	90
48. Other chemical products .....	1,291	1,531	-240	508	408	100
49. Plastic materials and synthetic rubber .....	604	1,031	-427	35	35	1
50. Synthetic fibers .....	502	773	-271	36	36	0
51. Drugs .....	2,128	2,848	-720	2,079	232	1,847
52. Cleaning and toilet preparations .....	684	805	-122	302	74	228
53. Paints and allied products .....	134	143	-9	170	43	127
54. Petroleum refining and related products .....	-1,729	806	-2,535	2,386	1,197	1,190
55. Tires and inner tubes .....	-1,677	261	-1,939	134	81	52

See footnotes at end of table.

**C-4. Gross national product and major components by industry, 1995 moderate alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
56. Rubber products except tires and tubes .....	-1,027	426	-1,453	485	248	238
57. Plastic products .....	1,155	2,040	-885	297	116	180
58. Leather tanning and industrial leather .....	50	123	-73	1	1	0
59. Leather products including footwear .....	-2,953	191	-3,144	32	11	21
60. Glass .....	230	714	-484	294	69	225
61. Cement and concrete products .....	-91	102	-193	2,185	441	1,744
62. Structural clay products .....	-56	34	-90	131	19	112
63. Pottery and related products .....	-498	103	-601	58	18	40
64. Other stone and clay products .....	478	712	-233	326	101	225
65. Blast furnaces and basic steel products .....	-4,195	749	-4,943	366	198	168
66. Iron and steel foundries and forgings .....	405	521	-116	550	129	421
67. Primary copper and copper products .....	-827	250	-1,077	436	202	234
68. Primary aluminum and aluminum products .....	-251	737	-988	50	45	4
69. Primary nonferrous metals and products .....	-1,593	229	-1,823	-41	-42	0
70. Metal containers .....	3	43	-40	22	12	10
71. Heating apparatus and plumbing fixtures .....	113	180	-67	136	32	105
72. Fabricated structural metal products .....	1,270	1,443	-173	2,730	987	1,743
73. Screw machine products .....	-285	213	-498	104	93	11
74. Metal stampings .....	516	591	-75	20	12	9
75. Cutlery, handtools, general hardware .....	-28	565	-592	233	91	142
76. Other fabricated metal products .....	-96	1,278	-1,374	669	248	421
77. Engines, turbines, and generators .....	3,766	4,588	-822	476	441	36
78. Farm machinery .....	94	1,263	-1,169	91	25	66
79. Construction, mining, oilfield machinery .....	6,281	7,016	-735	357	216	141
80. Material handling equipment .....	352	726	-374	191	132	59
81. Metalworking machinery .....	58	989	-931	201	169	33
82. Special industry machinery .....	1,144	2,312	-1,168	76	56	20
83. General industrial machinery .....	1,943	3,262	-1,320	544	432	112
84. Other nonelectrical machinery .....	241	259	-18	248	70	177
85. Computers and peripheral equipment .....	8,411	13,761	-5,350	1,818	1,702	116
86. Typewriters and other office equipment .....	-64	510	-574	460	180	280
87. Service industry machines .....	3,036	3,240	-205	588	151	437
88. Electric transmission equipment .....	916	1,508	-592	633	447	185
89. Electrical industrial apparatus .....	1,021	1,485	-464	444	382	62
90. Household appliances .....	-64	955	-1,019	78	17	61
91. Electric lighting and wiring .....	642	777	-135	466	153	313
92. Radio and television receiving sets .....	-6,137	1,747	-7,884	150	116	34
93. Telephone and telegraph apparatus .....	826	947	-120	892	891	1
94. Radio and communication equipment .....	2,063	3,692	-1,629	14,791	14,549	242
95. Electronic components .....	-179	8,835	-9,014	1,356	1,300	56
96. Other electrical machinery and equipment .....	968	1,790	-822	321	261	60
97. Motor vehicles .....	-7,967	8,695	-16,662	2,493	727	1,766
98. Aircraft .....	7,152	9,379	-2,227	9,435	9,424	11
99. Ship and boat building and repair .....	217	678	-462	3,661	3,609	52
100. Railroad equipment .....	76	191	-115	136	4	132
101. Motorcycles, bicycles, and parts .....	-974	48	-1,022	13	2	10
102. Other transportation equipment .....	140	199	-60	14	2	12
103. Scientific and controlling instruments .....	1,321	1,566	-245	1,095	818	277
104. Medical and dental instruments .....	861	1,089	-228	362	166	196
105. Optical and ophthalmic equipment .....	-235	484	-718	257	235	23
106. Photographic equipment and supplies .....	1,954	3,350	-1,396	808	388	420
107. Watches and clocks .....	-1,017	368	-1,385	52	46	6
108. Jewelry and silverware .....	-1,406	566	-1,972	37	17	20
109. Musical instruments and sporting goods .....	-464	777	-1,241	214	9	205
110. Other manufactured products .....	284	915	-631	408	125	283

See footnotes at end of table.

**C-4. Gross national product and major components by industry, 1995 moderate alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
111. Railroad transportation .....	1,380	1,556	-175	584	381	202
112. Local transit and intercity buses .....	27	27	0	421	67	354
113. Truck transportation .....	2,923	2,923	0	3,034	1,527	1,507
114. Water transportation .....	3,360	3,160	200	621	522	99
115. Air transportation .....	341	3,409	-3,068	1,637	1,332	305
116. Pipeline transportation .....	153	153	0	48	26	22
117. Transportation services .....	593	593	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	3,683	3,683	0	6,172	2,895	3,277
120. Electric utilities, public and private .....	-234	100	-334	3,554	830	2,724
121. Gas utilities, excluding public .....	-994	195	-1,189	515	81	434
122. Water and sanitary services, except public .....	30	30	0	-126	93	-219
123. Wholesale trade .....	14,376	9,429	4,947	4,238	1,525	2,712
124. Eating and drinking places .....	0	0	0	-2,183	374	-2,557
125. Retail trade, except eating and drinking .....	93	93	0	360	-17	377
126. Banking .....	27	27	0	4,456	1,010	3,446
127. Credit agencies and financial brokers .....	34	34	0	309	-27	336
128. Insurance .....	19	760	-740	605	-2	606
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	5,907	5,907	0	2,256	672	1,585
131. Hotels and lodging places .....	12	12	0	1,393	962	431
132. Personal and repair services .....	1	1	0	945	161	783
133. Barber and beauty shops .....	0	0	0	0	0	0
134. Miscellaneous business services .....	1,143	1,147	-4	10,204	6,938	3,266
135. Advertising .....	98	115	-18	617	30	586
136. Miscellaneous professional services .....	1,367	1,367	0	5,608	1,110	4,499
137. Automobile repair .....	0	0	0	759	146	613
138. Motion pictures .....	928	973	-45	220	181	39
139. Amusements and recreation services .....	0	0	0	-66	571	-636
140. Doctors' and dentists' services .....	0	0	0	2,995	429	2,566
141. Hospitals .....	0	0	0	5,191	1,038	4,153
142. Medical services, except hospitals .....	0	0	0	5,276	153	5,123
143. Educational services (private) .....	1	1	0	1,633	1,616	17
144. Nonprofit organizations .....	125	170	-45	9	1	8
145. Post Office .....	59	59	0	1,270	516	754
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	359	359	0	5	5	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	0	0	0	84	29	55
150. Noncomparable imports .....	-18,723	1,152	-19,875	2,951	2,942	9
151. Scrap, used and secondhand goods .....	228	2,374	-2,146	545	204	340
152. New construction industry .....	0	0	0	13,691	3,449	10,241
153. Government industry .....	0	0	0	171,095	56,833	114,262
154. Rest-of-world industry .....	44,215	70,850	-26,635	-756	-756	0
155. Private households .....	0	0	0	0	0	0
156. Inventory valuation adjustment .....	0	0	0	0	0	0

NOTE: Detail may not add to totals because of rounding.

### C-5. Gross national product and major components by industry, 1995 high alternative

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
Total .....	2,264,452	1,491,384	205,773	77,892	109,137	12,200
1. Dairy and poultry products .....	1,673	1,615	0	0	0	-29
2. Meat animals and livestock .....	806	312	0	0	0	304
3. Cotton .....	881	0	0	0	0	85
4. Food and feed grains .....	10,128	227	0	6	22	1,961
5. Other agricultural products .....	9,548	6,970	0	32	135	582
6. Forestry and fishery products .....	-850	831	0	0	0	17
7. Agricultural, forestry, fishery services .....	471	239	0	20	93	0
8. Iron and ferroalloy ores mining .....	-206	0	0	0	0	2
9. Copper ore mining .....	15	0	0	0	0	-4
10. Nonferrous metal ores mining except copper .....	-53	0	392	0	0	3
11. Coal mining .....	1,210	148	0	0	0	6
12. Crude petroleum and gas, except drilling .....	-7,724	0	262	0	0	61
13. Stone and clay mining and quarrying .....	1,866	12	0	574	369	46
14. Chemical and fertilizer mineral mining .....	92	2	0	0	0	-6
15. Maintenance and repair construction .....	7,992	0	0	13	31	0
16. Ordnance .....	4,188	1,002	0	33	14	36
17. Guided missiles and space vehicles .....	5,011	0	144	0	0	-33
18. Meat products .....	25,236	24,323	0	2	8	156
19. Dairy products .....	13,931	13,439	0	0	0	45
20. Canned and frozen foods .....	15,517	14,905	0	0	0	261
21. Grain mill products .....	7,223	5,420	0	0	0	157
22. Bakery products .....	6,388	6,284	0	0	0	17
23. Sugar .....	4	1,016	0	0	0	19
24. Confectionery products .....	3,915	4,652	0	2	3	31
25. Alcoholic beverages .....	14,506	16,426	0	6	11	133
26. Soft drinks and flavorings .....	10,142	9,720	0	0	0	112
27. Other food products .....	11,236	8,424	0	0	0	205
28. Tobacco manufacturing .....	8,567	7,350	0	3	7	32
29. Fabric, yarn, and thread mills .....	629	747	0	0	0	211
30. Floor covering mills .....	6,737	3,542	1,850	69	959	111
31. Other textile mill products .....	206	247	15	7	52	14
32. Hosiery and knit goods .....	3,188	3,166	0	0	0	46
33. Apparel .....	23,838	31,505	0	4	10	198
34. Other fabricated textile products .....	5,054	4,694	0	2	4	79
35. Logging .....	784	5	0	3	0	14
36. Sawmills and planing mills .....	3,073	0	0	293	3,906	227
37. Other millwork, plywood, and wood products .....	13,225	901	14	1,611	10,406	312
38. Wooden containers .....	7	0	0	0	0	-4
39. Household furniture .....	9,996	8,900	1,136	6	174	94
40. Furniture and fixtures, except household .....	6,252	612	4,699	184	213	72
41. Paper products .....	7,107	5,562	0	82	402	265
42. Paperboard .....	372	159	0	2	4	15
43. Newspaper printing and publishing .....	2,157	2,179	0	0	0	17
44. Periodical, book printing and publishing .....	8,094	6,558	0	2	6	71
45. Other printing and publishing .....	2,790	1,467	0	7	18	49
46. Industrial inorganic and organic chemicals .....	1,637	29	337	163	18	24
47. Agricultural chemicals .....	1,244	202	0	2	8	88
48. Other chemical products .....	3,197	943	0	337	165	43
49. Plastic materials and synthetic rubber .....	648	0	0	0	0	162
50. Synthetic fibers .....	512	0	0	0	0	20
51. Drugs .....	19,317	15,430	0	0	0	124
52. Cleaning and toilet preparations .....	12,969	11,973	0	0	0	75
53. Paints and allied products .....	1,434	218	0	304	534	92
54. Petroleum refining and related products .....	18,908	17,323	0	1,067	664	261
55. Tires and inner tubes .....	1,463	3,366	0	112	97	159

See footnotes at end of table.



C-5. Gross national product and major components by industry, 1995 high alternative—Continued

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
56. Rubber products except tires and tubes .....	960	1,523	66	18	115	42
57. Plastic products .....	5,634	2,657	25	363	1,103	372
58. Leather tanning and industrial leather .....	59	0	0	0	0	21
59. Leather products including footwear .....	2,424	5,659	0	1	3	55
60. Glass .....	1,705	1,078	0	153	101	49
61. Cement and concrete products .....	10,097	2	0	3,175	4,988	98
62. Structural clay products .....	913	0	0	106	756	21
63. Pottery and related products .....	425	491	0	195	281	26
64. Other stone and clay products .....	3,431	365	0	1,317	913	139
65. Blast furnaces and basic steel products .....	-3,329	6	0	1,845	464	43
66. Iron and steel foundries and forgings .....	1,137	0	5	95	130	34
67. Primary copper and copper products .....	3,333	34	165	2,593	1,248	112
68. Primary aluminum and aluminum products .....	-340	18	0	37	10	162
69. Primary nonferrous metals and products .....	-1,713	0	0	1	0	41
70. Metal containers .....	157	0	22	0	0	126
71. Heating apparatus and plumbing fixtures .....	2,311	257	0	351	1,451	37
72. Fabricated structural metal products .....	20,987	68	2,718	9,809	4,220	426
73. Screw machine products .....	-177	65	0	46	20	59
74. Metal stampings .....	1,335	717	0	14	0	93
75. Cutlery, handtools, general hardware .....	2,925	1,757	84	285	669	157
76. Other fabricated metal products .....	5,876	425	1,471	3,235	297	426
77. Engines, turbines, and generators .....	6,130	504	1,588	0	0	79
78. Farm machinery .....	7,845	162	7,820	0	0	112
79. Construction, mining, oilfield machinery .....	13,737	0	6,454	731	100	60
80. Material handling equipment .....	4,306	0	3,218	574	24	89
81. Metalworking machinery .....	9,063	404	8,525	8	15	198
82. Special industry machinery .....	5,776	156	4,774	0	0	50
83. General industrial machinery .....	7,279	0	4,333	383	364	197
84. Other nonelectrical machinery .....	642	45	66	4	10	52
85. Computers and peripheral equipment .....	57,319	7,483	41,209	0	0	332
86. Typewriters and other office equipment .....	4,688	1,626	2,905	0	0	5
87. Service industry machines .....	12,726	1,040	6,159	650	1,275	80
88. Electric transmission equipment .....	7,371	53	4,841	515	573	71
89. Electrical industrial apparatus .....	3,662	48	2,195	25	1	99
90. Household appliances .....	12,168	9,746	2,115	91	333	250
91. Electric lighting and wiring .....	4,767	1,136	222	1,501	806	76
92. Radio and television receiving sets .....	13,134	20,116	674	3	7	258
93. Telephone and telegraph apparatus .....	10,979	469	8,758	0	0	73
94. Radio and communication equipment .....	23,432	407	6,579	64	123	27
95. Electronic components .....	3,677	3,565	90	0	0	168
96. Other electrical machinery and equipment .....	6,414	3,426	1,816	25	52	109
97. Motor vehicles .....	70,365	59,124	28,285	31	22	728
98. Aircraft .....	19,556	1,106	2,246	0	0	53
99. Ship and boat building and repair .....	6,841	1,802	1,524	0	0	78
100. Railroad equipment .....	1,847	0	1,677	0	0	14
101. Motorcycles, bicycles, and parts .....	425	1,371	58	0	0	40
102. Other transportation equipment .....	6,700	2,134	257	1	4,146	31
103. Scientific and controlling instruments .....	5,806	61	2,720	418	179	124
104. Medical and dental instruments .....	5,059	875	3,002	0	0	59
105. Optical and ophthalmic equipment .....	3,979	1,851	2,324	0	0	50
106. Photographic equipment and supplies .....	11,311	2,961	6,099	6	14	12
107. Watches and clocks .....	88	1,038	2	5	2	20
108. Jewelry and silverware .....	3,009	4,282	0	1	3	225
109. Musical instruments and sporting goods .....	5,789	5,528	568	1	3	119
110. Other manufactured products .....	3,258	1,892	653	35	153	93

See footnotes at end of table.

**C-5. Gross national product and major components by industry, 1995 high alternative—Continued**

(Millions of 1972 dollars)

Industry	Gross national product	Personal consumption expenditures	Producers' durable equipment	Nonresidential construction	Residential construction	Change in business inventories
111. Railroad transportation .....	7,651	3,665	559	422	827	293
112. Local transit and intercity buses .....	5,085	4,654	0	6	13	0
113. Truck transportation .....	20,040	10,180	1,530	849	1,338	327
114. Water transportation .....	5,598	1,226	52	98	118	37
115. Air transportation .....	18,105	16,951	216	32	73	12
116. Pipeline transportation .....	459	250	0	7	0	3
117. Transportation services .....	1,106	509	0	0	1	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	78,635	54,724	13,816	164	397	0
120. Electric utilities, public and private .....	32,975	30,000	0	19	44	0
121. Gas utilities, excluding public .....	4,237	5,200	0	1	3	0
122. Water and sanitary services, except public .....	4,444	4,394	0	35	87	0
123. Wholesale trade .....	112,362	70,659	15,516	2,095	2,544	1,325
124. Eating and drinking places .....	56,206	57,440	0	202	485	0
125. Retail trade, except eating and drinking .....	230,757	216,718	6,467	1,311	5,848	3
126. Banking .....	40,533	35,898	0	159	382	0
127. Credit agencies and financial brokers .....	21,945	21,583	0	24	29	0
128. Insurance .....	44,938	44,113	0	223	312	0
129. Owner-occupied real estate .....	182,864	182,864	0	0	0	0
130. Real estate .....	79,264	59,438	0	416	11,387	0
131. Hotels and lodging places .....	13,339	11,955	0	8	18	0
132. Personal and repair services .....	15,343	14,054	411	4	11	0
133. Barber and beauty shops .....	4,354	4,354	0	0	0	0
134. Miscellaneous business services .....	19,833	6,494	0	1,395	979	0
135. Advertising .....	1,008	290	0	20	50	0
136. Miscellaneous professional services .....	27,425	11,653	0	3,786	5,479	0
137. Automobile repair .....	27,267	25,937	0	318	317	0
138. Motion pictures .....	3,686	2,488	0	0	0	64
139. Amusements and recreation services .....	21,518	21,503	0	6	15	0
140. Doctors' and dentists' services .....	55,190	52,458	0	0	0	0
141. Hospitals .....	56,546	51,790	0	0	0	0
142. Medical services, except hospitals .....	23,978	19,237	0	0	0	0
143. Educational services (private) .....	19,342	17,739	0	1	4	0
144. Nonprofit organizations .....	23,761	23,557	0	25	60	0
145. Post Office .....	3,735	2,445	0	13	33	0
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	668	302	0	0	0	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	3,808	3,721	0	3	7	0
150. Noncomparable imports .....	-17,382	8,482	6	12	30	3
151. Scrap, used and secondhand goods .....	-4,903	6,543	-9,959	-62	-623	254
152. New construction industry .....	80,732	0	0	32,639	35,559	0
153. Government industry .....	194,557	0	0	0	0	0
154. Rest-of-world industry .....	20,360	-9,626	0	0	0	0
155. Private households .....	2,981	2,981	0	0	0	0
156. Inventory valuation adjustment .....	-3,730	0	0	0	0	-3,730

See footnotes at end of table.

**C-5. Gross national product and major components by industry, 1995 high alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
Total .....	22,800	261,698	-238,898	345,267	144,567	200,700
1. Dairy and poultry products .....	9	14	-4	78	3	75
2. Meat animals and livestock .....	185	529	-345	6	4	2
3. Cotton .....	778	781	-3	18	18	0
4. Food and feed grains .....	10,953	11,022	-69	-3,041	-3,063	22
5. Other agricultural products .....	2,274	3,433	-1,159	-446	-646	201
6. Forestry and fishery products .....	-1,072	418	-1,490	-625	-631	6
7. Agricultural, forestry, fishery services .....	38	42	-4	81	23	58
8. Iron and ferroalloy ores mining .....	-174	529	-703	-34	-34	0
9. Copper ore mining .....	19	30	-11	0	0	0
10. Nonferrous metal ores mining except copper .....	-440	103	-543	-9	-9	0
11. Coal mining .....	961	1,013	-52	95	81	14
12. Crude petroleum and gas, except drilling .....	-8,076	24	-8,100	28	28	0
13. Stone and clay mining and quarrying .....	109	583	-475	756	212	545
14. Chemical and fertilizer mineral mining .....	65	202	-137	31	-2	34
15. Maintenance and repair construction .....	0	0	0	7,949	2,308	5,641
16. Ordnance .....	519	626	-107	2,584	2,569	15
17. Guided missiles and space vehicles .....	97	97	0	4,803	4,803	0
18. Meat products .....	20	1,984	-1,963	727	30	697
19. Dairy products .....	-270	88	-358	717	179	538
20. Canned and frozen foods .....	-105	795	-900	457	12	445
21. Grain mill products .....	1,546	1,648	-102	101	36	65
22. Bakery products .....	-86	16	-102	172	3	169
23. Sugar .....	-1,047	84	-1,131	16	0	16
24. Confectionery products .....	-839	146	-984	66	1	65
25. Alcoholic beverages .....	-2,044	222	-2,266	-25	2	-28
26. Soft drinks and flavorings .....	239	360	-120	70	2	68
27. Other food products .....	2,416	2,833	-417	192	29	163
28. Tobacco manufacturing .....	1,175	1,325	-150	0	0	0
29. Fabric, yarn, and thread mills .....	-449	1,177	-1,626	120	41	79
30. Floor covering mills .....	154	374	-220	52	15	37
31. Other textile mill products .....	-149	413	-562	21	16	5
32. Hosiery and knit goods .....	-25	88	-113	0	0	0
33. Apparel .....	-8,177	876	-9,054	299	216	82
34. Other fabricated textile products .....	3	413	-410	272	204	68
35. Logging .....	762	780	-18	1	0	0
36. Sawmills and planing mills .....	-1,458	703	-2,161	104	33	71
37. Other millwork, plywood, and wood products .....	-465	654	-1,119	448	175	273
38. Wooden containers .....	-2	7	-8	13	13	0
39. Household furniture, except household .....	-447	207	-654	134	77	57
40. Furniture and fixtures, except household .....	23	258	-236	449	110	338
41. Paper products .....	35	3,111	-3,076	761	193	568
42. Paperboard .....	120	133	-14	72	24	46
43. Newspaper printing and publishing .....	-43	2	-45	4	2	2
44. Periodical, book printing and publishing .....	406	692	-286	1,051	71	980
45. Other printing and publishing .....	-50	167	-217	1,298	427	871
46. Industrial inorganic and organic chemicals .....	-198	1,931	-2,128	1,263	1,010	253
47. Agricultural chemicals .....	843	1,369	-526	101	21	81
48. Other chemical products .....	1,210	1,540	-330	498	408	90
49. Plastic materials and synthetic rubber .....	451	1,037	-586	36	35	0
50. Synthetic fibers .....	456	778	-322	36	36	0
51. Drugs .....	1,877	2,866	-989	1,886	230	1,656
52. Cleaning and toilet preparations .....	643	810	-167	278	74	204
53. Paints and allied products .....	132	144	-12	156	42	114
54. Petroleum refining and related products .....	-2,670	811	-3,481	2,263	1,196	1,066
55. Tires and inner tubes .....	-2,399	263	-2,662	128	81	47

See footnotes at end of table.

**C-5. Gross national product and major components by industry, 1995 high alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
56. Rubber products except tires and tubes .....	-1,267	428	-1,695	461	248	213
57. Plastic products .....	838	2,052	-1,215	277	115	162
58. Leather tanning and industrial leather .....	38	124	-86	1	1	0
59. Leather products including footwear .....	-3,325	192	-3,517	30	11	18
60. Glass .....	54	719	-665	270	68	202
61. Cement and concrete products .....	-163	103	-265	1,995	431	1,564
62. Structural clay products .....	-90	34	-123	119	19	100
63. Pottery and related products .....	-622	103	-725	54	18	36
64. Other stone and clay products .....	396	716	-320	302	100	202
65. Blast furnaces and basic steel products .....	-6,034	753	-6,787	347	196	150
66. Iron and steel foundries and forgings .....	365	524	-159	507	129	378
67. Primary copper and copper products .....	-1,228	251	-1,479	408	198	210
68. Primary aluminum and aluminum products .....	-616	742	-1,357	50	46	4
69. Primary nonferrous metals and products .....	-1,712	231	-1,943	-43	-43	0
70. Metal containers .....	-12	44	-55	21	12	9
71. Heating apparatus and plumbing fixtures .....	89	181	-92	125	32	94
72. Fabricated structural metal products .....	1,214	1,452	-237	2,533	970	1,563
73. Screw machine products .....	-469	214	-683	102	92	10
74. Metal stampings .....	492	595	-102	19	11	8
75. Cutlery, handtools, general hardware .....	-245	568	-813	217	90	128
76. Other fabricated metal products .....	-601	1,286	-1,887	622	245	378
77. Engines, turbines, and generators .....	3,487	4,616	-1,129	471	440	32
78. Farm machinery .....	-334	1,271	-1,605	84	25	59
79. Construction, mining, oilfield machinery .....	6,050	7,060	-1,009	342	216	126
80. Material handling equipment .....	217	731	-514	183	130	53
81. Metalworking machinery .....	-283	995	-1,278	197	168	29
82. Special industry machinery .....	723	2,326	-1,604	74	55	18
83. General industrial machinery .....	1,471	3,282	-1,812	531	430	101
84. Other nonelectrical machinery .....	236	260	-24	229	70	159
85. Computers and peripheral equipment .....	6,500	13,846	-7,346	1,795	1,692	104
86. Typewriters and other office equipment .....	-275	513	-788	427	176	251
87. Service industry machines .....	2,979	3,260	-281	542	150	392
88. Electric transmission equipment .....	704	1,517	-813	613	447	166
89. Electrical industrial apparatus .....	857	1,494	-637	437	381	55
90. Household appliances .....	-438	961	-1,399	71	17	54
91. Electric lighting and wiring .....	597	782	-186	431	150	281
92. Radio and television receiving sets .....	-8,067	1,758	-9,825	144	114	30
93. Telephone and telegraph apparatus .....	787	953	-165	891	890	1
94. Radio and communication equipment .....	1,478	3,715	-2,237	14,755	14,538	217
95. Electronic components .....	-1,486	8,889	-10,376	1,341	1,290	50
96. Other electrical machinery and equipment .....	672	1,801	-1,129	314	260	54
97. Motor vehicles .....	-20,128	8,749	-28,877	2,304	721	1,583
98. Aircraft .....	6,980	9,437	-2,457	9,172	9,162	10
99. Ship and boat building and repair .....	49	683	-634	3,388	3,341	47
100. Railroad equipment .....	34	192	-158	123	4	119
101. Motorcycles, bicycles, and parts .....	-1,055	48	-1,104	12	2	9
102. Other transportation equipment .....	118	200	-82	13	2	10
103. Scientific and controlling instruments .....	1,239	1,575	-336	1,064	816	248
104. Medical and dental instruments .....	783	1,096	-313	339	163	176
105. Optical and ophthalmic equipment .....	-499	487	-986	253	233	20
106. Photographic equipment and supplies .....	1,454	3,371	-1,916	763	386	377
107. Watches and clocks .....	-1,032	371	-1,402	51	46	6
108. Jewelry and silverware .....	-1,538	570	-2,108	36	18	18
109. Musical instruments and sporting goods .....	-623	782	-1,404	193	9	184
110. Other manufactured products .....	55	920	-866	377	124	254

See footnotes at end of table.

**C-5. Gross national product and major components by industry, 1995 high alternative—Continued**

(Millions of 1972 dollars)

Industry	Net exports	Exports	Imports	Total government	Federal Government	State and local government
111. Railroad transportation .....	1,324	1,565	-241	561	380	181
112. Local transit and intercity buses .....	28	28	0	384	67	318
113. Truck transportation .....	2,941	2,941	0	2,875	1,524	1,351
114. Water transportation .....	3,454	3,179	275	613	525	88
115. Air transportation .....	-782	3,430	-4,212	1,604	1,330	274
116. Pipeline transportation .....	154	154	0	45	26	20
117. Transportation services .....	597	597	0	0	0	0
118. Radio and television broadcasting .....	0	0	0	0	0	0
119. Communications except radio and television .....	3,705	3,705	0	5,828	2,890	2,938
120. Electric utilities, public and private .....	-358	101	-458	3,271	829	2,442
121. Gas utilities, excluding public .....	-1,436	196	-1,633	470	81	389
122. Water and sanitary services, except public .....	30	30	0	-103	93	-196
123. Wholesale trade .....	16,279	9,487	6,792	3,943	1,511	2,432
124. Eating and drinking places .....	0	0	0	-1,921	371	-2,292
125. Retail trade, except eating and drinking .....	93	93	0	316	-23	338
126. Banking .....	27	27	0	4,067	977	3,089
127. Credit agencies and financial brokers .....	34	34	0	275	-26	301
128. Insurance .....	-252	764	-1,016	543	-1	544
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	5,944	5,944	0	2,080	659	1,421
131. Hotels and lodging places .....	12	12	0	1,346	960	387
132. Personal and repair services .....	1	1	0	862	160	702
133. Barber and beauty shops .....	0	0	0	0	0	0
134. Miscellaneous business services .....	1,148	1,154	-6	9,817	6,889	2,928
135. Advertising .....	92	116	-24	556	31	525
136. Miscellaneous professional services .....	1,376	1,376	0	5,130	1,097	4,033
137. Automobile repair .....	0	0	0	694	145	549
138. Motion pictures .....	918	979	-61	217	182	35
139. Amusements and recreation services .....	0	0	0	-6	564	-570
140. Doctors' and dentists' services .....	0	0	0	2,732	431	2,301
141. Hospitals .....	0	0	0	4,756	1,033	3,723
142. Medical services, except hospitals .....	0	0	0	4,741	148	4,593
143. Educational services (private) .....	1	1	0	1,597	1,582	15
144. Nonprofit organizations .....	110	171	-61	8	1	7
145. Post Office .....	60	60	0	1,185	509	676
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	362	362	0	5	5	0
148. Local government passenger transit .....	0	0	0	0	0	0
149. Other State and local enterprises .....	0	0	0	78	29	49
150. Noncomparable imports .....	-28,864	1,159	-30,023	2,949	2,942	8
151. Scrap, used and secondhand goods .....	-1,559	2,388	-3,947	504	199	305
152. New construction industry .....	0	0	0	12,534	3,352	9,182
153. Government industry .....	0	0	0	194,557	63,463	131,094
154. Rest-of-world industry .....	30,716	71,284	-40,568	-731	-731	0
155. Private households .....	0	0	0	0	0	0
156. Inventory valuation adjustment .....	0	0	0	0	0	0

NOTE: Detail may not add to totals because of rounding.

**D-1. Gross output by industry, 1958-95**

(Millions of 1972 dollars)

Industry	Historical									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	
1. Dairy and poultry products .....	10,847	10,750	10,789	11,174	11,224	11,237	11,459	11,347	11,324	
2. Meat animals and livestock .....	22,210	23,428	23,185	24,354	25,152	25,816	25,860	25,671	26,673	
3. Cotton .....	2,096	2,577	2,394	2,330	2,436	2,658	2,543	2,435	1,911	
4. Food and feed grains .....	12,463	11,714	12,980	12,076	12,568	13,764	13,769	15,056	14,465	
5. Other agricultural products .....	11,388	11,698	11,914	12,297	12,909	13,057	13,394	13,208	13,717	
6. Forestry and fishery products .....	2,273	1,953	2,108	2,629	2,600	2,730	2,310	2,240	2,145	
7. Agricultural, forestry, fishery services .....	2,192	2,491	2,626	2,684	2,762	2,834	2,982	2,993	2,960	
8. Iron and ferroalloy ores mining .....	695	662	976	842	852	934	1,062	1,136	1,224	
9. Copper ore mining .....	948	800	1,047	1,129	1,190	1,174	1,208	1,310	1,390	
10. Nonferrous metal ores mining except copper .....	424	553	553	501	490	504	583	551	559	
11. Coal mining .....	3,978	3,987	3,995	3,862	4,028	4,375	4,075	4,792	4,972	
12. Crude petroleum and gas, except drilling .....	11,410	12,084	12,280	12,589	12,921	13,420	13,732	14,106	15,006	
13. Stone and clay mining and quarrying .....	1,881	2,042	2,064	2,138	2,199	2,320	2,447	2,589	2,677	
14. Chemical and fertilizer mineral mining .....	382	428	450	461	458	486	552	622	699	
15. Maintenance and repair construction .....	30,828	33,844	36,072	36,585	34,431	36,002	35,706	35,364	35,772	
16. Ordnance .....	1,229	1,432	1,653	1,416	1,804	2,262	2,130	2,358	3,963	
17. Guided missiles and space vehicles .....	3,391	3,605	3,632	3,149	3,591	4,378	4,378	4,445	6,353	
18. Meat products .....	20,386	21,584	22,311	23,062	23,280	25,013	26,726	25,428	25,336	
19. Dairy products .....	13,027	13,295	13,249	13,462	13,510	13,352	13,998	13,788	13,367	
20. Canned and frozen foods .....	7,031	7,249	8,031	8,104	8,411	8,775	9,335	9,944	10,134	
21. Grain mill products .....	8,935	9,062	9,619	9,696	9,645	9,990	10,141	10,146	10,444	
22. Bakery products .....	7,450	7,503	7,565	7,518	7,665	7,738	7,985	8,112	8,184	
23. Sugar .....	2,322	2,422	2,467	2,521	2,644	2,591	2,647	2,746	2,789	
24. Confectionery products .....	2,422	2,471	2,513	2,592	2,668	2,694	2,709	2,780	2,947	
25. Alcoholic beverages .....	6,360	6,606	6,712	6,804	7,021	7,328	7,873	8,096	8,583	
26. Soft drinks and flavorings .....	2,968	3,032	3,130	3,217	3,421	3,572	3,805	3,892	4,308	
27. Other food products .....	8,269	8,825	9,064	9,120	10,191	10,114	10,173	10,343	10,842	
28. Tobacco manufacturing .....	8,103	8,320	9,032	9,132	9,166	9,163	9,406	9,264	9,107	
29. Fabric, yarn, and thread mills .....	11,252	12,619	12,278	12,653	13,571	13,814	14,607	15,325	16,332	
30. Floor covering mills .....	622	749	753	819	1,021	1,028	1,219	1,322	1,453	
31. Other textile mill products .....	1,562	1,762	1,714	1,699	1,786	1,899	1,988	2,282	2,396	
32. Hosiery and knit goods .....	2,434	2,706	2,611	2,844	2,988	3,200	3,429	3,841	4,152	
33. Apparel .....	14,726	15,734	15,790	15,959	16,938	17,855	18,448	19,232	19,845	
34. Other fabricated textile products .....	2,157	2,335	2,371	2,407	2,505	2,751	2,877	3,200	3,374	
35. Logging .....	2,855	3,000	3,124	3,247	3,207	3,609	3,755	3,905	3,836	
36. Sawmills and planing mills .....	5,540	6,163	5,788	5,606	5,778	6,108	6,378	6,308	6,120	
37. Other millwork, plywood, and wood products .....	3,872	4,396	4,373	4,525	5,025	5,415	5,907	6,176	6,586	
38. Wooden containers .....	539	535	563	583	603	532	535	599	653	
39. Household furniture .....	3,971	4,391	4,136	4,027	4,359	4,689	4,936	5,250	5,402	
40. Furniture and fixtures, except household .....	1,755	1,883	1,953	1,958	2,131	2,245	2,384	2,611	2,871	
41. Paper products .....	10,873	12,054	12,120	12,428	13,144	13,886	14,409	15,392	16,509	
42. Paperboard .....	4,164	4,594	4,553	4,939	5,183	5,415	5,791	6,255	6,714	
43. Newspaper printing and publishing .....	5,675	6,112	6,209	6,125	6,176	6,217	6,522	6,863	6,962	
44. Periodical, book printing and publishing .....	5,315	5,955	6,213	6,329	6,525	6,759	7,234	7,362	7,855	
45. Other printing and publishing .....	7,519	8,034	8,298	8,505	8,859	8,838	9,344	10,182	10,881	
46. Industrial inorganic and organic chemicals .....	7,007	8,075	8,164	8,400	9,158	9,923	10,833	11,673	12,423	
47. Agricultural chemicals .....	1,634	1,862	1,912	1,934	2,071	2,343	2,644	2,835	3,079	
48. Other chemical products .....	2,372	2,700	2,590	2,602	2,801	2,788	3,026	3,234	3,543	
49. Plastic materials and synthetic rubber .....	1,890	2,463	2,456	2,467	2,778	2,967	3,285	3,636	4,179	
50. Synthetic fibers .....	1,260	1,493	1,484	1,546	1,811	1,974	2,265	2,686	2,864	
51. Drugs .....	2,706	2,949	3,019	3,222	3,524	3,742	3,933	4,437	4,836	
52. Cleaning and toilet preparations .....	3,702	4,210	4,217	4,452	4,760	5,295	5,631	6,020	6,528	
53. Paints and allied products .....	2,221	2,535	2,467	2,363	2,512	2,851	2,949	3,189	3,383	
54. Petroleum refining and related products .....	18,744	19,891	20,441	20,413	21,142	22,407	23,767	23,965	24,802	
55. Tires and inner tubes .....	2,621	3,223	3,265	3,097	3,470	3,434	3,638	3,980	4,225	

**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Historical									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	
56. Rubber products except tires and tubes .....	2,571	2,773	2,742	2,958	3,441	3,559	3,764	3,956	3,932	
57. Plastic products .....	2,842	3,429	3,502	3,742	4,176	4,632	5,129	5,787	6,326	
58. Leather tanning and industrial leather .....	1,223	1,218	1,179	1,121	1,087	1,152	1,167	1,223	1,194	
59. Leather products including footwear .....	4,550	4,726	4,552	4,532	4,621	4,499	4,760	4,852	4,936	
60. Glass .....	2,913	3,496	3,500	3,413	3,599	3,872	4,083	4,418	4,732	
61. Cement and concrete products .....	5,545	6,133	5,943	5,918	6,105	6,803	7,075	7,506	7,583	
62. Structural clay products .....	898	1,054	1,054	1,049	1,100	1,003	1,102	1,138	1,148	
63. Pottery and related products .....	564	645	620	577	628	675	704	726	773	
64. Other stone and clay products .....	2,535	2,985	2,899	2,925	3,096	3,285	3,522	3,867	4,218	
65. Blast furnaces and basic steel products .....	21,037	24,037	24,443	23,420	24,132	25,568	29,041	31,868	32,640	
66. Iron and steel foundries and forgings .....	4,231	5,275	4,979	4,681	5,380	5,746	6,502	7,249	7,768	
67. Primary copper and copper products .....	6,507	6,775	7,082	7,752	8,248	8,679	9,054	10,019	11,343	
68. Primary aluminum and aluminum products .....	3,207	4,025	3,657	3,787	4,244	4,745	4,988	5,600	6,537	
69. Primary nonferrous metals and products .....	3,178	3,442	3,518	3,648	3,827	3,901	4,155	4,464	5,353	
70. Metal containers .....	2,908	3,093	3,111	3,262	3,257	3,235	3,461	3,647	3,835	
71. Heating apparatus and plumbing fixtures .....	1,616	1,837	1,739	1,742	1,851	1,885	2,064	2,060	2,142	
72. Fabricated structural metal products .....	7,683	7,659	7,779	7,884	8,104	8,594	9,079	10,049	10,944	
73. Screw machine products .....	2,214	2,838	2,702	2,348	2,505	2,609	2,875	3,138	3,557	
74. Metal stampings .....	4,491	5,517	5,640	5,060	5,936	6,198	6,368	7,258	7,541	
75. Cutlery, handtools, general hardware .....	2,643	2,979	2,986	2,943	3,271	3,432	3,710	4,208	4,410	
76. Other fabricated metal products .....	4,991	5,684	5,490	5,515	6,269	6,311	6,745	7,550	8,171	
77. Engines, turbines, and generators .....	2,499	2,680	2,376	2,259	2,622	2,723	3,078	3,327	3,735	
78. Farm machinery .....	3,428	3,642	2,936	3,141	3,377	3,724	4,188	4,486	5,397	
79. Construction, mining, oilfield machinery .....	4,302	5,132	4,473	4,222	4,678	5,082	5,927	6,431	6,700	
80. Material handling equipment .....	1,309	1,483	1,559	1,423	1,599	1,821	2,065	2,303	2,783	
81. Metalworking machinery .....	4,423	5,086	5,292	4,994	5,788	5,868	6,672	7,520	8,574	
82. Special industry machinery .....	3,281	3,738	4,209	4,211	4,300	4,287	4,886	5,401	6,145	
83. General industrial machinery .....	4,445	5,167	5,084	4,953	5,531	5,992	6,769	7,730	8,573	
84. Other nonelectrical machinery .....	2,199	2,645	2,602	2,683	3,047	2,976	3,223	3,256	4,002	
85. Computers and peripheral equipment .....	1,458	1,735	2,069	2,250	2,433	2,626	3,092	3,352	4,842	
86. Typewriters and other office equipment .....	720	769	830	853	900	921	985	1,045	1,311	
87. Service industry machines .....	2,032	2,394	2,441	2,407	2,726	3,157	3,413	3,873	4,480	
88. Electric transmission equipment .....	2,551	2,932	2,961	3,005	3,189	3,019	3,204	3,602	4,108	
89. Electrical industrial apparatus .....	2,679	3,234	3,269	3,245	3,564	3,717	4,148	4,737	5,483	
90. Household appliances .....	2,987	3,408	3,437	3,434	3,812	4,233	4,569	5,051	5,430	
91. Electric lighting and wiring .....	2,761	3,238	3,158	3,204	3,445	3,485	3,762	4,172	4,471	
92. Radio and television receiving sets .....	1,205	1,396	1,370	1,475	1,804	1,939	2,153	2,744	3,642	
93. Telephone and telegraph apparatus .....	1,355	1,466	1,684	1,967	2,151	2,020	2,306	2,730	2,981	
94. Radio and communication equipment .....	3,124	3,860	4,955	6,494	7,925	8,433	7,748	8,520	9,673	
95. Electronic components .....	1,795	2,333	2,484	2,467	2,948	2,947	3,143	4,289	5,555	
96. Other electrical machinery and equipment .....	1,825	2,192	2,193	2,178	2,488	2,553	2,632	2,993	3,549	
97. Motor vehicles .....	25,766	32,776	37,008	31,930	40,409	44,697	45,863	56,090	55,498	
98. Aircraft .....	17,774	18,335	16,689	17,969	18,437	18,419	18,179	19,048	22,843	
99. Ship and boat building and repair .....	2,677	2,613	2,404	2,591	2,670	2,740	2,987	3,317	3,662	
100. Railroad equipment .....	1,196	1,386	1,534	1,150	1,572	1,864	2,479	2,919	3,313	
101. Motorcycles, bicycles, and parts .....	136	177	166	181	210	232	279	301	309	
102. Other transportation equipment .....	584	695	671	605	674	959	1,213	1,369	1,471	
103. Scientific and controlling instruments .....	2,521	3,180	3,235	3,159	2,944	2,877	2,952	3,431	3,445	
104. Medical and dental instruments .....	799	897	980	966	1,040	1,160	1,208	1,296	1,454	
105. Optical and ophthalmic equipment .....	994	917	840	620	607	629	616	714	752	
106. Photographic equipment and supplies .....	1,388	1,483	1,664	1,664	1,769	2,018	2,238	2,707	3,498	
107. Watches and clocks .....	431	554	533	506	545	660	730	831	917	
108. Jewelry and silverware .....	1,383	1,458	1,451	1,518	1,532	1,682	1,792	2,060	2,211	
109. Musical instruments and sporting goods .....	1,818	2,071	2,187	2,297	2,341	2,416	2,521	2,839	2,938	
110. Other manufactured products .....	2,857	3,053	3,122	3,151	3,464	3,650	3,866	4,050	4,193	

**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Historical									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	
111. Railroad transportation .....	11,701	12,034	12,279	12,050	12,556	13,035	13,630	14,414	15,142	
112. Local transit and intercity buses .....	6,015	5,885	5,910	5,713	5,757	5,762	5,717	5,773	5,806	
113. Truck transportation .....	16,507	17,993	18,393	19,086	19,944	21,692	22,954	23,179	24,567	
114. Water transportation .....	7,229	7,193	7,544	6,418	6,928	6,893	7,393	7,099	7,128	
115. Air transportation .....	3,365	4,014	4,054	4,159	4,585	5,206	5,965	7,021	8,254	
116. Pipeline transportation .....	716	771	778	791	808	859	914	1,039	1,131	
117. Transportation services .....	857	893	909	1,037	1,132	1,129	971	1,012	1,175	
118. Radio and television broadcasting .....	2,997	3,003	3,321	3,392	3,472	3,302	3,198	3,286	3,480	
119. Communications except radio and television .....	11,118	11,846	12,605	13,283	14,313	15,260	16,380	18,048	19,993	
120. Electric utilities, public and private .....	12,344	13,380	14,063	14,899	16,556	17,636	18,754	19,962	21,534	
121. Gas utilities, excluding public .....	9,711	10,505	11,176	11,609	12,411	12,985	13,918	14,400	15,338	
122. Water and sanitary services, except public .....	1,581	1,753	1,804	1,794	1,915	1,960	2,120	2,111	2,266	
123. Wholesale trade .....	50,187	54,651	56,646	58,316	61,963	64,458	67,347	72,302	77,031	
124. Eating and drinking places .....	36,530	37,315	37,356	36,993	37,758	38,265	40,145	40,957	44,806	
125. Retail trade, except eating and drinking .....	56,075	60,120	61,790	63,133	68,220	71,036	77,050	82,393	85,070	
126. Banking .....	12,100	13,132	13,868	14,318	14,618	15,313	16,238	16,892	17,825	
127. Credit agencies and financial brokers .....	10,458	9,316	9,756	13,156	8,605	8,375	8,376	10,919	12,966	
128. Insurance .....	25,032	25,075	26,296	26,610	27,090	27,441	28,186	29,538	30,550	
129. Owner-occupied real estate .....	39,778	41,967	44,278	46,279	48,749	50,817	53,033	55,723	58,220	
130. Real estate .....	43,878	44,747	48,311	52,969	56,577	60,058	61,833	65,939	68,346	
131. Hotels and lodging places .....	2,329	2,594	3,015	3,160	3,789	4,547	4,740	5,399	5,690	
132. Personal and repair services .....	13,456	13,642	13,417	14,158	14,068	14,991	15,947	15,322	16,300	
133. Barber and beauty shops .....	3,665	3,899	3,931	4,194	4,470	4,445	4,616	4,701	5,045	
134. Miscellaneous business services .....	8,617	10,698	10,711	11,764	12,723	13,366	15,299	16,768	18,335	
135. Advertising .....	2,027	2,594	2,323	2,342	2,453	2,659	2,322	2,648	2,841	
136. Miscellaneous professional services .....	17,510	17,518	17,154	18,977	19,914	19,974	20,125	21,436	23,282	
137. Automobile repair .....	15,257	16,410	17,431	16,669	17,404	18,738	19,443	19,903	20,627	
138. Motion pictures .....	4,177	4,227	3,443	3,871	3,950	3,625	4,009	3,584	4,201	
139. Amusements and recreation services .....	5,076	5,668	5,813	6,276	6,546	6,898	6,979	7,501	7,644	
140. Doctors' and dentists' services .....	12,315	13,061	13,244	13,490	14,202	14,746	16,749	17,080	17,402	
141. Hospitals .....	7,620	8,110	8,589	9,271	9,888	10,582	11,253	11,957	12,912	
142. Medical services, except hospitals .....	3,134	3,321	3,588	3,547	3,915	4,110	4,754	5,064	5,382	
143. Educational services (private) .....	11,143	11,608	11,571	12,415	12,685	15,224	14,604	14,125	14,180	
144. Nonprofit organizations .....	8,232	8,824	9,340	9,654	10,151	10,482	10,905	11,431	12,275	
145. Post Office .....	5,644	5,758	5,984	6,098	6,248	6,379	6,541	6,751	7,107	
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0	0	
147. Other Federal enterprises .....	867	1,096	1,045	911	1,029	1,285	1,292	1,496	1,670	
148. Local government passenger transit .....	1,170	1,194	1,172	1,204	1,159	1,297	1,363	1,343	1,356	
149. Other State and local enterprises .....	4,886	5,150	5,370	5,608	5,946	6,039	6,235	6,509	6,759	
150. Noncomparable imports .....	0	0	0	0	0	0	0	0	0	
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0	0	
152. New construction industry .....	82,357	90,256	89,445	92,197	97,451	103,622	107,676	114,775	114,668	
153. Government industry .....	0	0	0	0	0	0	0	0	0	
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0	0	
155. Private households .....	6,882	6,716	6,756	6,551	6,519	6,428	6,347	6,144	5,905	
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0	0	



**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
1. Dairy and poultry products .....	11,412	11,219	11,182	11,488	11,526	11,768	11,328	11,165
2. Meat animals and livestock .....	27,276	28,033	28,052	29,256	30,626	31,556	30,508	28,686
3. Cotton .....	1,341	1,741	1,929	1,730	1,717	2,093	2,217	2,222
4. Food and feed grains .....	16,571	15,186	16,164	15,287	18,128	17,814	19,218	19,715
5. Other agricultural products .....	14,226	14,535	15,352	15,247	15,313	15,179	16,024	15,096
6. Forestry and fishery products .....	2,312	1,882	1,423	2,499	2,194	1,970	1,733	1,647
7. Agricultural, forestry, fishery services .....	3,195	3,305	3,264	3,278	3,465	3,557	3,385	3,346
8. Iron and ferroalloy ores mining .....	1,193	1,287	1,348	1,395	1,279	1,233	1,517	1,463
9. Copper ore mining .....	923	1,167	1,497	1,666	1,474	1,613	1,664	1,546
10. Nonferrous metal ores mining except copper .....	519	543	611	618	587	657	633	641
11. Coal mining .....	5,133	5,051	5,202	5,545	5,076	5,442	5,435	5,558
12. Crude petroleum and gas, except drilling .....	15,960	16,652	17,121	17,928	17,832	17,819	17,617	16,913
13. Stone and clay mining and quarrying .....	2,609	2,673	2,713	2,766	2,757	2,849	3,443	3,542
14. Chemical and fertilizer mineral mining .....	743	730	721	736	729	775	782	802
15. Maintenance and repair construction .....	36,535	35,290	35,621	35,015	35,470	36,404	34,242	33,683
16. Ordnance .....	6,476	8,490	7,786	4,886	3,503	3,094	2,991	2,931
17. Guided missiles and space vehicles .....	5,790	5,843	5,767	4,160	4,185	3,987	4,351	4,613
18. Meat products .....	28,602	29,190	28,919	29,199	30,223	32,712	29,800	31,969
19. Dairy products .....	13,784	13,471	13,465	13,241	13,805	14,811	15,038	15,667
20. Canned and frozen foods .....	10,519	10,762	11,064	11,211	11,751	12,498	13,281	12,903
21. Grain mill products .....	11,372	11,558	12,010	12,098	12,040	12,811	12,276	12,765
22. Bakery products .....	8,102	8,155	8,364	8,030	7,991	8,335	8,253	8,070
23. Sugar .....	2,996	3,134	3,080	3,072	3,175	3,163	3,238	2,947
24. Confectionery products .....	3,200	3,275	3,194	3,268	3,315	3,449	3,658	3,746
25. Alcoholic beverages .....	9,022	9,587	10,423	11,140	11,793	11,695	11,917	12,610
26. Soft drinks and flavorings .....	4,697	4,967	5,262	5,789	5,947	6,300	6,579	6,639
27. Other food products .....	11,568	11,623	11,951	12,041	12,374	12,527	12,255	12,863
28. Tobacco manufacturing .....	9,119	8,972	8,658	8,802	8,890	9,244	9,664	9,961
29. Fabric, yarn, and thread mills .....	16,255	16,791	16,479	16,332	16,786	17,688	16,912	16,172
30. Floor covering mills .....	1,685	2,077	2,349	2,381	2,665	3,138	3,531	2,909
31. Other textile mill products .....	2,311	2,577	2,696	2,439	2,651	2,821	2,725	2,592
32. Hosiery and knit goods .....	4,402	4,920	5,431	5,588	6,199	7,544	7,856	6,785
33. Apparel .....	20,634	21,244	21,326	19,809	20,702	22,660	23,229	21,547
34. Other fabricated textile products .....	3,688	3,942	4,456	4,352	4,771	4,924	5,078	4,355
35. Logging .....	4,119	4,307	4,168	4,620	3,740	4,434	4,468	4,672
36. Sawmills and planing mills .....	6,219	6,157	6,064	6,113	6,082	7,074	6,781	6,370
37. Other millwork, plywood, and wood products .....	7,160	7,458	7,051	7,576	8,511	10,044	9,761	9,219
38. Wooden containers .....	670	642	602	481	434	466	389	426
39. Household furniture .....	5,359	5,714	5,850	5,632	6,073	7,281	7,644	6,717
40. Furniture and fixtures, except household .....	3,014	3,069	3,411	3,085	3,044	3,726	3,907	3,666
41. Paper products .....	16,574	17,495	18,805	18,234	18,531	19,855	21,739	23,225
42. Paperboard .....	6,750	7,168	7,495	7,303	7,258	7,979	8,538	8,436
43. Newspaper printing and publishing .....	7,197	7,415	7,780	7,484	7,516	8,252	8,523	8,610
44. Periodical, book printing and publishing .....	8,605	8,571	8,854	7,890	7,986	8,268	8,809	8,522
45. Other printing and publishing .....	11,020	11,446	11,987	11,822	11,758	13,248	13,852	13,451
46. Industrial inorganic and organic chemicals .....	12,324	13,085	14,309	14,433	14,631	16,098	17,803	18,005
47. Agricultural chemicals .....	3,206	3,238	3,553	3,123	3,082	3,547	4,012	5,009
48. Other chemical products .....	3,811	4,267	4,358	4,053	4,231	4,386	4,470	4,119
49. Plastic materials and synthetic rubber .....	4,105	4,625	5,218	5,051	5,390	5,529	5,983	6,130
50. Synthetic fibers .....	2,873	3,657	3,619	3,480	3,901	4,154	5,086	5,344
51. Drugs .....	5,345	5,715	6,362	6,805	7,197	7,921	8,492	9,221
52. Cleaning and toilet preparations .....	6,849	7,349	7,567	8,130	8,013	9,304	9,865	10,339
53. Paints and allied products .....	3,228	3,285	3,263	3,392	3,502	3,611	3,878	3,876
54. Petroleum refining and related products .....	26,373	28,152	29,243	29,591	30,394	31,438	30,054	32,863
55. Tires and inner tubes .....	4,072	4,617	5,105	4,720	5,276	5,873	6,496	6,443

D-1. Gross output by industry, 1958-95—Continued

(Millions of 1972 dollars)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
56. Rubber products except tires and tubes .....	3,923	4,078	4,289	4,213	4,002	4,227	4,226	4,553
57. Plastic products .....	6,842	7,680	8,212	7,900	8,381	10,550	12,203	11,762
58. Leather tanning and industrial leather .....	1,209	1,211	1,095	1,015	1,057	1,063	948	996
59. Leather products including footwear .....	5,035	5,276	5,071	4,730	4,475	4,529	4,502	4,306
60. Glass .....	4,687	4,807	5,040	4,854	5,104	5,583	6,063	5,721
61. Cement and concrete products .....	7,571	7,854	8,026	7,737	8,123	9,174	9,537	9,148
62. Structural clay products .....	1,058	1,117	1,142	1,055	1,073	1,129	1,156	1,217
63. Pottery and related products .....	765	739	859	721	738	811	891	956
64. Other stone and clay products .....	3,663	4,046	3,901	3,652	3,536	4,185	4,685	4,923
65. Blast furnaces and basic steel products .....	30,418	31,351	32,338	28,952	26,936	28,881	34,950	37,960
66. Iron and steel foundries and forgings .....	7,465	7,642	8,127	6,979	6,921	7,821	8,879	9,210
67. Primary copper and copper products .....	9,415	9,557	10,637	10,133	9,820	11,175	12,570	11,717
68. Primary aluminum and aluminum products .....	6,385	6,983	7,175	6,523	6,600	7,699	9,312	9,067
69. Primary nonferrous metals and products .....	5,042	5,357	5,516	4,674	4,541	5,124	5,295	5,156
70. Metal containers .....	4,163	4,564	4,668	4,929	4,717	4,873	5,105	5,215
71. Heating apparatus and plumbing fixtures .....	1,964	2,176	2,352	2,120	2,197	2,083	2,180	1,861
72. Fabricated structural metal products .....	11,880	12,080	12,354	12,287	12,246	13,300	14,812	14,337
73. Screw machine products .....	3,474	3,515	3,419	2,878	2,672	3,045	3,637	3,481
74. Metal stampings .....	7,274	8,155	8,088	6,922	7,366	8,222	9,065	8,179
75. Cutlery, handtools, general hardware .....	4,327	4,418	4,614	4,284	4,458	4,960	5,333	5,055
76. Other fabricated metal products .....	8,287	8,717	9,036	8,619	8,421	9,240	10,298	10,420
77. Engines, turbines, and generators .....	3,795	4,131	4,877	4,835	5,010	5,411	6,081	6,496
78. Farm machinery .....	5,171	4,953	4,590	4,585	4,515	5,574	6,718	7,525
79. Construction, mining, oilfield machinery .....	6,818	6,949	7,273	6,992	6,848	7,898	9,195	10,511
80. Material handling equipment .....	2,652	2,632	2,932	2,770	2,609	2,811	3,196	3,427
81. Metalworking machinery .....	8,531	8,124	8,467	7,511	6,397	7,155	8,731	9,130
82. Special industry machinery .....	5,961	5,913	5,962	5,446	4,901	5,866	6,758	6,925
83. General industrial machinery .....	8,165	7,743	8,368	7,908	7,268	8,149	9,491	9,867
84. Other nonelectrical machinery .....	4,998	4,655	4,641	4,437	4,015	4,450	5,062	5,397
85. Computers and peripheral equipment .....	4,318	4,905	6,081	6,139	5,797	6,652	8,140	9,920
86. Typewriters and other office equipment .....	1,384	1,360	1,488	1,410	1,374	1,400	1,757	1,885
87. Service industry machines .....	4,744	5,167	6,115	5,951	6,439	8,518	9,568	8,743
88. Electric transmission equipment .....	4,318	4,334	4,660	4,566	4,476	5,043	5,745	5,696
89. Electrical industrial apparatus .....	5,321	5,347	5,602	5,178	4,923	5,376	6,350	6,630
90. Household appliances .....	5,488	5,995	6,146	5,910	5,740	6,671	7,436	7,034
91. Electric lighting and wiring .....	4,404	4,705	5,113	4,888	4,761	5,533	5,973	5,578
92. Radio and television receiving sets .....	3,408	3,767	3,901	3,496	3,892	4,402	5,111	4,746
93. Telephone and telegraph apparatus .....	3,050	3,240	3,752	4,286	4,283	4,502	4,942	5,199
94. Radio and communication equipment .....	10,544	11,542	11,184	9,776	8,686	9,032	9,534	9,483
95. Electronic components .....	6,129	5,968	6,505	6,169	5,987	8,416	9,364	9,220
96. Other electrical machinery and equipment .....	3,329	3,575	3,717	3,779	3,879	4,277	4,774	4,721
97. Motor vehicles .....	48,890	58,052	58,574	47,586	60,821	64,972	75,506	83,565
98. Aircraft .....	26,230	27,780	26,149	21,880	18,556	16,986	19,851	19,557
99. Ship and boat building and repair .....	3,930	3,858	3,917	3,699	3,657	4,363	4,810	4,831
100. Railroad equipment .....	2,746	2,227	2,769	2,538	2,652	2,549	2,830	3,220
101. Motorcycles, bicycles, and parts .....	358	410	388	475	483	661	671	837
102. Other transportation equipment .....	1,758	2,262	2,666	3,020	3,817	5,050	4,877	3,468
103. Scientific and controlling instruments .....	3,571	3,539	3,558	3,519	3,273	3,358	4,096	4,545
104. Medical and dental instruments .....	1,621	1,867	2,101	1,994	2,219	2,629	2,822	2,984
105. Optical and ophthalmic equipment .....	927	1,008	1,112	956	964	1,105	1,163	1,317
106. Photographic equipment and supplies .....	3,627	3,888	4,382	4,375	4,620	5,424	6,249	6,813
107. Watches and clocks .....	949	1,074	1,097	983	990	1,001	1,067	1,038
108. Jewelry and silverware .....	2,320	2,476	2,503	2,328	2,370	2,513	2,531	2,214
109. Musical instruments and sporting goods .....	2,804	3,019	3,260	3,126	3,150	4,073	4,142	4,146
110. Other manufactured products .....	4,349	4,468	4,799	4,746	4,799	5,405	5,494	5,137

D-1. Gross output by industry, 1958-95—Continued

(Millions of 1972 dollars)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
111. Railroad transportation .....	14,659	14,842	15,107	14,993	14,419	15,112	16,506	16,457
112. Local transit and intercity buses .....	5,799	5,945	6,060	6,149	6,058	5,980	6,000	6,170
113. Truck transportation .....	25,115	25,582	26,075	26,575	28,717	29,981	32,212	31,546
114. Water transportation .....	6,391	6,759	5,958	6,159	6,279	7,303	7,886	7,160
115. Air transportation .....	10,120	11,410	12,226	11,825	12,013	13,082	13,871	15,098
116. Pipeline transportation .....	1,227	1,328	1,395	1,465	1,508	1,617	1,721	1,717
117. Transportation services .....	1,123	1,337	1,585	1,279	1,400	1,636	1,848	1,860
118. Radio and television broadcasting .....	3,412	3,424	3,915	3,872	4,184	4,513	4,466	4,464
119. Communications except radio and television .....	21,132	23,120	25,665	28,024	29,455	31,560	34,599	36,840
120. Electric utilities, public and private .....	22,734	24,478	26,360	28,209	29,632	31,661	34,164	34,336
121. Gas utilities, excluding public .....	16,100	17,134	18,255	18,943	19,642	20,138	19,530	19,036
122. Water and sanitary services, except public .....	2,162	2,334	2,333	2,434	2,409	2,582	3,263	3,104
123. Wholesale trade .....	79,893	85,761	89,233	90,974	96,226	103,870	106,914	105,169
124. Eating and drinking places .....	45,028	43,486	41,961	46,522	46,785	48,548	50,375	50,308
125. Retail trade, except eating and drinking .....	87,620	96,155	101,134	99,191	104,441	112,531	120,029	117,298
126. Banking .....	18,813	20,178	21,622	23,003	23,789	24,913	26,190	27,854
127. Credit agencies and financial brokers .....	13,377	15,145	12,545	12,138	13,768	13,613	15,165	12,554
128. Insurance .....	30,143	31,621	32,265	35,990	38,124	38,631	38,756	37,322
129. Owner-occupied real estate .....	60,765	63,499	66,892	69,351	72,536	76,783	80,813	85,622
130. Real estate .....	71,212	75,439	81,059	85,194	91,111	97,918	105,645	107,823
131. Hotels and lodging places .....	6,517	6,683	7,082	8,138	7,969	9,122	9,638	9,638
132. Personal and repair services .....	15,678	15,933	15,519	15,976	16,639	17,617	18,666	18,056
133. Barber and beauty shops .....	5,166	4,726	4,743	4,769	4,377	4,310	3,851	3,951
134. Miscellaneous business services .....	18,699	26,216	28,729	31,529	35,291	38,265	40,825	44,579
135. Advertising .....	2,956	2,821	3,130	3,249	2,969	3,032	3,060	3,208
136. Miscellaneous professional services .....	25,768	23,160	26,133	27,403	26,343	27,339	29,919	32,115
137. Automobile repair .....	20,749	21,936	22,412	22,418	23,402	24,339	27,582	26,630
138. Motion pictures .....	3,769	3,932	3,773	4,588	4,649	4,504	5,579	5,520
139. Amusements and recreation services .....	7,181	7,826	8,098	7,940	8,621	8,602	10,146	11,196
140. Doctors' and dentists' services .....	18,530	18,889	20,218	21,381	21,941	23,056	25,253	25,285
141. Hospitals .....	14,363	15,661	17,237	18,713	20,736	22,298	23,510	24,726
142. Medical services, except hospitals .....	5,572	6,869	7,196	8,174	9,127	9,841	10,643	11,068
143. Educational services (private) .....	15,309	15,156	13,672	13,566	13,175	13,463	13,579	13,376
144. Nonprofit organizations .....	13,301	13,632	14,271	14,237	14,387	15,547	16,125	16,358
145. Post Office .....	7,367	7,471	7,701	7,970	8,177	8,192	8,532	8,677
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	1,975	2,315	2,232	2,217	2,305	2,623	2,452	2,745
148. Local government passenger transit .....	1,419	1,444	1,507	1,530	1,450	1,426	1,435	1,465
149. Other State and local enterprises .....	6,879	7,020	7,277	7,522	7,647	8,101	8,352	8,491
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	112,293	119,362	120,220	112,588	121,343	129,581	132,500	113,977
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	5,932	5,640	5,335	4,993	4,766	4,631	4,486	3,878
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

I-1. Gross output by industry, 1958-95—Continued

Millions of 1972 dollars)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
1. Dairy and poultry products .....	11,929	12,230	12,536	12,530	12,178	12,324	13,828	14,430
2. Meat animals and livestock .....	27,311	28,591	29,309	28,390	30,726	31,092	34,888	36,399
3. Cotton .....	1,825	2,020	2,080	2,161	2,355	2,094	2,349	2,450
4. Food and feed grains .....	19,665	21,621	19,887	20,888	21,940	21,969	24,646	25,714
5. Other agricultural products .....	17,343	16,230	17,163	17,372	18,233	17,048	19,125	19,952
6. Forestry and fishery products .....	1,970	2,055	2,208	2,246	1,891	1,949	2,013	2,014
7. Agricultural, forestry, fishery services .....	3,495	3,617	3,842	4,044	4,259	3,870	3,996	4,000
8. Iron and ferroalloy ores mining .....	1,344	1,433	1,141	1,615	1,689	1,394	1,507	749
9. Copper ore mining .....	1,241	1,410	1,320	1,313	1,397	1,133	1,463	1,098
0. Nonferrous metal ores mining except copper .....	588	624	644	630	626	554	644	506
11. Coal mining .....	5,974	6,283	6,416	6,166	7,180	7,871	7,581	7,656
12. Crude petroleum and gas, except drilling .....	16,166	15,925	16,169	16,723	16,334	17,892	19,704	17,597
13. Stone and clay mining and quarrying .....	3,260	3,656	4,081	4,431	4,501	4,306	4,231	3,665
14. Chemical and fertilizer mineral mining .....	816	822	868	917	939	899	884	766
15. Maintenance and repair construction .....	38,973	41,053	42,953	44,898	46,047	47,716	50,345	48,296
16. Ordnance .....	3,026	2,995	2,529	2,618	2,745	2,832	2,949	3,160
17. Guided missiles and space vehicles .....	4,482	4,188	3,433	3,676	4,030	4,134	3,965	3,612
18. Meat products .....	29,786	33,735	33,417	33,295	33,599	34,934	35,132	34,901
19. Dairy products .....	15,987	16,342	16,565	16,408	15,835	16,497	17,083	16,971
20. Canned and frozen foods .....	12,622	13,418	14,434	15,251	14,747	14,105	14,815	15,140
21. Grain mill products .....	12,985	13,514	14,286	14,293	14,201	14,023	13,820	13,599
22. Bakery products .....	8,061	8,289	7,956	7,887	7,913	8,030	8,355	8,062
23. Sugar .....	2,501	3,254	3,210	2,704	2,779	2,852	2,950	2,931
24. Confectionery products .....	3,262	3,385	3,877	4,115	4,133	4,225	4,370	4,587
25. Alcoholic beverages .....	11,503	11,640	12,440	13,641	13,808	13,240	13,564	13,398
26. Soft drinks and flavorings .....	6,511	6,830	7,331	7,949	7,999	8,084	8,135	7,889
27. Other food products .....	13,183	14,295	12,823	14,658	14,552	15,139	15,619	16,148
28. Tobacco manufacturing .....	10,205	10,480	9,957	9,957	9,596	10,404	10,613	10,248
29. Fabric, yarn, and thread mills .....	15,763	17,968	19,021	18,539	18,489	17,252	17,282	15,572
30. Floor covering mills .....	2,630	3,034	3,701	3,892	4,302	4,182	3,832	3,746
31. Other textile mill products .....	2,373	2,744	3,143	3,371	3,404	3,161	2,942	2,823
32. Hosiery and knit goods .....	6,788	6,991	7,494	7,643	7,490	6,960	7,349	6,794
33. Apparel .....	20,960	21,851	23,252	23,910	22,507	23,868	21,461	19,376
34. Other fabricated textile products .....	4,540	5,071	5,934	6,095	5,674	5,307	5,610	5,065
35. Logging .....	4,963	4,688	5,214	5,001	4,982	4,315	4,081	3,739
36. Sawmills and planing mills .....	5,995	6,807	6,975	6,935	7,035	5,943	5,763	5,280
37. Other millwork, plywood, and wood products .....	8,737	9,709	11,164	11,332	11,003	9,631	9,789	9,682
38. Wooden containers .....	375	372	317	329	297	260	269	260
39. Household furniture .....	5,911	6,609	7,404	7,835	7,664	6,835	7,181	6,764
40. Furniture and fixtures, except household .....	3,119	3,418	4,070	4,384	4,459	4,472	4,661	4,695
41. Paper products .....	19,865	21,947	22,745	23,697	24,484	24,500	25,132	25,036
42. Paperboard .....	7,654	8,458	9,056	9,466	9,119	8,793	8,912	8,527
43. Newspaper printing and publishing .....	8,134	8,420	8,849	9,075	9,320	9,119	9,068	8,867
44. Periodical, book printing and publishing .....	8,128	8,565	9,867	10,603	10,857	11,155	11,637	11,619
45. Other printing and publishing .....	12,486	13,363	14,328	15,189	15,681	16,282	17,008	17,123
46. Industrial inorganic and organic chemicals .....	14,869	17,106	19,213	19,700	19,670	19,371	19,248	16,188
47. Agricultural chemicals .....	4,453	4,429	4,718	4,649	4,941	5,140	5,383	4,654
48. Other chemical products .....	3,761	4,367	4,722	5,334	5,917	6,023	6,355	6,130
49. Plastic materials and synthetic rubber .....	4,544	5,490	6,128	6,528	6,806	6,204	6,915	6,459
50. Synthetic fibers .....	5,007	5,519	6,199	6,608	7,159	6,615	6,728	5,400
51. Drugs .....	9,084	9,870	10,128	10,607	10,885	11,227	12,206	12,192
52. Cleaning and toilet preparations .....	9,551	10,223	10,543	11,292	11,021	10,970	11,368	11,015
53. Paints and allied products .....	3,372	3,776	3,999	4,080	4,250	4,398	4,290	3,883
54. Petroleum refining and related products .....	32,391	35,531	37,116	37,271	40,202	37,766	36,310	34,098
55. Tires and inner tubes .....	5,559	5,396	6,302	5,806	5,452	4,218	4,869	4,725

D-1. Gross output by industry, 1958-95—Continued

(Millions of 1972 dollars)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
56. Rubber products except tires and tubes .....	4,344	4,484	4,427	3,828	4,083	3,698	3,842	3,387
57. Plastic products .....	10,042	11,714	14,404	15,571	15,327	15,309	16,275	15,172
58. Leather tanning and industrial leather .....	1,020	1,008	1,050	977	718	706	698	613
59. Leather products including footwear .....	4,165	4,371	4,334	4,366	4,008	3,975	3,847	3,425
60. Glass .....	5,413	5,986	6,197	6,761	6,119	6,014	6,112	5,726
61. Cement and concrete products .....	8,161	8,187	8,940	9,588	9,718	8,638	8,228	7,391
62. Structural clay products .....	1,035	1,061	1,107	1,189	1,139	911	852	681
63. Pottery and related products .....	782	787	783	765	849	760	768	652
64. Other stone and clay products .....	4,237	4,712	4,998	5,411	5,561	4,975	5,031	4,269
65. Blast furnaces and basic steel products .....	27,908	29,325	28,835	30,824	31,774	26,068	28,395	17,259
66. Iron and steel foundries and forgings .....	8,099	8,126	8,662	9,330	9,378	7,224	7,774	5,200
67. Primary copper and copper products .....	8,683	9,896	10,904	11,512	11,600	8,919	10,246	7,437
68. Primary aluminum and aluminum products .....	7,156	8,602	9,198	9,792	9,965	9,484	9,392	7,874
69. Primary nonferrous metals and products .....	4,372	4,925	4,939	5,024	5,090	4,474	4,595	3,735
70. Metal containers .....	4,738	4,879	5,217	5,088	5,117	4,712	4,727	4,193
71. Heating apparatus and plumbing fixtures .....	1,710	1,773	1,993	2,133	2,149	1,981	1,989	1,698
72. Fabricated structural metal products .....	12,249	13,044	14,240	14,639	15,270	14,320	14,074	11,999
73. Screw machine products .....	2,484	2,852	3,252	3,608	3,823	3,339	3,344	2,726
74. Metal stampings .....	6,779	8,301	9,423	9,669	9,314	8,134	8,148	6,642
75. Cutlery, handtools, general hardware .....	4,445	5,122	5,543	5,736	5,739	5,187	5,509	4,692
76. Other fabricated metal products .....	9,262	10,174	11,179	11,876	12,348	11,049	11,239	9,247
77. Engines, turbines, and generators .....	5,395	5,976	6,574	7,046	6,897	6,094	5,888	4,539
78. Farm machinery .....	7,061	7,107	7,434	7,006	8,404	7,426	7,175	5,531
79. Construction, mining, oilfield machinery .....	9,788	9,276	10,079	11,660	11,191	10,953	11,321	8,667
80. Material handling equipment .....	2,664	2,601	3,096	3,474	3,741	3,661	3,785	2,898
81. Metalworking machinery .....	7,464	7,376	8,030	8,827	9,397	9,405	9,212	7,855
82. Special industry machinery .....	5,788	5,758	5,556	5,916	5,960	5,808	5,852	4,747
83. General industrial machinery .....	8,759	8,917	9,802	10,251	10,883	10,604	10,683	8,666
84. Other nonelectrical machinery .....	4,861	4,915	5,244	5,776	6,117	5,947	5,990	4,859
85. Computers and peripheral equipment .....	8,915	11,115	13,938	18,112	23,460	24,790	27,966	26,861
86. Typewriters and other office equipment .....	1,635	1,758	2,216	2,362	2,493	2,887	3,256	3,127
87. Service industry machines .....	6,301	7,948	8,791	9,714	9,919	10,482	11,825	11,358
88. Electric transmission equipment .....	4,720	4,822	5,569	6,159	6,572	6,273	6,449	5,164
89. Electrical industrial apparatus .....	5,171	5,715	6,061	6,662	6,886	6,572	6,757	5,411
90. Household appliances .....	6,182	6,927	7,758	7,865	8,163	7,396	7,473	6,484
91. Electric lighting and wiring .....	4,222	5,000	5,347	5,481	5,990	5,912	6,107	5,795
92. Radio and television receiving sets .....	4,185	4,952	6,087	6,922	6,751	6,436	6,625	5,873
93. Telephone and telegraph apparatus .....	3,736	3,608	4,852	5,284	6,490	6,779	7,063	7,321
94. Radio and communication equipment .....	9,758	10,168	11,229	12,835	14,882	15,543	16,195	16,787
95. Electronic components .....	7,849	10,262	13,030	15,232	19,344	19,913	20,378	20,411
96. Other electrical machinery and equipment .....	4,024	4,740	5,856	6,104	6,010	5,435	5,951	5,607
97. Motor vehicles .....	57,191	74,443	85,632	89,095	81,577	60,571	62,355	55,982
98. Aircraft .....	17,951	16,276	16,774	18,646	22,798	24,286	24,034	22,478
99. Ship and boat building and repair .....	5,156	5,231	5,362	5,358	5,338	5,187	5,245	4,648
100. Railroad equipment .....	2,978	2,385	2,659	3,209	4,150	3,938	1,929	983
101. Motorcycles, bicycles, and parts .....	553	559	692	782	785	707	519	400
102. Other transportation equipment .....	3,084	3,673	3,693	3,948	3,381	2,733	3,016	3,027
103. Scientific and controlling instruments .....	3,969	4,270	5,190	5,655	5,553	5,567	5,630	5,408
104. Medical and dental instruments .....	3,069	3,182	3,277	3,510	3,786	3,796	3,839	3,688
105. Optical and ophthalmic equipment .....	1,318	1,484	1,804	2,292	2,434	2,379	2,369	2,252
106. Photographic equipment and supplies .....	6,099	6,874	7,345	8,233	9,089	8,634	8,418	7,903
107. Watches and clocks .....	938	1,142	1,111	1,217	939	893	870	817
108. Jewelry and silverware .....	2,241	2,564	2,890	2,803	2,577	2,489	2,655	2,346
109. Musical instruments and sporting goods .....	3,608	4,000	4,399	4,506	4,598	4,439	4,736	4,184
110. Other manufactured products .....	4,709	5,002	5,662	5,748	5,682	5,454	5,561	4,864

D-1. Gross output by industry, 1958-95—Continued

(Millions of 1972 dollars)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
111. Railroad transportation .....	14,705	15,478	16,105	16,541	17,486	16,425	15,482	14,118
112. Local transit and intercity buses .....	6,068	6,145	6,188	6,316	6,559	6,452	6,254	5,986
113. Truck transportation .....	28,913	32,492	35,328	38,324	39,991	35,762	35,457	33,644
114. Water transportation .....	6,706	7,163	8,250	7,974	8,994	8,866	9,212	8,941
115. Air transportation .....	14,514	15,351	16,435	18,457	20,268	19,054	17,094	16,129
116. Pipeline transportation .....	1,722	1,749	1,854	1,990	2,065	1,997	1,967	1,863
117. Transportation services .....	1,630	1,973	2,058	2,020	2,097	2,193	2,259	2,139
118. Radio and television broadcasting .....	4,977	4,962	5,401	5,408	5,377	5,605	5,579	5,638
119. Communications except radio and television .....	39,494	42,765	46,858	51,640	55,863	61,007	64,560	64,797
120. Electric utilities, public and private .....	35,836	38,357	40,958	42,819	44,366	44,860	45,114	43,356
121. Gas utilities, excluding public .....	18,428	18,456	18,016	18,573	19,242	19,449	19,562	18,801
122. Water and sanitary services, except public .....	2,853	2,857	2,925	2,946	3,025	3,229	3,380	3,412
123. Wholesale trade .....	105,719	109,329	114,656	123,286	127,172	122,949	129,409	126,283
124. Eating and drinking places .....	52,420	55,776	57,450	57,906	58,850	58,266	58,908	59,414
125. Retail trade, except eating and drinking .....	118,161	126,017	134,508	140,638	143,396	142,208	143,986	142,314
126. Banking .....	30,111	31,063	33,343	35,362	37,255	38,110	37,165	37,539
127. Credit agencies and financial brokers .....	14,939	14,281	17,380	20,332	21,067	23,693	26,042	27,397
128. Insurance .....	39,226	46,558	46,907	48,899	49,359	55,613	55,501	55,451
129. Owner-occupied real estate .....	88,657	93,656	99,043	104,576	110,031	114,385	116,605	118,426
130. Real estate .....	114,341	118,250	124,780	131,196	138,791	144,271	147,469	147,317
131. Hotels and lodging places .....	10,017	10,970	10,992	11,469	11,719	11,709	12,179	12,276
132. Personal and repair services .....	18,004	18,331	19,699	19,797	19,914	19,344	19,787	19,612
133. Barber and beauty shops .....	3,629	3,391	3,557	3,566	3,559	3,517	3,524	3,567
134. Miscellaneous business services .....	43,155	45,878	48,544	54,285	59,326	63,563	67,366	70,120
135. Advertising .....	2,917	3,347	3,440	3,818	4,092	4,384	4,647	4,838
136. Miscellaneous professional services .....	33,339	33,667	36,472	39,266	41,691	43,533	46,283	44,775
137. Automobile repair .....	26,514	27,437	29,155	30,508	31,584	31,391	32,528	33,455
138. Motion pictures .....	5,797	5,520	6,098	6,880	6,936	7,069	7,449	7,809
139. Amusements and recreation services .....	11,676	11,792	13,120	13,838	14,698	15,606	16,488	17,355
140. Doctors' and dentists' services .....	26,976	27,479	28,972	30,220	31,501	34,996	38,388	42,119
141. Hospitals .....	26,469	28,492	30,130	31,178	31,942	32,745	33,314	32,920
142. Medical services, except hospitals .....	12,318	12,719	13,135	14,075	14,512	15,031	15,609	15,743
143. Educational services (private) .....	13,847	14,200	14,848	15,066	15,735	16,522	16,800	16,441
144. Nonprofit organizations .....	15,966	16,243	16,975	18,270	19,388	20,288	20,627	20,793
145. Post Office .....	8,702	8,859	9,205	9,672	9,964	10,185	11,117	11,842
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	2,721	3,276	3,179	3,363	3,444	3,307	3,346	3,314
148. Local government passenger transit .....	1,511	1,496	1,624	1,885	1,821	1,827	1,951	2,074
149. Other State and local enterprises .....	8,522	8,531	8,561	8,830	9,434	9,675	10,341	10,998
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	101,514	109,180	116,142	121,624	119,592	107,624	104,343	98,900
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	3,616	3,732	3,826	3,772	3,588	3,367	3,318	3,100
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
1. Dairy and poultry products .....	14,306	14,734	14,874	14,209	14,908	15,109
2. Meat animals and livestock .....	37,017	37,487	37,659	37,497	38,108	38,328
3. Cotton .....	2,456	2,464	2,495	2,460	2,472	2,518
4. Food and feed grains .....	28,099	28,676	28,921	29,950	30,367	30,623
5. Other agricultural products .....	21,360	21,890	22,145	22,453	22,997	23,310
6. Forestry and fishery products .....	2,096	2,109	2,177	2,159	2,163	2,263
7. Agricultural, forestry, fishery services .....	4,827	5,018	5,141	5,469	5,600	5,747
8. Iron and ferroalloy ores mining .....	1,180	1,251	1,240	1,514	1,538	1,501
9. Copper ore mining .....	1,374	1,475	1,536	1,588	1,691	1,768
10. Nonferrous metal ores mining except copper .....	621	638	642	711	713	714
11. Coal mining .....	9,538	9,940	10,237	10,999	11,244	11,607
12. Crude petroleum and gas, except drilling .....	17,554	17,663	17,545	17,521	17,700	17,518
13. Stone and clay mining and quarrying .....	4,757	5,084	5,311	5,605	5,894	6,186
14. Chemical and fertilizer mineral mining .....	1,107	1,147	1,168	1,372	1,365	1,382
15. Maintenance and repair construction .....	56,568	58,253	59,193	62,991	63,941	64,978
16. Ordnance .....	4,147	3,996	4,072	4,913	4,473	4,556
17. Guided missiles and space vehicles .....	5,166	4,826	4,871	6,373	5,519	5,540
18. Meat products .....	38,967	40,183	40,538	42,124	43,200	43,531
19. Dairy products .....	17,998	18,814	19,042	18,796	19,868	20,141
20. Canned and frozen foods .....	17,726	18,491	18,691	19,733	20,406	20,576
21. Grain mill products .....	15,676	16,218	16,441	17,288	17,714	17,950
22. Bakery products .....	7,954	8,251	8,357	7,870	8,359	8,514
23. Sugar .....	2,989	3,069	3,035	3,034	3,147	3,090
24. Confectionery products .....	4,836	4,926	4,882	5,029	5,120	5,039
25. Alcoholic beverages .....	17,063	17,963	18,188	19,908	20,571	20,731
26. Soft drinks and flavorings .....	10,248	11,023	11,263	12,079	12,814	13,054
27. Other food products .....	17,587	18,187	18,387	18,705	19,352	19,576
28. Tobacco manufacturing .....	10,524	10,737	10,944	10,739	11,016	11,314
29. Fabric, yarn, and thread mills .....	19,786	20,673	21,254	23,058	23,587	24,271
30. Floor covering mills .....	5,201	5,638	6,290	6,331	6,718	7,640
31. Other textile mill products .....	3,388	3,510	3,598	3,827	3,903	4,009
32. Hosiery and knit goods .....	8,453	8,847	8,966	9,740	10,020	10,120
33. Apparel .....	23,557	24,254	24,371	26,804	27,040	27,023
34. Other fabricated textile products .....	6,742	7,134	7,331	8,044	8,316	8,534
35. Logging .....	5,372	5,663	6,291	6,640	6,762	7,646
36. Sawmills and planing mills .....	7,032	7,370	8,541	8,393	8,564	10,272
37. Other millwork, plywood, and wood products .....	12,383	13,379	16,095	14,481	15,491	19,500
38. Wooden containers .....	222	218	223	192	194	204
39. Household furniture .....	8,340	8,836	9,625	9,563	10,019	11,145
40. Furniture and fixtures, except household .....	5,238	5,600	6,060	5,659	6,117	6,784
41. Paper products .....	32,081	33,142	33,693	37,550	37,773	38,289
42. Paperboard .....	10,387	10,851	11,183	11,832	12,178	12,593
43. Newspaper printing and publishing .....	10,134	10,532	10,887	11,118	11,483	11,960
44. Periodical, book printing and publishing .....	13,932	14,595	15,089	15,727	16,294	16,932
45. Other printing and publishing .....	19,942	20,652	21,226	22,132	22,667	23,404
46. Industrial inorganic and organic chemicals .....	22,817	23,867	24,423	27,964	28,253	28,795
47. Agricultural chemicals .....	6,555	6,821	6,931	8,032	8,059	8,139
48. Other chemical products .....	7,463	7,728	7,977	8,498	8,641	8,957
49. Plastic materials and synthetic rubber .....	8,821	9,188	9,442	10,655	10,747	11,026
50. Synthetic fibers .....	7,711	8,109	8,328	9,506	9,656	9,882
51. Drugs .....	18,960	20,125	20,494	24,214	24,656	24,901
52. Cleaning and toilet preparations .....	13,763	14,433	14,838	15,896	16,385	16,867
53. Paints and allied products .....	4,845	5,141	5,452	5,593	5,860	6,285
54. Petroleum refining and related products .....	37,450	38,440	39,142	40,053	40,920	41,820
55. Tires and inner tubes .....	5,182	5,306	5,359	5,537	5,637	5,695

**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
56. Rubber products except tires and tubes .....	4,312	4,519	4,595	5,031	5,166	5,236
57. Plastic products .....	22,029	23,223	24,291	27,353	27,821	29,133
58. Leather tanning and industrial leather .....	689	692	675	748	737	708
59. Leather products including footwear .....	3,296	3,294	3,178	3,196	3,219	3,047
60. Glass .....	7,260	7,564	7,753	8,451	8,613	8,830
61. Cement and concrete products .....	8,968	10,134	11,535	10,192	11,701	13,735
62. Structural clay products .....	906	984	1,150	1,081	1,156	1,398
63. Pottery and related products .....	738	769	809	805	835	893
64. Other stone and clay products .....	5,850	6,419	6,901	7,078	7,647	8,299
65. Blast furnaces and basic steel products .....	24,264	25,619	25,818	29,703	30,394	30,362
66. Iron and steel foundries and forgings .....	7,246	7,714	7,986	8,835	9,149	9,466
67. Primary copper and copper products .....	10,419	11,384	11,947	12,734	13,639	14,341
68. Primary aluminum and aluminum products .....	11,002	11,575	11,903	13,431	13,689	14,042
69. Primary nonferrous metals and products .....	4,838	5,042	5,199	5,694	5,789	5,976
70. Metal containers .....	5,218	5,475	5,576	6,014	6,207	6,310
71. Heating apparatus and plumbing fixtures .....	2,184	2,378	2,757	2,561	2,767	3,319
72. Fabricated structural metal products .....	15,848	18,295	20,247	18,836	21,891	24,626
73. Screw machine products .....	3,366	3,515	3,567	3,863	3,966	4,013
74. Metal stampings .....	9,045	9,768	10,183	10,910	11,553	12,063
75. Cutlery, handtools, general hardware .....	6,223	6,600	7,001	7,412	7,690	8,227
76. Other fabricated metal products .....	13,389	14,480	15,119	16,605	17,470	18,236
77. Engines, turbines, and generators .....	8,214	8,731	8,970	11,068	11,126	11,322
78. Farm machinery .....	8,019	8,440	8,947	9,950	10,101	10,761
79. Construction, mining, oilfield machinery .....	12,791	13,608	14,227	15,993	16,431	17,180
80. Material handling equipment .....	3,907	4,274	4,565	4,691	5,060	5,450
81. Metalworking machinery .....	10,066	10,664	11,350	11,783	12,269	13,205
82. Special industry machinery .....	6,122	6,315	6,533	7,189	7,211	7,481
83. General industrial machinery .....	12,080	12,622	13,108	14,730	14,882	15,467
84. Other nonelectrical machinery .....	6,514	6,833	7,089	7,798	7,961	8,273
85. Computers and peripheral equipment .....	47,301	50,390	54,140	63,171	63,830	68,623
86. Typewriters and other office equipment .....	4,334	4,575	4,847	5,271	5,403	5,760
87. Service industry machines .....	14,143	14,817	15,993	16,305	16,792	18,453
88. Electric transmission equipment .....	7,306	7,782	8,329	8,970	9,278	10,009
89. Electrical industrial apparatus .....	8,321	8,770	9,220	10,580	10,689	11,243
90. Household appliances .....	9,827	10,374	11,142	12,422	12,596	13,615
91. Electric lighting and wiring .....	6,952	7,495	7,934	7,850	8,466	9,070
92. Radio and television receiving sets .....	10,745	11,665	12,137	14,527	14,973	15,463
93. Telephone and telegraph apparatus .....	10,113	10,886	11,850	12,281	12,922	14,255
94. Radio and communication equipment .....	24,630	24,212	24,751	30,720	28,453	28,979
95. Electronic components .....	38,857	41,146	42,765	53,180	52,990	54,633
96. Other electrical machinery and equipment .....	7,776	8,195	8,621	9,460	9,673	10,221
97. Motor vehicles .....	76,099	85,001	87,563	91,719	101,577	104,330
98. Aircraft .....	27,393	26,184	26,311	31,209	28,300	28,345
99. Ship and boat building and repair .....	6,591	6,535	6,551	8,099	7,613	7,561
100. Railroad equipment .....	1,902	2,109	2,279	2,615	2,752	2,967
101. Motorcycles, bicycles, and parts .....	628	682	740	806	843	921
102. Other transportation equipment .....	3,852	4,534	5,456	4,493	5,395	6,746
103. Scientific and controlling instruments .....	7,228	7,543	7,923	8,641	8,762	9,258
104. Medical and dental instruments .....	5,129	5,454	5,753	6,248	6,463	6,850
105. Optical and ophthalmic equipment .....	3,497	3,688	3,866	4,463	4,508	4,723
106. Photographic equipment and supplies .....	12,198	12,864	13,369	15,532	15,698	16,271
107. Watches and clocks .....	1,128	1,147	1,278	1,369	1,336	1,523
108. Jewelry and silverware .....	2,918	3,040	3,262	3,362	3,436	3,749
109. Musical instruments and sporting goods .....	5,322	5,489	5,664	6,206	6,234	6,450
110. Other manufactured products .....	6,492	6,742	6,923	7,757	7,815	8,016



**D-1. Gross output by industry, 1958-95—Continued**

(Millions of 1972 dollars)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
111. Railroad transportation .....	17,123	17,845	18,704	19,455	19,974	21,139
112. Local transit and intercity buses .....	6,651	6,885	7,214	7,167	7,398	7,866
113. Truck transportation .....	43,339	45,429	47,492	50,867	52,161	54,845
114. Water transportation .....	9,918	10,109	10,412	10,677	10,777	11,193
115. Air transportation .....	25,309	26,772	27,582	32,437	32,852	33,662
116. Pipeline transportation .....	2,043	2,098	2,142	2,183	2,233	2,289
117. Transportation services .....	2,888	3,015	3,132	3,469	3,515	3,659
118. Radio and television broadcasting .....	7,639	8,090	8,435	9,193	9,490	9,920
119. Communications except radio and television .....	104,235	111,737	118,657	134,855	138,551	147,253
120. Electric utilities, public and private .....	55,972	58,947	61,188	65,768	67,853	70,655
121. Gas utilities, excluding public .....	16,664	16,469	16,643	15,004	15,136	15,497
122. Water and sanitary services, except public .....	3,896	4,049	4,244	4,271	4,412	4,686
123. Wholesale trade .....	150,689	157,220	165,795	169,638	174,891	186,772
124. Eating and drinking places .....	66,122	69,579	71,580	71,330	75,385	78,040
125. Retail trade, except eating and drinking .....	177,273	189,086	201,955	204,416	215,802	233,620
126. Banking .....	51,024	53,787	55,865	61,494	63,068	65,595
127. Credit agencies and financial brokers .....	37,228	39,252	40,902	44,861	46,023	48,072
128. Insurance .....	69,552	72,705	75,976	80,500	82,560	86,874
129. Owner-occupied real estate .....	152,965	158,690	160,517	179,783	181,690	182,864
130. Real estate .....	191,278	199,923	206,836	225,411	229,972	248,436
131. Hotels and lodging places .....	16,693	17,392	17,883	20,123	20,314	20,860
132. Personal and repair services .....	22,318	23,114	23,944	24,419	25,115	26,244
133. Barber and beauty shops .....	3,833	3,938	4,081	4,040	4,150	4,354
134. Miscellaneous business services .....	106,806	113,156	117,910	135,291	137,739	143,283
135. Advertising .....	5,376	5,566	5,762	5,793	5,982	6,252
136. Miscellaneous professional services .....	51,427	53,961	56,733	56,592	59,208	63,081
137. Automobile repair .....	38,579	39,911	42,300	42,557	43,599	46,996
138. Motion pictures .....	8,127	8,221	8,429	8,375	8,457	8,758
139. Amusements and recreation services .....	22,595	23,683	24,756	26,664	27,297	28,685
140. Doctors' and dentists' services .....	47,166	48,664	50,257	51,085	52,403	54,578
141. Hospitals .....	44,402	46,708	48,373	53,318	54,584	56,578
142. Medical services, except hospitals .....	21,870	23,135	23,663	26,627	27,358	27,869
143. Educational services (private) .....	18,669	19,121	19,775	20,399	20,652	21,545
144. Nonprofit organizations .....	25,054	26,089	27,158	28,362	29,114	30,538
145. Post Office .....	12,303	12,545	12,920	12,661	12,947	13,493
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	4,494	4,757	4,968	5,410	5,581	5,847
148. Local government passenger transit .....	2,057	2,097	2,185	2,043	2,109	2,243
149. Other State and local enterprises .....	11,540	11,865	12,393	11,961	12,360	13,134
150. Noncomparable imports .....	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0
152. New construction industry .....	117,033	140,215	165,954	131,112	163,815	201,555
153. Government industry .....	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0
155. Private households .....	2,848	2,890	3,023	2,653	2,769	2,981
156. Inventory valuation adjustment .....	0	0	0	0	0	0

## D-2. Total employment<sup>1</sup> by industry, 1958-95

(Thousands of jobs)

Industry	Historical								
	1958	1959	1960	1961	1962	1963	1964	1965	1966
1. Dairy and poultry products .....	1,635	1,551	1,471	1,406	1,318	1,210	1,147	1,132	1,019
2. Meat animals and livestock .....	939	979	937	924	896	873	859	852	816
3. Cotton .....	469	565	523	485	426	401	361	322	200
4. Food and feed grains .....	1,022	960	942	830	794	775	742	727	676
5. Other agricultural products .....	1,445	1,436	1,424	1,430	1,411	1,356	1,335	1,232	1,163
6. Forestry and fishery products .....	59	60	60	61	60	62	62	62	64
7. Agricultural, forestry, fishery services .....	273	285	292	295	296	300	306	313	313
8. Iron and ferroalloy ores mining .....	37	33	38	32	30	28	29	31	30
9. Copper ore mining .....	28	23	28	29	29	28	27	30	32
10. Nonferrous metal ores mining except copper .....	31	31	31	29	26	27	26	26	27
11. Coal mining .....	218	201	189	164	155	152	150	144	140
12. Crude petroleum and gas, except drilling .....	206	200	192	185	182	178	174	170	167
13. Stone and clay mining and quarrying .....	101	105	107	105	103	102	102	105	104
14. Chemical and fertilizer mineral mining .....	18	19	20	19	19	19	18	19	21
15. Maintenance and repair construction .....	620	662	681	668	702	717	730	744	767
16. Ordnance .....	49	50	52	58	70	73	64	59	90
17. Guided missiles and space vehicles .....	58	94	110	131	142	148	142	133	137
18. Meat products .....	326	324	331	327	324	323	323	325	331
19. Dairy products .....	327	326	325	319	312	302	298	295	285
20. Canned and frozen foods .....	241	249	249	253	259	255	257	263	279
21. Grain mill products .....	137	139	136	137	135	135	133	132	133
22. Bakery products .....	314	313	313	308	304	301	303	299	292
23. Sugar .....	31	38	36	36	36	36	38	36	36
24. Confectionery products .....	80	79	79	78	76	78	78	78	83
25. Alcoholic beverages .....	107	107	105	101	98	97	95	98	97
26. Soft drinks and flavorings .....	108	111	115	115	117	119	124	127	136
27. Other food products .....	141	144	145	143	144	144	143	144	145
28. Tobacco manufacturing .....	94	95	94	91	90	89	90	87	84
29. Fabric, yarn, and thread mills .....	612	619	605	581	583	572	575	587	611
30. Floor covering mills .....	36	39	39	37	38	39	40	42	45
31. Other textile mill products .....	69	74	70	66	67	67	68	73	78
32. Hosiery and knit goods .....	208	221	216	215	221	214	216	230	236
33. Apparel .....	1,057	1,100	1,104	1,085	1,129	1,144	1,159	1,204	1,243
34. Other fabricated textile products .....	132	143	147	148	152	156	160	167	175
35. Logging .....	135	143	141	136	133	132	137	133	129
36. Sawmills and planing mills .....	287	305	288	258	256	254	253	249	246
37. Other millwork, plywood, and wood products .....	240	261	250	245	257	264	275	288	300
38. Wooden containers .....	43	43	42	38	37	36	35	34	36
39. Household furniture .....	242	259	255	244	257	260	273	288	307
40. Furniture and fixtures, except household .....	118	124	128	124	127	128	130	139	150
41. Paper products .....	401	415	427	425	430	431	434	442	460
42. Paperboard .....	166	175	178	179	188	191	194	201	210
43. Newspaper printing and publishing .....	323	328	335	336	338	339	346	355	360
44. Periodical, book printing and publishing .....	153	156	160	163	162	164	169	175	184
45. Other printing and publishing .....	437	446	459	462	468	470	479	491	513
46. Industrial inorganic and organic chemicals .....	260	260	267	264	264	265	270	269	281
47. Agricultural chemicals .....	53	54	54	55	57	60	60	62	64
48. Other chemical products .....	80	82	82	82	84	83	80	83	96
49. Plastic materials and synthetic rubber .....	77	81	84	83	89	93	94	97	102
50. Synthetic fibers .....	76	79	81	82	88	94	100	110	118
51. Drugs .....	105	106	110	109	111	113	114	119	128
52. Cleaning and toilet preparations .....	86	89	91	95	96	98	101	106	109
53. Paints and allied products .....	61	62	63	62	63	63	64	66	67
54. Petroleum refining and related products .....	225	217	213	203	196	190	185	184	185
55. Tires and inner tubes .....	104	105	105	98	99	97	99	102	107

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical								
	1958	1959	1960	1961	1962	1963	1964	1965	1966
56. Rubber products except tires and tubes .....	169	178	175	170	176	172	170	171	170
57. Plastic products .....	75	94	103	111	137	153	171	202	237
58. Leather tanning and industrial leather .....	37	36	34	32	32	31	31	32	32
59. Leather products including footwear .....	325	341	333	329	332	321	319	324	335
60. Glass .....	143	153	158	155	159	161	164	170	179
61. Cement and concrete products .....	191	209	210	206	209	213	218	222	223
62. Structural clay products .....	74	78	76	70	68	69	69	70	70
63. Pottery and related products .....	46	49	48	44	44	44	44	44	44
64. Other stone and clay products .....	118	125	123	118	122	124	129	132	139
65. Blast furnaces and basic steel products .....	602	588	652	597	594	591	630	658	653
66. Iron and steel foundries and forgings .....	248	269	260	239	249	255	271	288	309
67. Primary copper and copper products .....	132	137	135	132	139	137	137	143	155
68. Primary aluminum and aluminum products .....	100	111	109	105	112	116	120	128	141
69. Primary nonferrous metals and products .....	75	78	77	71	74	74	78	85	94
70. Metal containers .....	75	75	75	73	74	73	75	74	79
71. Heating apparatus and plumbing fixtures .....	68	71	68	63	65	67	71	70	71
72. Fabricated structural metal products .....	354	344	351	344	343	351	365	386	408
73. Screw machine products .....	79	88	88	83	89	90	91	99	108
74. Metal stampings .....	172	189	196	178	191	195	200	222	237
75. Cutlery, handtools, general hardware .....	125	135	135	128	136	139	144	155	162
76. Other fabricated metal products .....	216	231	234	228	241	246	255	274	297
77. Engines, turbines, and generators .....	90	90	86	79	84	85	87	91	99
78. Farm machinery .....	119	128	118	115	118	126	132	142	154
79. Construction, mining, oilfield machinery .....	145	162	157	142	149	152	164	177	191
80. Material handling equipment .....	62	65	65	60	64	67	73	80	88
81. Metalworking machinery .....	237	251	268	254	265	273	289	310	343
82. Special industry machinery .....	161	164	168	162	171	172	181	193	205
83. General industrial machinery .....	204	221	227	217	229	234	243	261	285
84. Other nonelectrical machinery .....	151	166	176	175	183	185	192	205	232
85. Computers and peripheral equipment .....	107	111	116	120	124	127	135	148	168
86. Typewriters and other office equipment .....	27	28	31	33	36	37	39	45	51
87. Service industry machines .....	90	97	100	95	101	102	106	114	125
88. Electric transmission equipment .....	147	157	164	163	166	162	162	170	190
89. Electrical industrial apparatus .....	156	176	181	177	183	177	178	192	214
90. Household appliances .....	148	157	155	148	150	156	160	165	180
91. Electric lighting and wiring .....	121	134	137	136	143	149	158	173	196
92. Radio and television receiving sets .....	105	114	108	104	111	114	120	134	163
93. Telephone and telegraph apparatus .....	101	105	114	113	118	104	103	116	128
94. Radio and communication equipment .....	209	252	289	313	352	357	328	324	365
95. Electronic components .....	179	213	233	243	266	263	265	307	389
96. Other electrical machinery and equipment .....	102	111	112	106	108	104	99	106	116
97. Motor vehicles .....	610	696	728	636	696	745	757	847	866
98. Aircraft .....	772	722	629	611	639	640	606	625	754
99. Ship and boat building and repair .....	152	151	146	148	146	147	150	165	183
100. Railroad equipment .....	41	41	43	35	41	44	50	56	61
101. Motorcycles, bicycles, and parts .....	8	9	8	8	9	10	10	11	12
102. Other transportation equipment .....	18	23	21	19	23	30	38	43	49
103. Scientific and controlling instruments .....	152	166	170	165	169	169	167	172	189
104. Medical and dental instruments .....	44	45	47	48	50	53	54	56	62
105. Optical and ophthalmic equipment .....	81	85	84	76	73	65	60	60	64
106. Photographic equipment and supplies .....	68	69	70	70	73	74	78	85	98
107. Watches and clocks .....	27	30	29	27	29	31	31	33	36
108. Jewelry and silverware .....	67	67	66	64	64	63	66	67	71
109. Musical instruments and sporting goods .....	111	116	120	117	123	123	127	141	144
110. Other manufactured products .....	219	229	228	221	227	224	229	236	242

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical								
	1958	1959	1960	1961	1962	1963	1964	1965	1966
111. Railroad transportation .....	961	930	890	822	801	777	761	740	731
112. Local transit and intercity buses .....	314	311	314	308	301	299	297	299	300
113. Truck transportation .....	933	1,001	1,016	1,007	1,043	1,058	1,075	1,120	1,157
114. Water transportation .....	229	239	236	228	224	223	232	231	241
115. Air transportation .....	170	184	196	202	202	207	218	234	253
116. Pipeline transportation .....	26	24	23	22	22	21	20	19	19
117. Transportation services .....	65	70	75	76	79	79	83	85	92
118. Radio and television broadcasting .....	88	90	93	95	96	100	104	108	115
119. Communications except radio and television .....	774	749	748	736	730	726	746	775	816
120. Electric utilities, public and private .....	433	430	428	426	421	421	423	431	435
121. Gas utilities, excluding public .....	213	215	216	218	216	215	214	214	213
122. Water and sanitary services, except public .....	59	61	64	67	68	69	72	74	77
123. Wholesale trade .....	3,242	3,349	3,414	3,408	3,465	3,511	3,604	3,732	3,856
124. Eating and drinking places .....	1,880	1,960	2,016	2,032	2,079	2,100	2,205	2,344	2,465
125. Retail trade, except eating and drinking .....	7,711	7,936	8,114	8,080	8,150	8,261	8,473	8,760	8,991
126. Banking .....	621	644	677	697	719	745	770	796	829
127. Credit agencies and financial brokers .....	360	389	417	442	458	470	488	504	525
128. Insurance .....	1,128	1,137	1,160	1,180	1,194	1,217	1,242	1,253	1,270
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0	0
130. Real estate .....	737	753	750	749	759	768	784	795	794
131. Hotels and lodging places .....	843	868	891	908	917	923	957	980	995
132. Personal and repair services .....	1,138	1,157	1,165	1,168	1,167	1,166	1,185	1,204	1,212
133. Barber and beauty shops .....	523	538	550	563	566	572	591	608	618
134. Miscellaneous business services .....	750	814	855	896	967	1,031	1,115	1,201	1,315
135. Advertising .....	117	121	124	122	123	124	125	128	129
136. Miscellaneous professional services .....	727	746	768	784	801	817	840	867	899
137. Automobile repair .....	402	422	439	445	456	470	487	500	505
138. Motion pictures .....	232	228	224	220	211	210	210	218	220
139. Amusements and recreation services .....	354	372	390	399	425	428	447	454	470
140. Doctors' and dentists' services .....	587	605	623	642	655	652	676	702	726
141. Hospitals .....	915	974	1,038	1,095	1,153	1,224	1,302	1,364	1,427
142. Medical services, except hospitals .....	284	303	323	345	363	385	414	442	469
143. Educational services (private) .....	806	839	863	890	937	969	1,013	1,048	1,083
144. Nonprofit organizations .....	1,133	1,331	1,375	1,441	1,473	1,497	1,514	1,530	1,573
145. Post Office .....	563	574	587	597	597	598	600	614	681
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	78	104	111	117	128	132	136	142	147
148. Local government passenger transit .....	71	71	71	71	69	72	78	77	78
149. Other State and local enterprises .....	208	225	251	260	277	301	307	323	316
150. Noncomparable imports .....	0	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0	0
152. New construction industry .....	3,002	3,163	3,067	3,122	3,055	3,082	3,172	3,293	3,338
153. Government industry .....	0	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0	0
155. Private households .....	2,549	2,574	2,554	2,656	2,694	2,656	2,683	2,604	2,561
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
1. Dairy and poultry products .....	950	892	813	765	717	724	668	639
2. Meat animals and livestock .....	805	794	756	742	715	733	697	695
3. Cotton .....	156	175	172	157	148	165	131	132
4. Food and feed grains .....	698	669	635	589	602	590	608	634
5. Other agricultural products .....	1,160	1,132	1,119	1,047	1,012	1,057	1,116	1,151
6. Forestry and fishery products .....	63	53	55	63	72	58	56	54
7. Agricultural, forestry, fishery services .....	313	323	329	323	347	386	404	438
8. Iron and ferroalloy ores mining .....	30	28	30	30	29	26	28	30
9. Copper ore mining .....	25	28	34	37	34	37	40	44
10. Nonferrous metal ores mining except copper .....	27	26	25	27	25	21	20	22
11. Coal mining .....	142	135	138	147	148	163	164	182
12. Crude petroleum and gas, except drilling .....	163	161	157	156	156	152	149	154
13. Stone and clay mining and quarrying .....	103	100	99	101	99	100	101	105
14. Chemical and fertilizer mineral mining .....	21	19	18	16	16	19	19	21
15. Maintenance and repair construction .....	746	740	792	832	810	863	852	935
16. Ordnance .....	144	170	175	130	92	89	88	81
17. Guided missiles and space vehicles .....	135	129	107	84	74	76	78	80
18. Meat products .....	337	340	344	348	349	351	340	348
19. Dairy products .....	277	268	260	251	235	224	212	206
20. Canned and frozen foods .....	281	283	291	288	288	305	300	300
21. Grain mill products .....	137	136	137	139	137	137	140	142
22. Bakery products .....	291	290	286	281	271	263	255	247
23. Sugar .....	35	37	36	36	36	37	37	35
24. Confectionery products .....	85	85	87	84	82	80	82	78
25. Alcoholic beverages .....	99	96	97	96	93	91	90	89
26. Soft drinks and flavorings .....	138	138	142	142	139	137	139	137
27. Other food products .....	145	147	151	153	149	143	146	148
28. Tobacco manufacturing .....	86	85	83	83	77	75	78	77
29. Fabric, yarn, and thread mills .....	608	617	616	600	572	584	603	578
30. Floor covering mills .....	47	51	58	58	60	63	66	64
31. Other textile mill products .....	77	81	82	74	71	73	75	76
32. Hosiery and knit goods .....	232	249	251	250	256	268	269	252
33. Apparel .....	1,235	1,237	1,244	1,213	1,190	1,217	1,257	1,197
34. Other fabricated textile products .....	178	181	182	169	169	181	195	176
35. Logging .....	127	131	138	124	120	124	132	137
36. Sawmills and planing mills .....	237	232	230	215	216	225	229	231
37. Other millwork, plywood, and wood products .....	288	293	310	301	324	347	358	337
38. Wooden containers .....	38	37	36	33	29	28	27	25
39. Household furniture .....	298	310	316	300	312	337	352	334
40. Furniture and fixtures, except household .....	152	148	153	147	141	154	164	168
41. Paper products .....	467	471	483	483	467	470	480	487
42. Paperboard .....	215	223	231	225	217	220	225	219
43. Newspaper printing and publishing .....	364	366	376	382	381	390	398	392
44. Periodical, book printing and publishing .....	199	205	210	209	197	197	200	204
45. Other printing and publishing .....	523	534	550	549	532	544	562	565
46. Industrial inorganic and organic chemicals .....	291	292	296	297	287	278	284	292
47. Agricultural chemicals .....	67	67	65	64	58	56	60	64
48. Other chemical products .....	113	120	124	112	98	96	98	98
49. Plastic materials and synthetic rubber .....	103	106	108	106	103	105	109	111
50. Synthetic fibers .....	116	125	132	127	122	124	133	137
51. Drugs .....	135	138	143	150	156	160	163	168
52. Cleaning and toilet preparations .....	112	117	123	127	123	122	127	126
53. Paints and allied products .....	68	71	72	70	67	69	69	67
54. Petroleum refining and related products .....	184	188	182	191	195	196	194	198
55. Tires and inner tubes .....	101	113	119	116	119	122	131	137

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
56. Rubber products except tires and tubes .....	164	165	162	153	155	169	178	174
57. Plastic products .....	255	286	320	314	309	344	385	387
58. Leather tanning and industrial leather .....	30	31	29	27	26	25	24	22
59. Leather products including footwear .....	324	328	316	299	277	273	264	250
60. Glass .....	176	177	188	186	181	194	205	200
61. Cement and concrete products .....	217	221	228	226	232	245	260	250
62. Structural clay products .....	65	65	64	59	57	57	59	57
63. Pottery and related products .....	43	44	45	45	43	45	48	51
64. Other stone and clay products .....	137	137	140	138	140	143	155	160
65. Blast furnaces and basic steel products .....	636	637	644	627	574	568	605	610
66. Iron and steel foundries and forgings .....	307	300	312	299	286	292	316	329
67. Primary copper and copper products .....	149	145	160	157	150	158	168	169
68. Primary aluminum and aluminum products .....	144	144	153	144	137	140	154	160
69. Primary nonferrous metals and products .....	87	91	93	87	78	75	80	84
70. Metal containers .....	81	83	87	90	86	85	87	88
71. Heating apparatus and plumbing fixtures .....	70	72	76	71	67	71	74	71
72. Fabricated structural metal products .....	414	421	440	435	429	449	489	500
73. Screw machine products .....	111	112	114	105	92	101	111	114
74. Metal stampings .....	234	247	255	235	230	235	247	228
75. Cutlery, handtools, general hardware .....	162	164	165	151	151	163	178	176
76. Other fabricated metal products .....	301	303	315	300	286	317	337	340
77. Engines, turbines, and generators .....	104	110	112	111	115	116	123	126
78. Farm machinery .....	155	147	141	133	126	135	155	170
79. Construction, mining, oilfield machinery .....	188	192	202	205	196	205	225	241
80. Material handling equipment .....	89	90	95	93	84	89	100	107
81. Metalworking machinery .....	358	348	347	324	278	292	326	344
82. Special industry machinery .....	205	199	206	197	176	177	194	205
83. General industrial machinery .....	290	282	291	285	261	267	292	309
84. Other nonelectrical machinery .....	242	234	246	234	201	214	235	255
85. Computers and peripheral equipment .....	184	202	224	236	219	212	235	252
86. Typewriters and other office equipment .....	56	49	52	53	45	49	50	54
87. Service industry machines .....	129	136	147	149	145	164	183	175
88. Electric transmission equipment .....	200	205	207	204	187	185	201	204
89. Electrical industrial apparatus .....	218	213	223	217	198	209	239	245
90. Household appliances .....	175	179	187	184	179	187	198	196
91. Electric lighting and wiring .....	200	201	205	197	189	204	223	217
92. Radio and television receiving sets .....	157	154	156	133	130	140	153	139
93. Telephone and telegraph apparatus .....	130	132	146	164	163	160	166	165
94. Radio and communication equipment .....	409	419	409	362	307	299	302	311
95. Electronic components .....	385	381	394	367	329	355	411	421
96. Other electrical machinery and equipment .....	119	124	125	123	125	135	147	145
97. Motor vehicles .....	820	876	912	801	850	877	977	909
98. Aircraft .....	835	854	805	670	534	513	540	554
99. Ship and boat building and repair .....	181	189	193	177	181	196	204	209
100. Railroad equipment .....	56	47	51	51	51	49	52	57
101. Motorcycles, bicycles, and parts .....	12	14	14	15	15	19	20	19
102. Other transportation equipment .....	52	69	89	93	114	141	145	99
103. Scientific and controlling instruments .....	194	195	195	181	166	168	177	187
104. Medical and dental instruments .....	68	74	82	83	84	90	100	111
105. Optical and ophthalmic equipment .....	70	74	75	70	65	57	64	66
106. Photographic equipment and supplies .....	105	107	111	113	112	118	125	130
107. Watches and clocks .....	36	36	35	33	28	30	33	33
108. Jewelry and silverware .....	73	75	78	74	70	80	83	85
109. Musical instruments and sporting goods .....	139	144	149	140	139	151	161	163
110. Other manufactured products .....	238	234	233	238	225	226	230	230

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
111. Railroad transportation .....	702	670	651	636	607	583	580	592
112. Local transit and intercity buses .....	307	309	315	321	312	304	311	311
113. Truck transportation .....	1,167	1,191	1,214	1,225	1,230	1,275	1,338	1,345
114. Water transportation .....	244	242	234	217	197	219	205	208
115. Air transportation .....	303	334	357	356	351	354	368	373
116. Pipeline transportation .....	19	19	18	18	17	17	17	17
117. Transportation services .....	101	102	111	114	125	124	126	133
118. Radio and television broadcasting .....	121	125	131	139	144	144	146	150
119. Communications except radio and television .....	851	860	919	993	1,001	1,010	1,038	1,054
120. Electric utilities, public and private .....	445	452	460	481	495	508	521	533
121. Gas utilities, excluding public .....	217	219	220	221	215	216	219	219
122. Water and sanitary services, except public .....	79	82	88	95	85	83	85	88
123. Wholesale trade .....	3,941	4,007	4,163	4,250	4,264	4,356	4,538	4,701
124. Eating and drinking places .....	2,528	2,646	2,812	2,938	3,055	3,194	3,383	3,597
125. Retail trade, except eating and drinking .....	9,143	9,388	9,729	9,872	10,113	10,437	10,725	10,760
126. Banking .....	874	920	987	1,049	1,074	1,116	1,178	1,249
127. Credit agencies and financial brokers .....	549	600	652	636	637	684	710	708
128. Insurance .....	1,314	1,345	1,370	1,411	1,429	1,461	1,492	1,509
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0
130. Real estate .....	796	816	855	881	947	1,028	1,074	1,095
131. Hotels and lodging places .....	999	1,002	1,065	1,079	1,111	1,206	1,248	1,306
132. Personal and repair services .....	1,205	1,216	1,232	1,193	1,130	1,139	1,146	1,165
133. Barber and beauty shops .....	622	630	634	621	604	590	581	572
134. Miscellaneous business services .....	1,427	1,532	1,691	1,756	1,793	1,917	2,081	2,202
135. Advertising .....	131	132	134	135	137	137	143	137
136. Miscellaneous professional services .....	927	968	1,046	1,101	1,144	1,201	1,250	1,334
137. Automobile repair .....	508	525	569	576	577	589	611	622
138. Motion pictures .....	225	232	248	245	236	247	260	263
139. Amusements and recreation services .....	468	483	497	515	544	566	599	619
140. Doctors' and dentists' services .....	744	776	806	815	897	942	991	1,045
141. Hospitals .....	1,561	1,658	1,776	1,871	1,939	1,983	2,053	2,162
142. Medical services, except hospitals .....	535	604	672	733	813	871	973	1,048
143. Educational services (private) .....	1,124	1,185	1,229	1,240	1,260	1,305	1,330	1,389
144. Nonprofit organizations .....	1,646	1,717	1,764	1,784	1,825	1,772	1,787	1,829
145. Post Office .....	714	724	732	736	726	698	693	705
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	151	150	152	166	161	161	163	163
148. Local government passenger transit .....	81	88	87	92	93	100	100	112
149. Other State and local enterprises .....	314	332	351	366	394	388	418	451
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	3,268	3,399	3,594	3,555	3,706	3,861	4,160	4,096
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	2,484	2,437	2,322	2,280	2,238	2,200	2,097	1,916
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

See footnotes at end of table.

**D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued**

(Thousands of jobs)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
1. Dairy and poultry products .....	591	552	521	510	463	436	434	429
2. Meat animals and livestock .....	634	605	584	584	544	533	530	524
3. Cotton .....	76	81	77	62	60	62	62	61
4. Food and feed grains .....	638	638	617	619	602	612	609	603
5. Other agricultural products .....	1,191	1,135	1,151	1,219	1,192	1,217	1,210	1,198
6. Forestry and fishery products .....	51	69	82	90	83	88	83	84
7. Agricultural, forestry, fishery services .....	393	423	411	449	489	499	500	585
8. Iron and ferroalloy ores mining .....	30	31	25	29	31	27	26	16
9. Copper ore mining .....	39	37	34	30	33	30	36	25
10. Nonferrous metal ores mining except copper .....	26	27	33	36	38	43	43	34
11. Coal mining .....	215	226	227	211	261	247	225	242
12. Crude petroleum and gas, except drilling .....	169	180	185	200	212	246	285	311
13. Stone and clay mining and quarrying .....	96	96	96	99	104	103	95	90
14. Chemical and fertilizer mineral mining .....	23	23	23	24	25	27	27	24
15. Maintenance and repair construction .....	1,010	1,006	1,079	1,188	1,224	1,538	1,509	1,424
16. Ordnance .....	75	69	69	70	73	74	81	79
17. Guided missiles and space vehicles .....	79	70	66	75	81	88	96	105
18. Meat products .....	340	352	359	361	363	363	361	352
19. Dairy products .....	201	200	192	190	189	180	174	171
20. Canned and frozen foods .....	289	303	301	309	316	312	297	293
21. Grain mill products .....	139	139	146	147	147	148	142	135
22. Bakery products .....	239	244	241	242	238	233	229	227
23. Sugar .....	37	39	34	33	31	30	31	29
24. Confectionery products .....	73	74	78	78	80	76	75	73
25. Alcoholic beverages .....	89	82	85	87	86	84	87	87
26. Soft drinks and flavorings .....	133	140	144	149	153	150	147	145
27. Other food products .....	148	148	158	157	160	160	160	152
28. Tobacco manufacturing .....	75	77	71	71	70	69	70	68
29. Fabric, yarn, and thread mills .....	524	565	548	536	531	510	491	442
30. Floor covering mills .....	55	58	61	64	61	55	53	49
31. Other textile mill products .....	67	70	71	71	71	67	66	60
32. Hosiery and knit goods .....	226	231	234	239	227	221	221	205
33. Apparel .....	1,097	1,156	1,148	1,150	1,125	1,101	1,080	1,009
34. Other fabricated textile products .....	162	183	185	197	198	186	183	171
35. Logging .....	117	139	140	134	150	151	138	126
36. Sawmills and planing mills .....	202	221	228	233	237	215	203	179
37. Other millwork, plywood, and wood products .....	294	327	355	392	394	363	351	317
38. Wooden containers .....	22	21	21	20	19	17	17	15
39. Household furniture .....	284	306	315	332	329	301	298	270
40. Furniture and fixtures, except household .....	143	146	168	175	176	177	184	180
41. Paper products .....	448	470	484	486	494	488	487	475
42. Paperboard .....	194	206	210	214	214	205	201	189
43. Newspaper printing and publishing .....	389	395	411	420	432	441	443	445
44. Periodical, book printing and publishing .....	205	208	217	224	230	238	246	248
45. Other printing and publishing .....	544	549	571	607	640	656	664	668
46. Industrial inorganic and organic chemicals .....	292	304	321	326	328	330	336	329
47. Agricultural chemicals .....	65	68	68	67	70	72	70	65
48. Other chemical products .....	89	90	95	96	99	100	100	95
49. Plastic materials and synthetic rubber .....	98	99	98	99	100	95	93	89
50. Synthetic fibers .....	121	120	117	115	112	110	103	97
51. Drugs .....	167	171	181	187	193	196	199	199
52. Cleaning and toilet preparations .....	122	128	131	137	140	143	148	147
53. Paints and allied products .....	62	65	66	69	69	65	63	62
54. Petroleum refining and related products .....	194	198	202	208	210	198	214	202
55. Tires and inner tubes .....	124	104	130	127	127	115	108	105

See footnotes at end of table.



D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
56. Rubber products except tires and tubes .....	149	154	161	165	167	152	151	140
57. Plastic products .....	339	386	427	467	494	467	484	460
58. Leather tanning and industrial leather .....	22	23	23	22	20	19	20	19
59. Leather products including footwear .....	232	242	238	242	232	215	220	206
60. Glass .....	182	194	201	206	202	191	188	173
61. Cement and concrete products .....	225	225	234	245	255	239	227	209
62. Structural clay products .....	48	48	50	51	52	46	42	34
63. Pottery and related products .....	46	48	49	50	52	49	45	40
64. Other stone and clay products .....	139	141	148	160	165	151	150	132
65. Blast furnaces and basic steel products .....	548	549	554	560	571	512	507	394
66. Iron and steel foundries and forgings .....	302	295	302	313	324	280	272	221
67. Primary copper and copper products .....	141	145	147	151	161	150	149	135
68. Primary aluminum and aluminum products .....	132	143	150	162	170	162	159	140
69. Primary nonferrous metals and products .....	74	80	84	90	93	91	89	80
70. Metal containers .....	79	78	78	79	80	75	71	64
71. Heating apparatus and plumbing fixtures .....	61	63	69	74	76	70	68	61
72. Fabricated structural metal products .....	463	466	483	511	535	522	515	461
73. Screw machine products .....	93	95	101	110	117	110	105	92
74. Metal stampings .....	192	220	239	249	245	212	206	187
75. Cutlery, handtools, general hardware .....	155	168	177	184	185	166	161	143
76. Other fabricated metal products .....	307	326	342	362	376	359	361	331
77. Engines, turbines, and generators .....	120	121	125	137	145	135	133	113
78. Farm machinery .....	162	163	168	166	184	170	156	139
79. Construction, mining, oilfield machinery .....	251	248	257	275	276	283	302	254
80. Material handling equipment .....	91	88	94	98	106	108	102	87
81. Metalworking machinery .....	315	315	335	353	379	381	371	319
82. Special industry machinery .....	184	183	190	197	205	207	198	176
83. General industrial machinery .....	290	286	295	313	329	324	323	288
84. Other nonelectrical machinery .....	248	246	256	281	313	322	315	292
85. Computers and peripheral equipment .....	238	239	262	297	339	376	407	428
86. Typewriters and other office equipment .....	49	48	49	53	59	58	54	47
87. Service industry machines .....	144	160	171	184	188	174	175	159
88. Electric transmission equipment .....	174	180	190	206	221	224	227	215
89. Electrical industrial apparatus .....	212	222	233	245	251	240	239	206
90. Household appliances .....	161	170	180	185	178	163	161	142
91. Electric lighting and wiring .....	181	196	205	218	225	209	202	187
92. Radio and television receiving sets .....	113	121	125	123	116	109	107	93
93. Telephone and telegraph apparatus .....	148	137	147	155	165	164	157	148
94. Radio and communication equipment .....	310	308	315	337	357	378	399	424
95. Electronic components .....	338	366	405	457	525	554	557	561
96. Other electrical machinery and equipment .....	131	144	154	172	176	159	157	153
97. Motor vehicles .....	793	882	949	1,006	991	791	791	707
98. Aircraft .....	528	503	500	546	632	676	672	629
99. Ship and boat building and repair .....	198	219	230	230	230	223	236	223
100. Railroad equipment .....	57	50	56	64	74	71	54	37
101. Motorcycles, bicycles, and parts .....	15	17	18	21	20	18	17	14
102. Other transportation equipment .....	86	102	108	119	103	74	73	74
103. Scientific and controlling instruments .....	171	175	190	200	215	221	235	226
104. Medical and dental instruments .....	109	119	128	136	144	156	160	158
105. Optical and ophthalmic equipment .....	60	66	72	75	81	79	80	77
106. Photographic equipment and supplies .....	121	125	130	132	134	135	137	140
107. Watches and clocks .....	30	31	30	30	28	23	21	18
108. Jewelry and silverware .....	82	91	93	98	92	82	80	76
109. Musical instruments and sporting goods .....	139	145	145	146	145	139	138	130
110. Other manufactured products .....	216	217	235	253	245	226	227	218

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
111. Railroad transportation .....	550	541	550	544	559	534	498	433
112. Local transit and intercity buses .....	302	301	291	291	303	312	312	314
113. Truck transportation .....	1,283	1,321	1,405	1,503	1,555	1,497	1,479	1,454
114. Water transportation .....	196	200	200	212	222	216	223	206
115. Air transportation .....	368	378	390	412	443	461	463	450
116. Pipeline transportation .....	17	18	19	20	20	21	22	22
117. Transportation services .....	139	143	156	176	198	209	218	224
118. Radio and television broadcasting .....	157	162	170	181	191	203	211	221
119. Communications except radio and television .....	1,022	1,010	1,018	1,061	1,121	1,159	1,186	1,199
120. Electric utilities, public and private .....	526	531	550	581	608	640	665	684
121. Gas utilities, excluding public .....	217	213	212	217	220	221	227	230
122. Water and sanitary services, except public .....	84	87	88	93	94	105	107	106
123. Wholesale trade .....	4,661	4,849	4,995	5,240	5,507	5,597	5,674	5,585
124. Eating and drinking places .....	3,689	3,941	4,257	4,576	4,864	4,948	5,077	5,159
125. Retail trade, except eating and drinking .....	10,779	10,994	11,362	11,821	11,981	11,948	11,933	11,792
126. Banking .....	1,275	1,310	1,357	1,423	1,498	1,572	1,629	1,655
127. Credit agencies and financial brokers .....	711	738	785	840	901	952	1,003	1,038
128. Insurance .....	1,544	1,555	1,612	1,699	1,750	1,794	1,845	1,870
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0
130. Real estate .....	1,054	1,073	1,145	1,267	1,374	1,384	1,345	1,336
131. Hotels and lodging places .....	1,319	1,363	1,455	1,476	1,549	1,571	1,648	1,693
132. Personal and repair services .....	1,161	1,158	1,183	1,192	1,239	1,244	1,293	1,305
133. Barber and beauty shops .....	550	578	597	621	632	628	622	624
134. Miscellaneous business services .....	2,254	2,418	2,609	2,892	3,178	3,404	3,640	3,743
135. Advertising .....	137	138	145	155	165	172	183	186
136. Miscellaneous professional services .....	1,421	1,414	1,550	1,691	1,814	1,930	2,056	2,147
137. Automobile repair .....	643	690	733	787	839	845	876	910
138. Motion pictures .....	264	273	287	293	311	291	312	310
139. Amusements and recreation services .....	653	693	721	764	769	832	854	870
140. Doctors' and dentists' services .....	1,120	1,164	1,213	1,277	1,351	1,408	1,454	1,503
141. Hospitals .....	2,277	2,366	2,468	2,541	2,614	2,754	2,908	3,016
142. Medical services, except hospitals .....	1,102	1,182	1,270	1,359	1,431	1,517	1,589	1,664
143. Educational services (private) .....	1,427	1,477	1,566	1,662	1,721	1,772	1,828	1,882
144. Nonprofit organizations .....	1,864	1,922	1,944	1,999	2,073	2,142	2,103	2,095
145. Post Office .....	697	671	654	649	661	661	661	662
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	151	149	147	149	155	153	150	150
148. Local government passenger transit .....	112	122	123	127	130	172	175	173
149. Other State and local enterprises .....	502	494	496	514	541	515	507	496
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	3,494	3,635	3,935	4,382	4,679	4,327	4,280	4,067
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	1,876	1,881	1,936	1,898	1,723	1,598	1,606	1,635
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

See footnotes at end of table.

## D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
1. Dairy and poultry products .....	378	384	387	344	360	367
2. Meat animals and livestock .....	474	473	475	439	445	450
3. Cotton .....	55	54	55	50	50	51
4. Food and feed grains .....	585	589	593	571	577	585
5. Other agricultural products .....	1,138	1,151	1,162	1,096	1,118	1,141
6. Forestry and fishery products .....	73	79	89	96	92	99
7. Agricultural, forestry, fishery services .....	640	623	613	704	711	716
8. Iron and ferroalloy ores mining .....	25	25	22	25	26	23
9. Copper ore mining .....	27	27	26	33	35	36
10. Nonferrous metal ores mining except copper .....	34	34	33	35	34	34
11. Coal mining .....	299	286	275	310	317	322
12. Crude petroleum and gas, except drilling .....	275	291	282	332	338	307
13. Stone and clay mining and quarrying .....	85	87	92	72	77	87
14. Chemical and fertilizer mineral mining .....	31	31	31	35	35	35
15. Maintenance and repair construction .....	1,778	1,700	1,685	1,861	1,882	1,912
16. Ordnance .....	90	87	88	88	85	90
17. Guided missiles and space vehicles .....	130	130	127	149	140	143
18. Meat products .....	359	357	359	368	372	380
19. Dairy products .....	137	144	156	119	127	131
20. Canned and frozen foods .....	331	335	341	336	341	353
21. Grain mill products .....	143	145	145	140	144	147
22. Bakery products .....	203	210	209	164	174	177
23. Sugar .....	30	30	31	27	28	30
24. Confectionery products .....	77	78	80	69	71	76
25. Alcoholic beverages .....	83	86	85	76	80	83
26. Soft drinks and flavorings .....	164	168	169	159	167	171
27. Other food products .....	171	171	168	177	182	182
28. Tobacco manufacturing .....	61	62	64	50	52	58
29. Fabric, yarn, and thread mills .....	448	461	457	471	474	482
30. Floor covering mills .....	52	56	63	57	58	62
31. Other textile mill products .....	69	72	75	65	67	74
32. Hosiery and knit goods .....	207	218	218	224	236	240
33. Apparel .....	1,056	1,074	1,061	1,117	1,125	1,093
34. Other fabricated textile products .....	220	223	228	234	238	243
35. Logging .....	130	131	133	124	128	130
36. Sawmills and planing mills .....	192	196	210	206	209	215
37. Other millwork, plywood, and wood products .....	400	406	416	414	419	427
38. Wooden containers .....	12	12	13	10	11	12
39. Household furniture .....	334	346	368	346	357	392
40. Furniture and fixtures, except household .....	193	199	205	200	206	208
41. Paper products .....	513	516	524	526	533	551
42. Paperboard .....	190	201	209	179	192	208
43. Newspaper printing and publishing .....	492	494	491	517	535	543
44. Periodical, book printing and publishing .....	296	298	304	330	338	344
45. Other printing and publishing .....	733	758	751	745	789	803
46. Industrial inorganic and organic chemicals .....	362	358	353	371	379	381
47. Agricultural chemicals .....	81	84	84	82	88	93
48. Other chemical products .....	107	111	121	116	120	121
49. Plastic materials and synthetic rubber .....	110	114	119	113	116	124
50. Synthetic fibers .....	110	116	124	121	124	134
51. Drugs .....	253	254	252	276	281	284
52. Cleaning and toilet preparations .....	166	168	166	167	176	178
53. Paints and allied products .....	68	71	72	65	70	73
54. Petroleum refining and related products .....	185	183	182	179	182	183
55. Tires and inner tubes .....	100	102	104	101	104	108

See footnotes at end of table.

**D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued**

(Thousands of jobs)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
56. Rubber products except tires and tubes .....	147	151	157	146	150	159
57. Plastic products .....	565	636	653	654	716	741
58. Leather tanning and industrial leather .....	15	16	16	11	12	14
59. Leather products including footwear .....	166	170	172	147	154	144
60. Glass .....	198	201	205	211	212	214
61. Cement and concrete products .....	222	240	250	215	240	257
62. Structural clay products .....	35	37	39	29	30	33
63. Pottery and related products .....	44	45	46	46	49	50
64. Other stone and clay products .....	156	164	173	175	182	191
65. Blast furnaces and basic steel products .....	420	435	430	433	447	444
66. Iron and steel foundries and forgings .....	247	255	258	264	270	275
67. Primary copper and copper products .....	157	160	164	166	170	178
68. Primary aluminum and aluminum products .....	167	174	175	168	178	183
69. Primary nonferrous metals and products .....	83	84	86	83	85	90
70. Metal containers .....	67	69	70	61	62	66
71. Heating apparatus and plumbing fixtures .....	72	73	80	77	78	88
72. Fabricated structural metal products .....	537	572	598	563	619	664
73. Screw machine products .....	112	115	117	118	121	122
74. Metal stampings .....	234	249	253	236	252	259
75. Cutlery, handtools, general hardware .....	177	184	188	198	200	204
76. Other fabricated metal products .....	388	414	413	399	430	436
77. Engines, turbines, and generators .....	151	152	152	165	167	170
78. Farm machinery .....	164	170	173	167	172	178
79. Construction, mining, oilfield machinery .....	315	321	325	343	357	368
80. Material handling equipment .....	110	113	120	123	125	136
81. Metalworking machinery .....	371	388	393	373	400	415
82. Special industry machinery .....	206	207	211	210	213	221
83. General industrial machinery .....	336	342	343	350	356	362
84. Other nonelectrical machinery .....	323	331	341	339	345	362
85. Computers and peripheral equipment .....	586	586	593	665	694	706
86. Typewriters and other office equipment .....	55	60	64	67	69	73
87. Service industry machines .....	190	199	211	208	214	232
88. Electric transmission equipment .....	235	245	246	246	256	263
89. Electrical industrial apparatus .....	255	261	275	284	288	313
90. Household appliances .....	175	183	193	185	188	202
91. Electric lighting and wiring .....	229	239	246	251	253	253
92. Radio and television receiving sets .....	95	106	110	106	113	116
93. Telephone and telegraph apparatus .....	177	185	199	208	209	230
94. Radio and communication equipment .....	452	433	440	532	460	463
95. Electronic components .....	725	745	793	862	850	855
96. Other electrical machinery and equipment .....	162	170	180	192	194	209
97. Motor vehicles .....	794	834	828	847	860	871
98. Aircraft .....	716	680	664	761	709	701
99. Ship and boat building and repair .....	260	254	248	277	270	263
100. Railroad equipment .....	45	47	47	47	50	52
101. Motorcycles, bicycles, and parts .....	17	18	19	19	20	21
102. Other transportation equipment .....	87	96	108	104	109	121
103. Scientific and controlling instruments .....	294	292	292	345	349	359
104. Medical and dental instruments .....	205	203	210	270	272	274
105. Optical and ophthalmic equipment .....	83	86	89	88	92	98
106. Photographic equipment and supplies .....	167	169	173	175	177	184
107. Watches and clocks .....	22	22	23	23	21	22
108. Jewelry and silverware .....	75	82	88	96	98	109
109. Musical instruments and sporting goods .....	134	140	144	143	146	150
110. Other manufactured products .....	210	214	224	216	218	238

See footnotes at end of table.

D-2. Total employment<sup>1</sup> by industry, 1958-95—Continued

(Thousands of jobs)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
111. Railroad transportation .....	353	373	429	327	351	377
112. Local transit and intercity buses .....	345	341	345	350	361	385
113. Truck transportation .....	1,720	1,701	1,702	1,750	1,774	1,793
114. Water transportation .....	197	210	214	204	214	216
115. Air transportation .....	522	532	528	561	568	573
116. Pipeline transportation .....	22	24	25	24	24	27
117. Transportation services .....	261	269	250	295	302	302
118. Radio and television broadcasting .....	301	308	292	355	357	359
119. Communications except radio and television .....	1,384	1,379	1,434	1,543	1,593	1,603
120. Electric utilities, public and private .....	686	712	714	730	740	746
121. Gas utilities, excluding public .....	220	218	219	205	207	211
122. Water and sanitary services, except public .....	140	133	135	144	147	154
123. Wholesale trade .....	6,162	6,298	6,387	6,622	6,734	6,745
124. Eating and drinking places .....	5,908	5,951	5,959	6,669	6,742	6,772
125. Retail trade, except eating and drinking .....	13,815	14,106	14,303	14,473	15,070	15,342
126. Banking .....	1,954	1,954	1,968	2,098	2,120	2,146
127. Credit agencies and financial brokers .....	1,313	1,350	1,364	1,507	1,518	1,549
128. Insurance .....	2,187	2,169	2,168	2,237	2,272	2,307
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	1,567	1,640	1,168	1,764	1,774	1,787
131. Hotels and lodging places .....	1,914	1,915	1,891	2,004	2,010	2,034
132. Personal and repair services .....	1,466	1,519	1,621	1,547	1,592	1,734
133. Barber and beauty shops .....	652	660	685	707	733	760
134. Miscellaneous business services .....	4,951	5,172	5,331	6,148	6,183	6,229
135. Advertising .....	213	218	221	228	234	238
136. Miscellaneous professional services .....	2,573	2,640	2,620	2,916	3,004	3,099
137. Automobile repair .....	965	1,029	1,101	1,113	1,141	1,186
138. Motion pictures .....	325	315	316	323	326	337
139. Amusements and recreation services .....	1,035	1,059	1,082	1,173	1,193	1,248
140. Doctors' and dentists' services .....	1,876	1,897	2,036	1,971	2,005	2,095
141. Hospitals .....	3,895	3,963	3,889	4,471	4,477	4,665
142. Medical services, except hospitals .....	2,089	2,208	2,279	2,649	2,688	2,744
143. Educational services (private) .....	2,447	2,157	2,001	2,311	2,396	2,411
144. Nonprofit organizations .....	2,387	2,406	2,449	2,455	2,505	2,606
145. Post Office .....	629	597	595	537	581	594
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	182	178	182	182	189	198
148. Local government passenger transit .....	207	209	215	228	233	251
149. Other State and local enterprises .....	610	623	649	700	723	781
150. Noncomparable imports .....	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0
152. New construction industry .....	5,242	5,263	5,366	5,936	6,043	6,091
153. Government industry .....	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0
155. Private households .....	1,443	1,400	1,392	1,295	1,346	1,368
156. Inventory valuation adjustment .....	0	0	0	0	0	0

<sup>1</sup> Total employment includes wage and salary workers, the self-employed, and unpaid family workers.

### D-3. Total hours paid by industry, 1958-95

(Millions of hours)

Industry	Historical									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	
1. Dairy and poultry products .....	3,829	3,649	3,461	3,268	3,110	2,872	2,674	2,678	2,404	
2. Meat animals and livestock .....	2,199	2,303	2,205	2,148	2,115	2,072	2,002	2,016	1,925	
3. Cotton .....	1,099	1,329	1,231	1,127	1,005	952	841	762	472	
4. Food and feed grains .....	2,394	2,259	2,216	1,929	1,874	1,840	1,730	1,720	1,595	
5. Other agricultural products .....	3,385	3,379	3,350	3,324	3,330	3,219	3,112	2,915	2,745	
6. Forestry and fishery products .....	113	117	116	120	118	117	118	118	122	
7. Agricultural, forestry, fishery services .....	527	550	566	572	580	569	588	597	599	
8. Iron and ferroalloy ores mining .....	69	63	80	65	63	58	60	66	66	
9. Copper ore mining .....	57	52	65	66	63	62	60	68	72	
10. Nonferrous metal ores mining except copper .....	69	68	68	66	60	59	58	56	60	
11. Coal mining .....	384	376	356	313	300	307	306	301	295	
12. Crude petroleum and gas, except drilling .....	446	435	414	404	396	389	381	374	365	
13. Stone and clay mining and quarrying .....	226	241	242	238	235	234	237	245	244	
14. Chemical and fertilizer mineral mining .....	40	43	45	42	43	43	41	44	49	
15. Maintenance and repair construction .....	1,186	1,273	1,299	1,282	1,351	1,390	1,413	1,446	1,500	
16. Ordnance .....	102	105	109	121	148	154	133	126	195	
17. Guided missiles and space vehicles .....	123	199	231	276	298	310	295	281	290	
18. Meat products .....	684	692	698	694	682	689	692	694	705	
19. Dairy products .....	703	699	695	684	665	645	633	626	608	
20. Canned and frozen foods .....	487	498	497	503	521	513	519	538	572	
21. Grain mill products .....	306	311	306	309	307	304	301	301	304	
22. Bakery products .....	655	652	652	643	638	629	633	626	612	
23. Sugar .....	69	84	80	81	78	80	82	79	78	
24. Confectionery products .....	164	164	162	162	159	162	161	161	171	
25. Alcoholic beverages .....	219	221	216	208	203	201	197	204	203	
26. Soft drinks and flavorings .....	224	233	239	239	243	249	260	266	282	
27. Other food products .....	303	313	313	309	312	310	307	311	311	
28. Tobacco manufacturing .....	192	192	187	183	181	178	182	172	170	
29. Fabric, yarn, and thread mills .....	1,241	1,318	1,262	1,221	1,249	1,225	1,248	1,297	1,357	
30. Floor covering mills .....	75	83	81	78	83	84	86	94	98	
31. Other textile mill products .....	141	155	146	137	141	143	145	158	171	
32. Hosiery and knit goods .....	408	445	427	429	443	427	433	466	477	
33. Apparel .....	1,944	2,086	2,048	2,007	2,138	2,157	2,172	2,285	2,365	
34. Other fabricated textile products .....	264	289	293	295	305	315	324	340	353	
35. Logging .....	272	293	289	291	290	282	299	298	292	
36. Sawmills and planing mills .....	575	631	587	525	524	527	528	525	518	
37. Other millwork, plywood, and wood products .....	509	561	532	527	555	574	598	628	652	
38. Wooden containers .....	87	91	86	79	76	75	72	73	78	
39. Household furniture .....	497	547	525	505	542	553	583	617	652	
40. Furniture and fixtures, except household .....	248	269	278	266	275	275	283	307	334	
41. Paper products .....	871	920	933	934	945	953	959	982	1,026	
42. Paperboard .....	352	376	377	384	404	408	419	435	459	
43. Newspaper printing and publishing .....	641	650	666	664	667	669	684	700	713	
44. Periodical, book printing and publishing .....	310	313	324	330	327	335	346	360	380	
45. Other printing and publishing .....	896	931	952	955	974	969	992	1,021	1,071	
46. Industrial inorganic and organic chemicals .....	544	551	566	561	561	562	571	572	601	
47. Agricultural chemicals .....	115	118	117	120	124	132	131	135	140	
48. Other chemical products .....	167	174	175	174	179	176	172	177	205	
49. Plastic materials and synthetic rubber .....	163	174	179	178	190	199	203	212	224	
50. Synthetic fibers .....	156	165	170	171	186	198	212	233	247	
51. Drugs .....	219	221	228	228	234	237	237	249	267	
52. Cleaning and toilet preparations .....	177	185	190	198	202	205	211	221	231	
53. Paints and allied products .....	127	131	132	129	131	132	135	140	142	
54. Petroleum refining and related products .....	473	457	449	429	417	403	394	394	398	
55. Tires and inner tubes .....	210	223	214	201	209	203	212	227	239	

**D-3. Total hours paid by industry, 1958-95—Continued**

(Millions of hours)

Industry	Historical									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	
56. Rubber products except tires and tubes .....	346	378	363	356	372	361	358	364	364	
57. Plastic products .....	157	201	217	237	292	328	367	434	508	
58. Leather tanning and industrial leather .....	75	74	69	66	66	65	66	67	67	
59. Leather products including footwear .....	622	673	642	641	651	626	629	644	673	
60. Glass .....	291	320	328	321	330	334	346	361	383	
61. Cement and concrete products .....	414	461	452	446	457	473	483	495	497	
62. Structural clay products .....	153	164	160	148	144	147	148	150	149	
63. Pottery and related products .....	88	98	96	89	92	91	92	93	93	
64. Other stone and clay products .....	248	271	261	252	258	264	279	285	299	
65. Blast furnaces and basic steel products .....	1,188	1,217	1,300	1,210	1,212	1,232	1,341	1,400	1,383	
66. Iron and steel foundries and forgings .....	491	560	528	488	524	550	594	643	683	
67. Primary copper and copper products .....	273	295	284	281	299	297	300	318	348	
68. Primary aluminum and aluminum products .....	209	235	228	224	239	250	257	277	309	
69. Primary nonferrous metals and products .....	157	170	163	153	160	161	166	184	208	
70. Metal containers .....	160	163	160	157	160	159	164	164	175	
71. Heating apparatus and plumbing fixtures .....	141	148	138	130	134	139	148	146	148	
72. Fabricated structural metal products .....	741	721	740	725	726	746	780	830	886	
73. Screw machine products .....	163	192	186	176	194	196	201	222	246	
74. Metal stampings .....	359	409	422	376	411	424	440	493	525	
75. Cutlery, handtools, general hardware .....	256	284	281	264	286	293	307	332	346	
76. Other fabricated metal products .....	449	490	490	480	514	524	544	590	643	
77. Engines, turbines, and generators .....	186	188	178	164	175	179	183	195	216	
78. Farm machinery .....	250	268	248	241	251	264	283	304	332	
79. Construction, mining, oilfield machinery .....	295	344	325	297	314	321	350	384	415	
80. Material handling equipment .....	128	137	137	126	137	145	159	175	195	
81. Metalworking machinery .....	495	551	587	546	590	606	656	713	801	
82. Special industry machinery .....	333	351	360	345	369	370	394	424	456	
83. General industrial machinery .....	418	469	472	453	485	495	523	568	629	
84. Other nonelectrical machinery .....	328	372	385	374	407	411	422	452	522	
85. Computers and peripheral equipment .....	221	233	245	258	261	271	290	326	371	
86. Typewriters and other office equipment .....	58	61	67	72	77	79	84	99	113	
87. Service industry machines .....	186	205	207	198	212	214	224	242	267	
88. Electric transmission equipment .....	304	330	342	340	348	341	342	361	408	
89. Electrical industrial apparatus .....	322	369	375	369	384	372	379	412	463	
90. Household appliances .....	303	328	320	309	315	328	336	352	384	
91. Electric lighting and wiring .....	248	282	282	279	298	311	329	365	413	
92. Radio and television receiving sets .....	215	235	220	213	231	234	246	278	337	
93. Telephone and telegraph apparatus .....	210	223	241	238	250	217	219	246	272	
94. Radio and communication equipment .....	437	528	598	652	738	743	683	679	771	
95. Electronic components .....	364	443	480	506	553	541	549	642	813	
96. Other electrical machinery and equipment .....	212	237	236	220	234	222	211	229	250	
97. Motor vehicles .....	1,263	1,476	1,542	1,323	1,521	1,632	1,663	1,903	1,895	
98. Aircraft .....	1,615	1,513	1,322	1,292	1,360	1,355	1,282	1,335	1,642	
99. Ship and boat building and repair .....	313	313	303	308	308	315	319	350	396	
100. Railroad equipment .....	83	83	88	70	85	92	106	117	129	
101. Motorcycles, bicycles, and parts .....	15	17	16	16	17	19	20	22	22	
102. Other transportation equipment .....	37	50	45	42	48	66	81	91	105	
103. Scientific and controlling instruments .....	239	262	265	260	272	273	275	286	315	
104. Medical and dental instruments .....	90	95	99	100	105	110	113	117	130	
105. Optical and ophthalmic equipment .....	170	179	175	163	156	140	128	133	140	
106. Photographic equipment and supplies .....	142	146	149	151	155	157	166	185	213	
107. Watches and clocks .....	55	62	60	57	61	64	64	70	77	
108. Jewelry and silverware .....	139	140	131	128	128	125	132	134	145	
109. Musical instruments and sporting goods .....	224	240	244	240	251	250	259	291	298	
110. Other manufactured products .....	457	482	485	472	486	480	487	505	516	

D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical								
	1958	1959	1960	1961	1962	1963	1964	1965	1966
111. Railroad transportation .....	2,070	2,002	1,925	1,791	1,741	1,613	1,709	1,666	1,660
112. Local transit and intercity buses .....	707	706	711	707	685	672	661	657	648
113. Truck transportation .....	2,095	2,269	2,271	2,256	2,324	2,357	2,415	2,547	2,629
114. Water transportation .....	495	515	511	431	475	490	508	509	421
115. Air transportation .....	393	425	454	468	457	459	449	475	516
116. Pipeline transportation .....	55	51	48	46	45	44	43	42	40
117. Transportation services .....	141	151	160	163	162	161	167	173	184
118. Radio and television broadcasting .....	175	179	187	188	192	202	210	217	228
119. Communications except radio and television .....	1,556	1,537	1,548	1,515	1,522	1,516	1,566	1,642	1,725
120. Electric utilities, public and private .....	926	918	919	910	903	903	914	930	939
121. Gas utilities, excluding public .....	447	456	457	461	458	458	456	459	457
122. Water and sanitary services, except public .....	133	138	147	153	157	155	162	170	174
123. Wholesale trade .....	6,906	7,187	7,319	7,304	7,449	7,525	7,739	8,048	8,299
124. Eating and drinking places .....	4,102	4,225	4,350	4,337	4,394	4,363	4,210	4,429	4,510
125. Retail trade, except eating and drinking .....	15,917	16,394	16,733	16,483	16,514	16,610	17,113	17,492	17,665
126. Banking .....	1,204	1,250	1,307	1,346	1,394	1,446	1,499	1,542	1,607
127. Credit agencies and financial brokers .....	716	771	825	873	905	927	963	1,001	1,036
128. Insurance .....	2,307	2,311	2,362	2,403	2,427	2,455	2,442	2,477	2,506
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0	0
130. Real estate .....	1,508	1,534	1,543	1,534	1,553	1,557	1,587	1,608	1,614
131. Hotels and lodging places .....	1,899	1,945	1,980	1,975	1,974	1,980	2,028	2,044	2,028
132. Personal and repair services .....	2,499	2,523	2,313	2,312	2,298	2,518	2,558	2,573	2,560
133. Barber and beauty shops .....	1,202	1,224	1,123	1,140	1,131	1,282	1,319	1,340	1,340
134. Miscellaneous business services .....	1,297	1,413	1,497	1,583	1,708	1,775	1,837	2,004	2,216
135. Advertising .....	228	236	243	239	240	240	244	256	249
136. Miscellaneous professional services .....	1,672	1,697	1,762	1,784	1,805	1,811	1,865	1,922	1,973
137. Automobile repair .....	850	884	925	931	990	959	1,080	1,102	1,102
138. Motion pictures .....	351	345	339	334	322	317	319	340	344
139. Amusements and recreation services .....	654	681	715	728	775	775	809	816	839
140. Doctors' and dentists' services .....	1,291	1,314	1,368	1,399	1,409	1,380	1,430	1,458	1,476
141. Hospitals .....	1,803	1,909	2,037	2,139	2,239	2,359	2,510	2,578	2,646
142. Medical services, except hospitals .....	597	629	676	711	745	774	831	870	907
143. Educational services (private) .....	1,486	1,539	1,587	1,630	1,706	1,757	1,838	1,890	1,970
144. Nonprofit organizations .....	1,958	2,299	2,378	2,493	2,549	2,588	2,627	2,655	2,707
145. Post Office .....	1,198	1,224	1,242	1,270	1,270	1,275	1,276	1,319	1,374
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	166	222	235	248	272	281	289	305	297
148. Local government passenger transit .....	153	154	152	153	147	154	165	166	166
149. Other State and local enterprises .....	449	487	539	561	592	643	650	695	670
150. Noncomparable imports .....	0	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0	0
152. New construction industry .....	6,436	6,782	6,581	6,418	6,556	6,590	6,772	7,058	7,149
153. Government industry .....	0	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0	0
155. Private households .....	3,579	3,534	3,533	3,411	3,390	3,342	3,293	3,196	3,103
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0	0



D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
1. Dairy and poultry products .....	2,222	2,100	1,910	1,793	1,685	1,679	1,544	1,461
2. Meat animals and livestock .....	1,883	1,869	1,776	1,739	1,680	1,699	1,611	1,589
3. Cotton .....	365	412	404	368	348	383	303	302
4. Food and feed grains .....	1,632	1,575	1,492	1,380	1,414	1,368	1,405	1,450
5. Other agricultural products .....	2,713	2,665	2,628	2,454	2,378	2,451	2,579	2,632
6. Forestry and fishery products .....	120	100	105	120	137	111	107	102
7. Agricultural, forestry, fishery services .....	589	612	617	608	648	738	773	808
8. Iron and ferroalloy ores mining .....	65	61	64	66	62	56	60	66
9. Copper ore mining .....	56	67	81	86	78	81	88	93
10. Nonferrous metal ores mining except copper .....	60	55	55	61	56	47	45	49
11. Coal mining .....	300	281	287	311	307	346	341	357
12. Crude petroleum and gas, except drilling .....	358	354	351	344	344	336	328	344
13. Stone and clay mining and quarrying .....	238	231	230	232	228	233	241	247
14. Chemical and fertilizer mineral mining .....	48	43	42	36	36	43	45	49
15. Maintenance and repair construction .....	1,463	1,436	1,560	1,613	1,567	1,633	1,626	1,779
16. Ordnance .....	307	362	363	270	195	188	185	170
17. Guided missiles and space vehicles .....	285	271	226	177	156	159	163	166
18. Meat products .....	721	726	735	740	737	739	710	730
19. Dairy products .....	591	570	553	531	494	474	450	438
20. Canned and frozen foods .....	563	571	593	581	577	618	608	605
21. Grain mill products .....	310	309	311	313	303	304	314	313
22. Bakery products .....	607	606	595	577	556	542	529	510
23. Sugar .....	75	76	75	77	74	79	78	76
24. Confectionery products .....	177	175	177	171	168	165	168	161
25. Alcoholic beverages .....	208	200	200	199	194	188	187	186
26. Soft drinks and flavorings .....	286	284	291	290	285	281	285	279
27. Other food products .....	309	314	323	327	319	294	303	307
28. Tobacco manufacturing .....	174	167	162	164	153	148	156	154
29. Fabric, yarn, and thread mills .....	1,311	1,331	1,323	1,263	1,220	1,270	1,299	1,197
30. Floor covering mills .....	102	112	129	127	134	141	144	137
31. Other textile mill products .....	166	176	179	156	153	160	161	161
32. Hosiery and knit goods .....	466	508	503	494	513	545	542	500
33. Apparel .....	2,325	2,331	2,336	2,246	2,215	2,291	2,353	2,208
34. Other fabricated textile products .....	357	363	366	333	337	370	398	350
35. Logging .....	279	296	310	281	273	279	301	305
36. Sawmills and planing mills .....	495	489	480	442	451	475	478	472
37. Other millwork, plywood, and wood products .....	622	633	664	633	681	744	756	704
38. Wooden containers .....	80	76	76	66	58	57	55	50
39. Household furniture .....	619	651	660	610	644	701	729	674
40. Furniture and fixtures, except household .....	333	320	327	306	296	325	348	353
41. Paper products .....	1,031	1,042	1,071	1,054	1,020	1,042	1,064	1,070
42. Paperboard .....	463	479	496	471	458	469	481	457
43. Newspaper printing and publishing .....	719	721	741	749	743	764	780	764
44. Periodical, book printing and publishing .....	401	413	421	418	399	415	423	430
45. Other printing and publishing .....	1,089	1,110	1,145	1,124	1,080	1,090	1,129	1,134
46. Industrial inorganic and organic chemicals .....	618	624	633	635	609	582	596	613
47. Agricultural chemicals .....	145	144	141	138	123	121	129	137
48. Other chemical products .....	238	253	261	236	206	203	208	206
49. Plastic materials and synthetic rubber .....	223	230	234	227	222	229	237	240
50. Synthetic fibers .....	243	265	278	267	259	259	277	282
51. Drugs .....	281	288	298	312	323	335	345	352
52. Cleaning and toilet preparations .....	235	244	258	266	258	256	266	264
53. Paints and allied products .....	142	149	150	145	141	144	146	140
54. Petroleum refining and related products .....	397	405	392	412	422	424	417	424
55. Tires and inner tubes .....	226	254	266	247	253	267	291	300

D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
56. Rubber products except tires and tubes .....	346	346	339	317	321	355	374	361
57. Plastic products .....	537	603	670	651	642	723	807	801
58. Leather tanning and industrial leather .....	63	64	60	55	54	52	50	45
59. Leather products including footwear .....	643	653	614	584	545	544	522	482
60. Glass .....	372	377	400	392	382	413	435	419
61. Cement and concrete products .....	483	492	509	495	515	546	577	546
62. Structural clay products .....	137	137	134	124	121	121	125	120
63. Pottery and related products .....	90	92	93	91	89	94	101	104
64. Other stone and clay products .....	293	292	302	294	297	307	335	343
65. Blast furnaces and basic steel products .....	1,328	1,347	1,372	1,302	1,179	1,195	1,299	1,302
66. Iron and steel foundries and forgings .....	658	644	674	625	599	633	699	718
67. Primary copper and copper products .....	323	316	347	335	322	343	368	361
68. Primary aluminum and aluminum products .....	310	314	329	304	291	300	333	342
69. Primary nonferrous metals and products .....	191	201	210	189	167	164	180	180
70. Metal containers .....	180	186	194	200	190	188	195	195
71. Heating apparatus and plumbing fixtures .....	146	151	160	147	140	148	155	145
72. Fabricated structural metal products .....	887	895	936	914	899	941	1,034	1,047
73. Screw machine products .....	247	247	251	223	194	223	249	254
74. Metal stampings .....	504	542	554	506	483	510	539	481
75. Cutlery, handtools, general hardware .....	343	349	348	316	317	344	375	365
76. Other fabricated metal products .....	640	645	672	627	597	674	718	718
77. Engines, turbines, and generators .....	223	234	238	234	241	247	265	271
78. Farm machinery .....	326	305	295	275	264	291	341	370
79. Construction, mining, oilfield machinery .....	399	411	438	436	413	440	493	524
80. Material handling equipment .....	191	193	205	194	174	189	214	229
81. Metalworking machinery .....	815	775	780	703	588	646	739	768
82. Special industry machinery .....	444	430	447	417	369	379	421	439
83. General industrial machinery .....	625	604	627	598	542	571	633	662
84. Other nonelectrical machinery .....	550	529	557	517	438	474	527	556
85. Computers and peripheral equipment .....	393	426	475	495	463	451	492	527
86. Typewriters and other office equipment .....	120	103	110	112	94	102	109	115
87. Service industry machines .....	272	283	311	308	299	348	386	364
88. Electric transmission equipment .....	425	434	439	429	390	389	425	431
89. Electrical industrial apparatus .....	460	448	475	453	412	444	509	515
90. Household appliances .....	365	377	393	379	367	388	409	396
91. Electric lighting and wiring .....	414	417	424	403	388	426	464	443
92. Radio and television receiving sets .....	319	315	316	270	265	286	308	278
93. Telephone and telegraph apparatus .....	273	275	313	348	338	331	347	340
94. Radio and communication equipment .....	858	879	855	754	642	624	631	650
95. Electronic components .....	787	784	809	747	675	737	850	860
96. Other electrical machinery and equipment .....	250	266	264	256	263	290	324	310
97. Motor vehicles .....	1,731	1,928	1,957	1,674	1,806	1,927	2,168	1,911
98. Aircraft .....	1,800	1,824	1,714	1,409	1,119	1,064	1,129	1,158
99. Ship and boat building and repair .....	383	401	410	367	374	412	432	437
100. Railroad equipment .....	116	96	108	105	106	102	105	121
101. Motorcycles, bicycles, and parts .....	23	27	26	27	29	42	43	42
102. Other transportation equipment .....	111	146	186	192	232	290	293	195
103. Scientific and controlling instruments .....	313	320	327	305	280	349	373	390
104. Medical and dental instruments .....	141	154	171	171	174	187	206	228
105. Optical and ophthalmic equipment .....	148	158	160	148	136	119	136	139
106. Photographic equipment and supplies .....	225	228	237	239	236	252	266	275
107. Watches and clocks .....	76	73	71	69	58	61	69	68
108. Jewelry and silverware .....	150	153	162	148	135	162	166	167
109. Musical instruments and sporting goods .....	284	292	299	282	282	307	325	329
110. Other manufactured products .....	502	497	486	498	476	483	486	484

D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical							
	1967	1968	1969	1970	1971	1972	1973	1974
111. Railroad transportation .....	1,570	1,523	1,494	1,459	1,364	1,327	1,339	1,353
112. Local transit and intercity buses .....	656	651	658	683	659	587	589	592
113. Truck transportation .....	2,592	2,671	2,705	2,704	2,743	2,852	2,984	2,923
114. Water transportation .....	433	423	403	383	345	380	359	368
115. Air transportation .....	604	667	706	702	700	706	734	763
116. Pipeline transportation .....	41	40	39	38	37	36	36	37
117. Transportation services .....	200	201	221	227	250	248	247	261
118. Radio and television broadcasting .....	238	245	260	275	284	286	289	299
119. Communications except radio and television .....	1,747	1,782	1,929	2,039	1,987	2,075	2,151	2,183
120. Electric utilities, public and private .....	957	971	996	1,036	1,065	1,099	1,137	1,152
121. Gas utilities, excluding public .....	464	467	467	472	455	461	466	466
122. Water and sanitary services, except public .....	180	186	203	220	189	184	188	194
123. Wholesale trade .....	8,388	8,479	8,834	8,941	8,872	9,040	9,384	9,617
124. Eating and drinking places .....	4,528	4,664	4,809	4,904	5,033	5,167	5,382	5,635
125. Retail trade, except eating and drinking .....	17,631	17,876	18,235	18,307	18,791	19,277	19,636	19,452
126. Banking .....	1,687	1,777	1,914	2,017	2,065	2,122	2,241	2,380
127. Credit agencies and financial brokers .....	1,081	1,190	1,289	1,241	1,249	1,345	1,394	1,377
128. Insurance .....	2,582	2,615	2,672	2,750	2,781	2,857	2,910	2,941
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0
130. Real estate .....	1,591	1,641	1,710	1,742	1,894	2,038	2,122	2,160
131. Hotels and lodging places .....	2,031	1,992	2,097	2,071	2,094	2,215	2,247	2,304
132. Personal and repair services .....	2,503	2,509	2,515	2,404	2,293	2,185	2,231	2,197
133. Barber and beauty shops .....	1,319	1,328	1,304	1,255	1,235	1,113	1,095	1,049
134. Miscellaneous business services .....	2,398	2,493	2,800	2,910	2,987	3,461	3,687	3,884
135. Advertising .....	251	248	247	246	252	262	279	261
136. Miscellaneous professional services .....	2,006	2,118	2,281	2,372	2,458	2,602	2,697	2,874
137. Automobile repair .....	1,087	1,131	1,189	1,193	1,201	1,233	1,279	1,291
138. Motion pictures .....	348	360	375	386	364	381	406	409
139. Amusements and recreation services .....	823	843	864	891	922	1,004	1,047	1,072
140. Doctors' and dentists' services .....	1,485	1,535	1,554	1,541	1,696	1,676	1,732	1,826
141. Hospitals .....	2,852	2,985	3,152	3,332	3,459	3,578	3,702	3,897
142. Medical services, except hospitals .....	1,011	1,128	1,227	1,319	1,465	1,507	1,660	1,764
143. Educational services (private) .....	2,036	2,137	2,217	2,239	2,288	2,352	2,396	2,461
144. Nonprofit organizations .....	2,801	2,894	3,121	3,080	3,096	2,921	2,965	3,035
145. Post Office .....	1,433	1,461	1,484	1,527	1,499	1,452	1,453	1,478
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	303	303	308	343	333	335	341	339
148. Local government passenger transit .....	172	184	181	190	194	210	208	234
149. Other State and local enterprises .....	666	696	732	754	830	815	871	940
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	7,014	7,265	7,734	7,493	7,806	7,744	8,401	8,274
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	3,294	3,168	3,019	2,881	2,793	2,734	2,682	2,321
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

### D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
1. Dairy and poultry products .....	1,360	1,261	1,201	1,179	1,098	1,007	1,004	975
2. Meat animals and livestock .....	1,459	1,382	1,347	1,351	1,290	1,231	1,226	1,191
3. Cotton .....	175	185	178	143	142	143	143	139
4. Food and feed grains .....	1,468	1,457	1,423	1,431	1,427	1,413	1,409	1,370
5. Other agricultural products .....	2,740	2,592	2,654	2,819	2,826	2,810	2,800	2,722
6. Forestry and fishery products .....	94	129	153	169	166	192	189	180
7. Agricultural, forestry, fishery services .....	723	770	750	822	893	1,112	1,133	1,289
8. Iron and ferroalloy ores mining .....	64	66	55	64	67	55	54	32
9. Copper ore mining .....	80	76	67	63	73	63	78	50
10. Nonferrous metal ores mining except copper .....	54	60	65	77	80	91	89	68
11. Coal mining .....	443	466	489	439	553	515	471	501
12. Crude petroleum and gas, except drilling .....	370	403	425	455	480	548	634	684
13. Stone and clay mining and quarrying .....	217	221	227	232	245	234	221	199
14. Chemical and fertilizer mineral mining .....	51	53	55	56	58	61	60	53
15. Maintenance and repair construction .....	1,906	1,925	2,048	2,267	2,355	2,959	2,895	2,718
16. Ordnance .....	157	145	146	148	153	157	170	165
17. Guided missiles and space vehicles .....	164	146	137	155	169	183	200	219
18. Meat products .....	703	737	742	744	752	741	739	714
19. Dairy products .....	425	426	411	404	401	380	367	357
20. Canned and frozen foods .....	587	615	603	610	624	618	585	579
21. Grain mill products .....	306	307	322	324	324	321	308	292
22. Bakery products .....	492	502	494	496	485	473	460	456
23. Sugar .....	78	84	71	68	63	63	67	61
24. Confectionery products .....	150	152	158	157	161	154	152	148
25. Alcoholic beverages .....	184	171	179	183	182	179	181	184
26. Soft drinks and flavorings .....	271	286	294	305	313	309	300	297
27. Other food products .....	304	309	325	330	340	337	337	317
28. Tobacco manufacturing .....	151	151	141	141	139	137	142	134
29. Fabric, yarn, and thread mills .....	1,075	1,192	1,154	1,141	1,130	1,073	1,025	870
30. Floor covering mills .....	116	122	132	139	129	115	109	97
31. Other textile mill products .....	140	149	151	152	152	142	142	122
32. Hosiery and knit goods .....	448	461	473	480	452	443	430	393
33. Apparel .....	2,020	2,168	2,167	2,139	2,081	2,044	2,020	1,840
34. Other fabricated textile products .....	327	372	373	397	398	368	372	338
35. Logging .....	246	303	303	295	330	312	300	252
36. Sawmills and planing mills .....	409	467	484	492	498	435	413	358
37. Other millwork, plywood, and wood products .....	608	684	746	821	813	735	720	634
38. Wooden containers .....	43	42	42	40	38	35	35	30
39. Household furniture .....	559	615	635	674	662	595	591	518
40. Furniture and fixtures, except household .....	295	303	358	372	362	360	367	365
41. Paper products .....	967	1,032	1,048	1,071	1,087	1,064	1,068	1,028
42. Paperboard .....	406	439	451	463	455	434	428	396
43. Newspaper printing and publishing .....	753	768	801	819	845	854	853	856
44. Periodical, book printing and publishing .....	430	442	454	455	462	477	493	497
45. Other printing and publishing .....	1,080	1,097	1,154	1,245	1,312	1,324	1,343	1,345
46. Industrial inorganic and organic chemicals .....	607	635	672	693	703	700	712	688
47. Agricultural chemicals .....	140	147	147	145	152	157	152	139
48. Other chemical products .....	185	191	202	203	209	210	211	198
49. Plastic materials and synthetic rubber .....	209	216	213	215	215	203	201	187
50. Synthetic fibers .....	249	248	245	245	239	231	218	201
51. Drugs .....	348	356	378	392	405	409	416	416
52. Cleaning and toilet preparations .....	253	268	274	287	293	297	308	307
53. Paints and allied products .....	129	137	138	144	144	135	131	126
54. Petroleum refining and related products .....	409	424	436	454	461	420	464	441
55. Tires and inner tubes .....	262	222	290	277	273	238	230	219

**D-3. Total hours paid by industry, 1958-95—Continued**

(Millions of hours)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
56. Rubber products except tires and tubes .....	303	325	333	342	349	314	314	286
57. Plastic products .....	699	807	895	980	1,033	969	1,007	943
58. Leather tanning and industrial leather .....	46	48	47	46	40	40	42	38
59. Leather products including footwear .....	451	472	464	470	445	411	419	385
60. Glass .....	380	410	423	445	435	409	404	368
61. Cement and concrete products .....	479	487	506	537	560	511	482	437
62. Structural clay products .....	101	103	106	109	111	95	86	71
63. Pottery and related products .....	94	98	101	103	107	100	94	80
64. Other stone and clay products .....	288	300	315	342	345	309	303	264
65. Blast furnaces and basic steel products .....	1,127	1,147	1,162	1,199	1,213	1,049	1,057	786
66. Iron and steel foundries and forgings .....	631	627	649	678	684	581	560	438
67. Primary copper and copper products .....	296	311	320	326	348	318	319	278
68. Primary aluminum and aluminum products .....	274	304	319	350	364	342	338	290
69. Primary nonferrous metals and products .....	157	172	183	196	201	193	190	167
70. Metal containers .....	173	173	174	177	181	168	158	141
71. Heating apparatus and plumbing fixtures .....	124	131	142	152	156	144	138	123
72. Fabricated structural metal products .....	965	976	1,010	1,066	1,122	1,089	1,075	943
73. Screw machine products .....	192	204	220	241	256	231	221	186
74. Metal stampings .....	397	473	510	537	517	443	433	385
75. Cutlery, handtools, general hardware .....	319	354	375	388	384	340	334	289
76. Other fabricated metal products .....	638	684	725	766	794	750	743	669
77. Engines, turbines, and generators .....	249	252	267	294	306	279	277	232
78. Farm machinery .....	345	345	353	352	397	354	325	284
79. Construction, mining, oilfield machinery .....	538	519	546	593	588	596	649	528
80. Material handling equipment .....	192	184	199	207	226	224	207	177
81. Metalworking machinery .....	670	679	741	788	844	827	792	659
82. Special industry machinery .....	386	387	402	418	436	439	418	363
83. General industrial machinery .....	607	603	622	662	700	682	676	589
84. Other nonelectrical machinery .....	534	544	559	621	679	680	676	596
85. Computers and peripheral equipment .....	497	504	549	624	715	792	854	896
86. Typewriters and other office equipment .....	100	102	101	112	124	120	114	98
87. Service industry machines .....	294	335	354	390	393	360	365	326
88. Electric transmission equipment .....	358	372	396	432	465	467	470	440
89. Electrical industrial apparatus .....	441	462	487	514	528	500	501	416
90. Household appliances .....	328	352	375	384	369	331	326	285
91. Electric lighting and wiring .....	369	407	425	454	469	446	434	382
92. Radio and television receiving sets .....	229	249	259	250	233	221	217	188
93. Telephone and telegraph apparatus .....	303	288	313	321	351	343	331	305
94. Radio and communication equipment .....	643	638	657	709	748	788	830	883
95. Electronic components .....	692	754	837	950	1,089	1,141	1,152	1,152
96. Other electrical machinery and equipment .....	276	307	333	366	371	315	310	316
97. Motor vehicles .....	1,655	1,933	2,121	2,220	2,103	1,639	1,668	1,479
98. Aircraft .....	1,112	1,054	1,047	1,165	1,353	1,438	1,417	1,320
99. Ship and boat building and repair .....	412	454	474	471	474	470	491	460
100. Railroad equipment .....	119	102	116	132	158	145	110	74
101. Motorcycles, bicycles, and parts .....	31	35	38	43	42	36	36	29
102. Other transportation equipment .....	172	209	220	238	217	145	143	147
103. Scientific and controlling instruments .....	354	365	396	422	454	466	494	466
104. Medical and dental instruments .....	220	244	265	282	295	319	330	325
105. Optical and ophthalmic equipment .....	125	139	152	159	171	163	160	158
106. Photographic equipment and supplies .....	253	265	276	281	286	282	289	294
107. Watches and clocks .....	61	62	61	61	56	47	43	37
108. Jewelry and silverware .....	164	183	188	196	182	162	161	152
109. Musical instruments and sporting goods .....	278	294	294	295	293	280	281	263
110. Other manufactured products .....	451	454	490	538	516	463	448	441

### D-3. Total hours paid by industry, 1958-95—Continued

(Millions of hours)

Industry	Historical							
	1975	1976	1977	1978	1979	1980	1981	1982
111. Railroad transportation .....	1,239	1,227	1,242	1,236	1,276	1,194	1,114	948
112. Local transit and intercity buses .....	573	569	541	534	563	574	572	573
113. Truck transportation .....	2,753	2,849	3,037	3,234	3,295	3,072	3,012	2,915
114. Water transportation .....	345	346	343	386	461	445	455	418
115. Air transportation .....	756	780	795	823	921	951	950	912
116. Pipeline transportation .....	37	38	40	43	44	46	49	49
117. Transportation services .....	275	283	312	349	414	429	450	455
118. Radio and television broadcasting .....	310	322	335	358	381	401	416	433
119. Communications except radio and television .....	2,074	2,047	2,111	2,219	2,336	2,423	2,469	2,480
120. Electric utilities, public and private .....	1,119	1,136	1,180	1,268	1,323	1,395	1,434	1,477
121. Gas utilities, excluding public .....	462	451	449	461	466	467	483	488
122. Water and sanitary services, except public .....	181	188	189	205	203	224	228	222
123. Wholesale trade .....	9,472	9,870	10,190	10,685	11,230	11,249	11,436	11,167
124. Eating and drinking places .....	5,671	5,913	6,237	6,512	6,746	6,966	7,126	7,262
125. Retail trade, except eating and drinking .....	19,331	19,611	20,037	20,675	20,787	20,638	20,654	20,069
126. Banking .....	2,426	2,493	2,586	2,708	2,835	2,967	3,092	3,141
127. Credit agencies and financial brokers .....	1,373	1,431	1,520	1,614	1,730	1,821	1,929	1,987
128. Insurance .....	3,022	3,045	3,148	3,337	3,440	3,520	3,550	3,636
129. Owner-occupied real estate .....	0	0	0	0	0	0	0	0
130. Real estate .....	2,027	2,066	2,223	2,499	2,710	2,678	2,665	2,556
131. Hotels and lodging places .....	2,277	2,335	2,458	2,525	2,626	2,662	2,757	2,839
132. Personal and repair services .....	2,169	2,146	2,176	2,497	2,572	2,610	2,603	2,636
133. Barber and beauty shops .....	1,013	1,066	1,094	1,123	1,130	1,164	1,150	1,127
134. Miscellaneous business services .....	3,957	4,231	4,557	5,029	5,470	5,937	6,279	6,492
135. Advertising .....	263	265	279	298	318	324	328	353
136. Miscellaneous professional services .....	3,060	3,008	3,302	3,443	3,668	3,824	4,028	4,233
137. Automobile repair .....	1,336	1,443	1,514	1,626	1,737	1,698	1,710	1,811
138. Motion pictures .....	412	429	453	455	472	473	466	503
139. Amusements and recreation services .....	1,115	1,173	1,186	1,259	1,238	1,325	1,376	1,386
140. Doctors' and dentists' services .....	1,953	2,001	2,098	2,221	2,317	2,429	2,502	2,510
141. Hospitals .....	4,107	4,243	4,367	4,494	4,651	4,884	5,142	5,364
142. Medical services, except hospitals .....	1,852	1,979	2,130	2,301	2,436	2,576	2,725	2,869
143. Educational services (private) .....	2,789	2,582	2,686	2,658	2,793	2,987	3,052	3,181
144. Nonprofit organizations .....	3,137	3,146	3,151	3,571	3,645	3,752	3,674	3,665
145. Post Office .....	1,464	1,399	1,363	1,374	1,392	1,396	1,406	1,408
146. Commodity Credit Corporation .....	0	0	0	0	0	0	0	0
147. Other Federal enterprises .....	310	311	307	315	326	323	315	310
148. Local government passenger transit .....	232	252	256	264	270	354	356	354
149. Other State and local enterprises .....	1,039	1,022	1,034	1,069	1,125	1,060	1,031	1,014
150. Noncomparable imports .....	0	0	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0	0	0
152. New construction industry .....	7,026	7,408	8,109	9,034	9,662	8,532	8,493	7,929
153. Government industry .....	0	0	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0	0	0
155. Private households .....	2,175	2,250	2,285	2,240	2,097	1,961	1,921	1,947
156. Inventory valuation adjustment .....	0	0	0	0	0	0	0	0

**D-3. Total hours paid by industry, 1958-95—Continued**

(Millions of hours)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
1. Dairy and poultry products .....	854	868	875	773	809	825
2. Meat animals and livestock .....	1,073	1,072	1,074	992	1,005	1,017
3. Cotton .....	124	123	124	113	113	116
4. Food and feed grains .....	1,318	1,330	1,339	1,282	1,296	1,317
5. Other agricultural products .....	2,577	2,605	2,630	2,474	2,524	2,574
6. Forestry and fishery products .....	153	166	187	197	190	204
7. Agricultural, forestry, fishery services .....	1,378	1,342	1,320	1,489	1,502	1,513
8. Iron and ferroalloy ores mining .....	50	50	44	50	52	46
9. Copper ore mining .....	55	54	52	66	71	72
10. Nonferrous metal ores mining except copper .....	67	67	65	68	68	67
11. Coal mining .....	622	596	573	643	655	664
12. Crude petroleum and gas, except drilling .....	614	652	630	739	749	678
13. Stone and clay mining and quarrying .....	189	196	206	160	171	193
14. Chemical and fertilizer mineral mining .....	69	69	68	78	76	76
15. Maintenance and repair construction .....	3,421	3,270	3,241	3,598	3,637	3,695
16. Ordnance .....	189	182	184	185	179	190
17. Guided missiles and space vehicles .....	271	269	264	309	289	296
18. Meat products .....	716	716	720	729	740	756
19. Dairy products .....	284	300	325	244	262	272
20. Canned and frozen foods .....	650	659	670	657	668	691
21. Grain mill products .....	309	311	312	301	309	316
22. Bakery products .....	400	415	414	320	342	349
23. Sugar .....	62	63	64	54	57	61
24. Confectionery products .....	155	158	162	140	145	155
25. Alcoholic beverages .....	177	183	182	161	170	174
26. Soft drinks and flavorings .....	334	342	343	322	338	346
27. Other food products .....	351	353	348	360	372	374
28. Tobacco manufacturing .....	119	120	125	97	101	113
29. Fabric, yarn, and thread mills .....	888	914	906	928	930	945
30. Floor covering mills .....	105	112	130	116	120	130
31. Other textile mill products .....	142	147	155	132	136	150
32. Hosiery and knit goods .....	400	424	425	437	461	471
33. Apparel .....	1,935	1,972	1,947	2,038	2,043	1,983
34. Other fabricated textile products .....	436	443	452	461	468	477
35. Logging .....	261	264	264	252	259	262
36. Sawmills and planing mills .....	387	395	424	413	416	430
37. Other millwork, plywood, and wood products .....	796	817	859	825	843	896
38. Wooden containers .....	24	25	26	19	22	24
39. Household furniture .....	636	669	725	662	691	779
40. Furniture and fixtures, except household .....	386	401	417	397	413	424
41. Paper products .....	1,118	1,125	1,144	1,140	1,149	1,189
42. Paperboard .....	400	425	440	375	402	434
43. Newspaper printing and publishing .....	937	944	943	983	1,021	1,041
44. Periodical, book printing and publishing .....	590	591	602	654	669	679
45. Other printing and publishing .....	1,466	1,522	1,513	1,491	1,584	1,618
46. Industrial inorganic and organic chemicals .....	761	754	745	777	790	794
47. Agricultural chemicals .....	174	180	181	175	187	198
48. Other chemical products .....	224	233	254	243	249	251
49. Plastic materials and synthetic rubber .....	233	242	253	237	243	259
50. Synthetic fibers .....	230	243	259	252	256	278
51. Drugs .....	532	534	532	578	586	591
52. Cleaning and toilet preparations .....	348	353	349	349	367	371
53. Paints and allied products .....	138	145	149	134	144	151
54. Petroleum refining and related products .....	398	396	396	382	391	395
55. Tires and inner tubes .....	210	213	218	212	216	224

**D-3. Total hours paid by industry, 1958-95—Continued**

(Millions of hours)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
56. Rubber products except tires and tubes .....	301	310	324	299	305	324
57. Plastic products .....	1,166	1,319	1,359	1,360	1,491	1,550
58. Leather tanning and industrial leather .....	30	32	33	22	25	29
59. Leather products including footwear .....	311	318	320	275	289	268
60. Glass .....	425	432	440	451	451	455
61. Cement and concrete products .....	467	505	527	450	501	537
62. Structural clay products .....	73	78	83	61	65	72
63. Pottery and related products .....	88	92	94	93	97	99
64. Other stone and clay products .....	314	330	349	350	363	381
65. Blast furnaces and basic steel products .....	843	875	865	866	890	883
66. Iron and steel foundries and forgings .....	493	510	516	525	533	543
67. Primary copper and copper products .....	324	331	341	343	349	365
68. Primary aluminum and aluminum products .....	348	364	365	349	367	379
69. Primary nonferrous metals and products .....	175	178	182	173	177	187
70. Metal containers .....	149	153	154	136	137	144
71. Heating apparatus and plumbing fixtures .....	146	150	166	158	161	186
72. Fabricated structural metal products .....	1,103	1,181	1,242	1,160	1,285	1,389
73. Screw machine products .....	234	244	248	252	260	264
74. Metal stampings .....	484	516	524	487	517	532
75. Cutlery, handtools, general hardware .....	361	374	383	401	403	412
76. Other fabricated metal products .....	789	843	841	809	867	878
77. Engines, turbines, and generators .....	311	314	315	340	343	348
78. Farm machinery .....	338	351	357	341	350	363
79. Construction, mining, oilfield machinery .....	658	674	681	714	740	762
80. Material handling equipment .....	224	232	247	250	254	276
81. Metalworking machinery .....	770	808	818	772	824	854
82. Special industry machinery .....	428	431	439	433	437	455
83. General industrial machinery .....	691	706	707	717	726	738
84. Other nonelectrical machinery .....	664	686	711	705	720	762
85. Computers and peripheral equipment .....	1,235	1,236	1,250	1,395	1,448	1,474
86. Typewriters and other office equipment .....	116	126	135	140	144	151
87. Service industry machines .....	387	408	440	424	439	435
88. Electric transmission equipment .....	483	506	507	505	522	536
89. Electrical industrial apparatus .....	518	532	560	575	579	630
90. Household appliances .....	360	379	406	390	398	434
91. Electric lighting and wiring .....	468	491	510	513	522	527
92. Radio and television receiving sets .....	193	218	226	217	232	239
93. Telephone and telegraph apparatus .....	368	383	414	429	430	473
94. Radio and communication equipment .....	945	904	921	1,117	962	969
95. Electronic components .....	1,521	1,565	1,671	1,836	1,810	1,825
96. Other electrical machinery and equipment .....	336	352	373	397	400	431
97. Motor vehicles .....	1,670	1,758	1,746	1,774	1,793	1,817
98. Aircraft .....	1,511	1,438	1,404	1,600	1,484	1,467
99. Ship and boat building and repair .....	538	528	515	572	554	540
100. Railroad equipment .....	90	93	95	94	100	105
101. Motorcycles, bicycles, and parts .....	36	38	39	39	41	44
102. Other transportation equipment .....	171	190	215	203	215	242
103. Scientific and controlling instruments .....	609	606	608	713	718	739
104. Medical and dental instruments .....	425	420	436	556	558	561
105. Optical and ophthalmic equipment .....	169	175	179	176	184	197
106. Photographic equipment and supplies .....	352	357	366	368	370	386
107. Watches and clocks .....	45	46	48	46	43	45
108. Jewelry and silverware .....	149	165	179	191	196	222
109. Musical instruments and sporting goods .....	273	284	294	291	298	306
110. Other manufactured products .....	428	437	458	443	448	490



**D-3. Total hours paid by industry, 1958-95—Continued**

(Millions of hours)

Industry	Projected					
	1990 alternatives			1995 alternatives		
	Low	Moderate	High	Low	Moderate	High
111. Railroad transportation .....	755	798	916	687	737	792
112. Local transit and intercity buses .....	602	595	602	598	619	659
113. Truck transportation .....	3,408	3,397	3,424	3,470	3,534	3,609
114. Water transportation .....	391	416	424	398	416	420
115. Air transportation .....	1,033	1,054	1,046	1,091	1,104	1,114
116. Pipeline transportation .....	49	51	55	52	52	57
117. Transportation services .....	514	528	489	569	581	579
118. Radio and television broadcasting .....	587	600	569	689	693	695
119. Communications except radio and television .....	2,796	2,786	2,898	3,061	3,161	3,180
120. Electric utilities, public and private .....	1,447	1,502	1,506	1,512	1,532	1,546
121. Gas utilities, excluding public .....	465	460	462	431	435	445
122. Water and sanitary services, except public .....	293	278	279	301	305	318
123. Wholesale trade .....	12,073	12,395	12,646	12,854	13,118	13,248
124. Eating and drinking places .....	7,862	7,919	7,929	8,715	8,810	8,850
125. Retail trade, except eating and drinking .....	22,306	22,776	23,093	22,950	23,896	24,327
126. Banking .....	3,656	3,648	3,668	3,886	3,921	3,960
127. Credit agencies and financial brokers .....	2,484	2,557	2,586	2,839	2,862	2,922
128. Insurance .....	4,198	4,169	4,172	4,277	4,348	4,422
129. Owner-occupied real estate .....	0	0	0	0	0	0
130. Real estate .....	2,866	2,999	2,135	3,169	3,186	3,209
131. Hotels and lodging places .....	3,134	3,137	3,098	3,223	3,234	3,271
132. Personal and repair services .....	2,872	2,976	3,175	2,977	3,062	3,337
133. Barber and beauty shops .....	1,150	1,164	1,209	1,224	1,270	1,316
134. Miscellaneous business services .....	8,378	8,710	8,945	10,326	10,367	10,401
135. Advertising .....	396	405	409	420	431	439
136. Miscellaneous professional services .....	4,879	5,005	4,967	5,430	5,593	5,771
137. Automobile repair .....	1,897	2,019	2,151	2,193	2,245	2,320
138. Motion pictures .....	515	499	500	502	507	524
139. Amusements and recreation services .....	1,610	1,648	1,683	1,792	1,822	1,908
140. Doctors' and dentists' services .....	3,059	3,094	3,322	3,157	3,212	3,356
141. Hospitals .....	6,765	6,884	6,755	7,627	7,637	7,957
142. Medical services, except hospitals .....	3,472	3,670	3,788	4,323	4,386	4,478
143. Educational services (private) .....	4,040	3,562	3,304	3,747	3,885	3,909
144. Nonprofit organizations .....	4,064	4,097	4,170	4,105	4,189	4,358
145. Post Office .....	1,307	1,240	1,236	1,096	1,185	1,212
146. Commodity Credit Corporation .....	0	0	0	0	0	0
147. Other Federal enterprises .....	370	360	368	365	378	395
148. Local government passenger transit .....	421	422	434	461	469	502
149. Other State and local enterprises .....	1,219	1,244	1,296	1,372	1,418	1,531
150. Noncomparable imports .....	0	0	0	0	0	0
151. Scrap, used and secondhand goods .....	0	0	0	0	0	0
152. New construction industry .....	10,073	10,117	10,317	11,303	11,511	11,608
153. Government industry .....	0	0	0	0	0	0
154. Rest-of-world industry .....	0	0	0	0	0	0
155. Private households .....	1,678	1,628	1,619	1,479	1,538	1,563
156. Inventory valuation adjustment .....	0	0	0	0	0	0

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Agriculture, forestry, and fishing</b>						
Total, all occupations .....	1,529.0	100.00	1,417.9	1,445.1	1,475.3	100.00
Professional, technical, and related workers .....	48.8	3.19	52.5	53.4	54.9	3.70
Agricultural scientists .....	3.3	.22	3.9	4.0	4.1	.28
Veterinarians .....	10.5	.69	12.4	12.7	12.9	.88
Airplane pilots .....	2.5	.17	3.0	3.1	3.1	.21
Athletes .....	7.6	.50	7.1	7.3	7.4	.50
Accountants and auditors .....	2.4	.16	2.3	2.3	2.3	.16
Architects .....	3.2	.21	3.8	3.9	4.0	.27
Foresters and conservationists .....	4.8	.32	4.8	4.7	5.1	.33
Purchasing agents and/or buyers .....	1.0	.07	1.1	1.1	1.1	.07
Managers, officials, and proprietors .....	24.5	1.60	28.0	28.5	29.3	1.97
Sales workers .....	12.8	.84	12.2	12.5	12.7	.86
Clerical workers .....	53.3	3.49	53.6	54.7	55.9	3.79
Bookkeepers, hand .....	16.4	1.07	16.7	17.0	17.4	1.18
Payroll and timekeeping clerks .....	1.4	.09	1.2	1.2	1.3	.09
Receptionists .....	6.4	.42	7.6	7.8	7.9	.54
Secretaries .....	17.7	1.16	16.3	16.6	16.9	1.15
Typists .....	1.6	.10	1.7	1.7	1.8	.12
Craft and related workers .....	67.1	4.39	64.1	65.3	66.7	4.52
Carpenters .....	7.8	.51	6.8	6.9	7.1	.48
Electricians .....	1.3	.08	1.1	1.1	1.1	.08
Painters, construction and maintenance .....	1.3	.08	1.2	1.2	1.2	.08
Plumbers and pipefitters .....	1.8	.12	1.7	1.8	1.8	.12
Automotive mechanics .....	1.9	.12	1.9	1.9	2.0	.13
Engineering equipment mechanics .....	7.9	.52	7.4	7.5	7.7	.52
Farm equipment mechanics .....	2.1	.14	1.8	1.9	1.9	.13
Blue-collar worker supervisors .....	16.4	1.07	16.9	17.2	17.6	1.19
Crane, derrick, and hoist operators .....	1.2	.08	1.1	1.1	1.1	.08
Heavy equipment operators .....	2.5	.16	2.7	2.8	2.8	.19
Merchandise displayers and window trimmers .....	3.4	.22	2.8	2.9	2.9	.20
Operatives .....	51.7	3.38	51.7	52.7	53.9	3.65
Welders and flamecutters .....	2.9	.19	2.5	2.5	2.6	.17
Sawyers .....	1.7	.11	1.7	1.8	1.8	.12
Industrial truck operators .....	1.3	.09	1.3	1.4	1.4	.09
Truckdriving occupations .....	26.4	1.73	25.3	25.8	26.4	1.79
Delivery and route workers .....	6.7	.44	5.7	5.8	6.0	.40
Truck drivers .....	19.7	1.29	19.6	20.0	20.4	1.38
Service workers .....	10.7	.70	10.5	10.7	10.9	.74
Building custodians .....	3.5	.23	3.8	3.9	4.0	.27
Guards .....	1.1	.07	1.1	1.1	1.1	.07
Laborers, except farm .....	228.0	14.91	270.1	275.1	282.6	19.04
Animal caretakers .....	61.9	4.05	66.1	67.5	69.0	4.67
Gardeners and groundskeepers, except farm .....	132.8	8.68	168.6	172.4	175.8	11.93
Helpers, trades .....	2.2	.14	2.5	2.6	2.7	.18
Loaders, tank cars and trucks .....	3.1	.20	3.7	3.7	3.8	.26
Farmers and farm workers .....	1,032.0	67.50	875.2	892.2	908.1	61.74
Farm managers .....	40.1	2.62	51.0	52.0	52.9	3.60
Farm supervisors .....	32.6	2.13	30.8	31.4	31.9	2.17
Farm laborers .....	959.3	62.74	793.3	808.8	823.2	55.97

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Mining</b>						
Total, all occupations .....	1,121.2	100.00	1,164.6	1,195.4	1,185.6	100.00
Professional, technical, and related workers .....	154.1	13.74	178.6	182.7	172.7	15.29
Electrical engineers .....	3.7	.33	3.6	3.7	3.6	.31
Mining engineers .....	2.7	.24	3.4	3.5	3.5	.29
Petroleum engineers .....	20.2	1.80	24.1	24.6	22.9	2.06
Geologists .....	25.6	2.28	30.8	31.5	29.4	2.63
Drafters .....	7.2	.64	5.5	5.6	5.3	.47
Computer programmers .....	3.4	.30	6.2	6.3	6.1	.53
Computer systems analysts .....	5.2	.46	10.6	10.8	10.1	.91
Accountants and auditors .....	18.2	1.63	23.1	23.6	22.1	1.98
Lease buyers .....	9.9	.88	10.1	10.3	9.5	.86
Managers, officials, and proprietors .....	80.5	7.18	87.5	89.7	88.1	7.50
Sales workers .....	6.8	.61	6.1	6.3	6.4	.53
Clerical workers .....	126.9	11.32	121.4	124.5	120.8	10.42
Accounting clerks .....	13.2	1.18	11.1	11.4	10.9	.96
Bookkeepers, hand .....	4.9	.44	4.6	4.7	4.7	.40
General clerks, office .....	19.5	1.74	15.9	16.4	16.1	1.37
Computer operators .....	5.0	.45	6.6	6.8	6.4	.57
Payroll and timekeeping clerks .....	5.1	.46	5.2	5.3	5.3	.45
Receptionists .....	4.0	.36	4.0	4.1	3.9	.34
Secretaries .....	29.3	2.61	30.1	30.8	29.5	2.58
Stenographers .....	1.7	.16	2.0	2.0	1.9	.17
Typists .....	5.6	.50	5.6	5.8	5.6	.48
Stock clerks, stockroom and warehouse .....	4.5	.40	5.3	5.4	5.4	.45
Craft and related workers .....	256.8	22.91	286.9	294.8	294.5	24.66
Electricians .....	12.1	1.08	14.5	14.9	14.9	1.25
Automotive mechanics .....	8.4	.75	8.6	8.9	9.0	.75
Diesel mechanics .....	7.3	.66	7.7	8.0	8.1	.67
Engineering equipment mechanics .....	6.5	.58	7.3	7.5	7.7	.63
Industrial machinery repairers .....	10.3	.92	12.4	12.7	12.5	1.07
Maintenance repairers, general utility .....	15.8	1.41	15.9	16.3	16.4	1.37
Mine machinery mechanics .....	12.8	1.14	16.8	17.2	17.3	1.44
Blue-collar worker supervisors .....	51.7	4.62	55.4	56.9	56.6	4.76
Crane, derrick, and hoist operators .....	5.6	.50	5.7	5.9	6.0	.49
Heavy equipment operators .....	54.5	4.87	67.1	69.1	70.8	5.78
Oil pumpers .....	17.8	1.59	17.8	18.2	16.7	1.52
Pumpers, head .....	10.2	.91	10.0	10.2	9.6	.86
Operatives .....	401.6	35.81	391.2	401.8	406.3	33.61
Welders and flamecutters .....	21.3	1.90	22.0	22.7	22.9	1.90
Mine operatives, nec. ....	203.4	18.14	194.2	199.1	200.3	16.66
Continuous mining machine operators .....	7.8	.69	10.2	10.5	10.6	.88
Derrick operators, petroleum and gas .....	16.9	1.51	14.6	15.0	15.2	1.25
Loading machine operators .....	7.1	.64	8.3	8.6	8.8	.72
Roof bolters .....	11.0	.98	14.4	14.8	15.0	1.24
Service unit operators, oil well .....	12.4	1.11	10.8	11.0	11.1	.92
Shuttle car operators .....	11.2	1.00	12.4	12.7	12.8	1.06
Well pullers .....	6.6	.59	6.0	6.2	6.1	.52
Truck drivers .....	39.6	3.53	39.0	40.5	41.8	3.38
Blasters .....	7.2	.64	7.9	8.1	8.3	.68
Drillers, hand and machine .....	9.9	.89	11.3	11.6	11.8	.97
Oilers .....	6.2	.55	8.4	8.7	8.9	.73
Rotary drill operators .....	22.8	2.04	19.9	20.4	20.5	1.70
Rotary drill operator helpers .....	33.3	2.97	28.7	29.4	29.8	2.46

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Mining—Continued</b>						
Service workers .....	13.3	1.19	13.9	14.3	14.2	1.19
Building custodians .....	5.2	.47	5.4	5.5	5.5	.46
Laborers, except farm .....	81.3	7.25	78.9	81.3	82.5	6.80
Conveyor operators and tenders .....	4.7	.42	5.3	5.5	5.7	.46
Helpers, trades .....	12.2	1.09	12.7	13.1	13.4	1.10
<b>Construction</b>						
Total, all occupations .....	3,913.0	100.00	5,632.5	5,773.5	5,882.8	100.00
Professional, technical, and related workers .....	199.6	5.10	289.6	296.8	302.5	5.14
Civil engineers .....	16.0	.41	28.2	28.9	29.4	.50
Drafters .....	18.8	.48	18.0	18.5	18.8	.32
Electrical and electronic technicians .....	10.1	.26	16.9	17.3	17.7	.30
Accountants and auditors .....	24.0	.61	34.9	35.8	36.5	.62
Cost estimators .....	68.6	1.75	99.3	101.8	103.7	1.76
Managers, officials, and proprietors .....	410.6	10.49	632.0	647.8	660.4	11.22
Sales workers .....	46.7	1.19	68.0	69.7	71.2	1.21
Clerical workers .....	323.8	8.27	449.8	461.0	470.0	7.99
Accounting clerks .....	16.2	.41	22.4	23.0	23.4	.40
Bookkeepers, hand .....	50.8	1.30	70.3	72.1	73.5	1.25
General clerks, office .....	78.5	2.01	117.2	120.1	122.5	2.08
Secretaries .....	90.1	2.30	117.7	120.6	122.9	2.09
Typists .....	16.7	.43	23.1	23.7	24.2	.41
Stock clerks, stockroom and warehouse .....	16.2	.41	19.8	20.3	20.7	.35
Craft and related workers .....	1,993.0	50.93	2,859.5	2,931.4	2,986.2	50.77
Construction craft workers .....	1,385.9	35.42	1,988.3	2,038.7	2,076.9	35.31
Insulation workers .....	35.2	.90	52.1	53.6	54.6	.93
Bricklayers .....	63.3	1.62	87.7	90.1	91.9	1.56
Carpenters .....	379.0	9.68	568.5	583.1	594.6	10.10
Cement masons and terrazzo workers .....	78.0	1.99	111.4	114.2	116.4	1.98
Drywall applicators .....	38.4	.98	55.5	57.1	58.2	.99
Tapers .....	19.2	.49	27.5	28.3	28.8	.49
Electricians .....	237.4	6.07	338.9	347.4	354.0	6.02
Carpet cutters, carpet layers .....	12.7	.33	18.1	18.7	19.1	.32
Floor layers .....	14.2	.36	20.4	21.0	21.4	.36
Glaziers .....	16.6	.43	21.6	22.1	22.6	.38
Reinforcing-iron workers .....	32.4	.83	43.0	44.1	44.9	.76
Structural steel workers .....	47.3	1.21	65.0	66.7	67.9	1.15
Painters, construction and maintenance .....	103.3	2.64	148.1	151.2	153.1	2.62
Plasterers .....	13.1	.33	13.8	14.2	14.5	.25
Plumbers and pipefitters .....	196.6	5.02	286.1	293.2	298.8	5.08
Roofers .....	63.5	1.62	84.8	86.8	88.3	1.50
Mechanics, repairers, and installers .....	175.8	4.49	248.8	254.9	259.7	4.42
Air conditioning, refrigeration, and heating mechanics .....	65.7	1.68	98.2	100.6	102.5	1.74
Automotive mechanics .....	15.2	.39	21.3	21.8	22.2	.38
Line installers and cable splicers .....	28.4	.73	35.9	36.8	37.5	.64
Industrial machinery repairers .....	19.0	.49	26.3	27.0	27.5	.47
Millwrights .....	17.0	.43	24.2	24.8	25.2	.43
Boilermakers .....	14.9	.38	17.3	17.7	18.1	.31
Sheet-metal workers and tinsmiths .....	87.1	2.23	124.3	127.4	129.8	2.21
Blue-collar worker supervisors .....	73.8	1.89	113.6	116.4	118.6	2.02
Crane, derrick, and hoist operators .....	21.4	.55	29.8	30.5	31.1	.53
Heavy equipment operators .....	175.5	4.48	247.3	253.3	257.8	4.39

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Construction—Continued</b>						
Operatives .....	218.6	5.59	307.9	315.5	321.2	5.46
Welders and flamecutters .....	41.2	1.05	57.8	59.2	60.3	1.03
Truck drivers .....	104.0	2.66	146.6	150.1	152.8	2.60
Service workers .....	33.1	.84	47.2	48.4	49.4	.84
Building custodians .....	25.8	.66	36.2	37.1	37.9	.64
Laborers, except farm .....	687.7	17.58	978.4	1,002.9	1,022.0	17.37
Air hammer operators .....	10.1	.26	14.1	14.5	14.7	.25
Asphalt rakers .....	14.9	.38	20.9	21.4	21.7	.37
Fence erectors .....	13.9	.35	17.9	18.4	18.7	.32
Pipelayers .....	28.8	.73	40.2	41.2	41.9	.71
Helpers, trades .....	321.2	8.21	432.0	443.0	451.6	7.67
<b>Residential building construction</b>						
Total, all occupations .....	465.9	100.00	714.8	733.1	747.4	100.00
Professional, technical, and related workers .....	14.5	3.11	22.5	23.1	23.6	3.15
Drafters .....	2.0	.42	1.9	2.0	2.0	.27
Accountants and auditors .....	2.8	.61	4.4	4.5	4.6	.61
Cost estimators .....	7.5	1.61	11.5	11.8	12.0	1.61
Managers, officials, and proprietors .....	71.0	15.24	117.7	120.7	123.0	16.46
Sales workers .....	8.6	1.85	13.2	13.5	13.8	1.85
Real estate agents and brokers .....	6.9	1.49	10.6	10.9	11.1	1.49
Clerical workers .....	48.4	10.38	72.8	74.7	76.1	10.18
Accounting clerks .....	2.3	.49	3.5	3.6	3.7	.49
Bookkeepers, hand .....	10.3	2.21	15.8	16.2	16.5	2.21
General clerks, office .....	11.6	2.50	20.5	21.0	21.4	2.87
Payroll and timekeeping clerks .....	3.4	.73	5.2	5.4	5.5	.73
Secretaries .....	16.1	3.46	20.7	21.2	21.6	2.89
Typists .....	2.2	.46	3.3	3.4	3.5	.46
Craft and related workers .....	222.3	47.72	342.3	351.1	357.9	47.89
Construction craft workers .....	193.4	41.52	294.1	301.7	307.5	41.14
Bricklayers .....	6.4	1.38	9.1	9.3	9.5	1.28
Carpenters .....	156.2	33.52	231.7	237.7	242.3	32.42
Cement masons and terrazzo workers .....	8.9	1.91	13.7	14.0	14.3	1.91
Drywall applicators .....	2.4	.51	3.6	3.7	3.8	.51
Electricians .....	2.7	.57	4.3	4.5	4.5	.61
Ironworkers .....	2.2	.47	4.2	4.3	4.4	.59
Painters and paperhangers .....	8.0	1.72	17.2	17.6	18.0	2.40
Plumbers and pipefitters .....	2.5	.54	3.8	3.9	4.0	.54
Roofers .....	2.1	.46	3.3	3.4	3.4	.46
Mechanics, repairers, and installers .....	2.2	.48	3.5	3.5	3.6	.48
Sheet-metal workers and tinsmiths .....	2.1	.46	3.3	3.4	3.4	.46
Blue-collar worker supervisors .....	7.2	1.55	12.7	13.0	13.2	1.77
Cabinetmakers .....	3.8	.81	5.8	5.9	6.0	.81
Heavy equipment operators .....	9.3	2.00	14.3	14.6	14.9	2.00
Operatives .....	9.0	1.93	13.8	14.1	14.4	1.93
Truck drivers .....	5.8	1.25	8.9	9.2	9.3	1.25
Service workers .....	8.1	1.74	10.5	10.8	11.0	1.47
Building custodians .....	6.7	1.43	8.3	8.5	8.6	1.16

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Residential building construction—Continued</b>						
Laborers, except farm .....	84.1	18.04	122.0	125.1	127.6	17.07
Helpers, trades .....	52.2	11.21	70.3	72.2	73.6	9.84
<b>Nonresidential building construction</b>						
Total, all occupations .....	457.9	100.00	736.8	755.2	769.5	100.00
Professional, technical, and related workers .....	30.9	6.74	49.2	50.4	51.3	6.67
Civil engineers .....	4.4	.96	7.0	7.2	7.4	.96
Mechanical engineers .....	1.8	.39	2.9	2.9	3.0	.39
Drafters .....	2.9	.64	3.1	3.2	3.3	.42
Accountants and auditors .....	3.7	.80	5.9	6.1	6.2	.80
Cost estimators .....	10.8	2.36	17.4	17.9	18.2	2.36
Purchasing agents and/or buyers .....	1.0	.22	1.6	1.7	1.7	.22
Managers, officials, and proprietors .....	55.2	12.05	92.7	95.0	96.8	12.58
Sales workers .....	2.9	.64	4.7	4.8	4.9	.64
Sales agents, sales representatives, real estate .....	2.0	.45	3.3	3.4	3.4	.45
Clerical workers .....	35.5	7.75	55.4	56.8	57.9	7.52
Accounting clerks .....	2.2	.49	3.6	3.7	3.8	.49
Bookkeepers, hand .....	5.3	1.15	8.5	8.7	8.9	1.15
General clerks, office .....	6.2	1.35	9.9	10.2	10.4	1.35
Payroll and timekeeping clerks .....	3.6	.79	5.8	6.0	6.1	.79
Secretaries .....	10.4	2.27	15.5	15.9	16.2	2.11
Typists .....	1.8	.40	3.0	3.0	3.1	.40
Craft and related workers .....	208.9	45.62	339.7	348.2	354.8	46.11
Construction craft workers .....	159.0	34.72	254.8	261.2	266.1	34.58
Insulation workers .....	1.1	.23	1.7	1.7	1.8	.23
Bricklayers .....	8.2	1.79	12.1	12.4	12.7	1.65
Carpenters .....	99.3	21.68	162.3	166.3	169.5	22.02
Cement masons and terrazzo workers .....	13.8	3.01	22.2	22.7	23.2	3.01
Drywall applicators .....	1.6	.34	2.5	2.6	2.7	.34
Electricians .....	3.6	.79	5.8	5.9	6.1	.79
Fitters, pipelaying .....	2.0	.43	3.1	3.2	3.3	.43
Reinforcing-iron workers .....	7.5	1.65	11.2	11.5	11.7	1.52
Structural steel workers .....	8.9	1.93	12.7	13.0	13.2	1.72
Painters and paperhangers .....	4.1	.90	6.7	6.8	7.0	.90
Plumbers and pipefitters .....	7.1	1.55	11.4	11.7	11.9	1.55
Maintenance repairers, general utility .....	1.6	.35	2.6	2.6	2.7	.35
Millwrights .....	5.3	1.15	8.5	8.7	8.8	1.15
Sheet-metal workers and tinsmiths .....	3.3	.72	5.3	5.4	5.5	.72
Blue-collar worker supervisors .....	12.7	2.77	25.7	26.4	26.9	3.49
Cabinetmakers .....	1.3	.29	2.1	2.2	2.2	.29
Crane, derrick, and hoist operators .....	2.0	.44	3.3	3.3	3.4	.44
Heavy equipment operators .....	10.3	2.24	16.5	16.9	17.2	2.24
Operatives .....	18.1	3.95	29.1	29.8	30.4	3.95
Metalworking operatives .....	5.3	1.16	8.5	8.7	8.9	1.16
Truck drivers .....	6.5	1.43	10.5	10.8	11.0	1.43
Service workers .....	3.3	.73	5.4	5.5	5.6	.73
Building custodians .....	2.9	.63	4.6	4.7	4.8	.63
Laborers, except farm .....	103.1	22.52	160.6	164.6	167.7	21.79
Construction laborers except trade helpers .....	1.8	.39	2.8	2.9	3.0	.39
Helpers, trades .....	40.8	8.92	55.5	56.9	58.0	7.53

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Manufacturing</b>						
Total, all occupations .....	18,848.3	100.00	22,580.1	23,110.2	23,753.0	100.00
Professional, technical, and related workers .....	1,936.5	10.27	2,640.3	2,652.7	2,717.3	11.48
Electrical engineers .....	162.7	.86	268.2	263.9	270.1	1.14
Industrial engineers .....	120.4	.64	173.2	173.6	178.3	.75
Mechanical engineers .....	118.8	.63	174.6	176.6	181.9	.76
Drafters .....	112.2	.60	99.1	101.4	105.0	.44
Electrical and electronic technicians .....	137.7	.73	220.8	219.6	224.8	.95
Computer programmers .....	73.1	.39	108.9	110.9	113.6	.48
Computer systems analysts .....	51.0	.27	87.2	88.0	90.2	.38
Accountants and auditors .....	131.7	.70	164.1	167.2	172.0	.72
Managers, officials, and proprietors .....	1,260.1	6.69	1,673.2	1,714.2	1,763.9	7.42
Sales workers .....	413.7	2.19	460.9	477.7	491.4	2.07
Clerical workers .....	2,215.3	11.75	2,653.9	2,712.9	2,787.9	11.74
Accounting clerks .....	131.5	.70	151.4	155.2	159.7	.67
General clerks, office .....	268.5	1.42	333.8	342.8	352.6	1.48
Production clerks .....	141.4	.75	176.3	177.9	182.7	.77
Secretaries .....	302.6	1.61	384.3	392.7	404.0	1.70
Typists .....	103.7	.55	124.1	126.7	130.1	.55
Shipping and receiving clerks .....	129.9	.69	150.2	154.6	159.1	.67
Shipping packers .....	155.7	.83	180.8	186.2	191.0	.81
Stock clerks, stockroom and warehouse .....	148.8	.79	167.5	169.8	174.4	.73
Craft and related workers .....	3,499.8	18.57	4,211.1	4,323.4	4,450.3	18.71
Electricians .....	123.7	.66	152.0	155.1	159.1	.67
Industrial machinery repairers .....	215.7	1.14	270.0	278.1	286.5	1.20
Maintenance repairers, general utility .....	173.4	.92	208.7	215.7	222.8	.93
Machinists .....	152.1	.81	188.1	192.7	198.7	.83
Toolmakers and diemakers .....	147.0	.78	173.1	178.4	184.3	.77
Typesetters and compositors .....	84.7	.45	71.1	74.1	75.7	.32
Blue-collar worker supervisors .....	616.2	3.27	736.9	756.0	777.8	3.27
Inspectors .....	376.3	2.00	477.6	485.5	497.9	2.10
Testers .....	109.9	.58	141.3	142.2	146.4	.62
Operatives .....	7,570.1	40.16	8,715.5	8,942.1	9,183.9	38.69
Assemblers .....	305.1	1.62	359.6	375.7	394.4	1.63
Electrical machinery equipment assemblers .....	98.6	.52	130.8	132.1	136.2	.57
Electrical and electronic assemblers .....	284.5	1.51	363.4	360.3	369.5	1.56
Machine assemblers .....	169.8	.90	208.2	212.4	220.5	.92
Drill press and boring machine operators .....	115.0	.61	136.3	139.2	143.7	.60
Grinding and abrading machine operators, metal .....	114.4	.61	122.1	125.5	129.8	.54
Lathe machine operators, metal .....	135.9	.72	154.5	158.3	163.1	.68
Machine tool operators, combination .....	152.1	.81	196.3	201.4	208.5	.87
Punch press operators, metal .....	146.5	.78	166.4	172.4	179.3	.75
Welders and flamecutters .....	313.7	1.66	355.0	367.3	380.4	1.59
Production packagers .....	432.4	2.29	473.5	490.4	504.6	2.12
Painters, production .....	98.0	.52	111.5	114.3	118.3	.49
Sewing machine operators, regular equipment, garment .....	511.5	2.71	534.1	540.1	527.6	2.34
Sewing machine operators, regular equipment, nongarment .....	118.6	.63	141.0	144.3	146.2	.62
Industrial truck operators .....	254.6	1.35	290.6	300.2	310.7	1.30
Truck drivers .....	197.3	1.05	215.1	226.9	236.7	.98
Filers, grinders, buffers, and chippers .....	98.8	.52	123.5	126.3	130.3	.55
Miscellaneous machine operatives, paper and allied products .....	92.1	.49	97.1	100.1	105.0	.43
Miscellaneous machine operatives, chemicals and allied products .....	145.8	.77	172.0	177.2	182.8	.77
Miscellaneous machine operatives, rubber and plastic products .....	189.7	1.01	250.3	266.2	276.1	1.15
Miscellaneous operatives, nec, nondurable goods .....	213.4	1.13	223.1	229.8	233.2	.99

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Manufacturing—Continued</b>						
Service workers .....	348.6	1.85	400.7	410.5	422.2	1.78
Building custodians .....	224.8	1.19	253.8	260.9	268.4	1.13
Laborers, except farm .....	1,604.2	8.51	1,824.6	1,876.7	1,936.0	8.12
Helpers, trades .....	127.6	.68	146.8	152.2	157.8	.66
<b>Durable goods manufacturing</b>						
Total, all occupations .....	11,112.4	100.00	14,051.1	14,283.5	14,750.5	100.00
Professional, technical, and related workers .....	1,403.3	12.63	2,001.9	1,993.8	2,043.6	13.96
Electrical engineers .....	156.9	1.41	261.6	257.1	263.1	1.80
Industrial engineers .....	102.7	.92	153.1	152.9	157.0	1.07
Mechanical engineers .....	95.2	.86	148.7	149.9	154.3	1.05
Drafters .....	98.3	.88	87.7	89.6	92.9	.63
Electrical and electronic technicians .....	133.3	1.20	215.6	214.2	219.3	1.50
Computer programmers .....	58.1	.52	91.1	92.5	94.8	.65
Accountants and auditors .....	86.2	.78	112.7	113.9	117.3	.80
Purchasing agents and/or buyers .....	64.6	.58	82.7	83.4	85.9	.58
Managers, officials, and proprietors .....	742.6	6.68	1,038.3	1,054.3	1,089.1	7.38
Sales workers .....	159.9	1.44	189.7	195.4	203.3	1.37
Clerical workers .....	1,246.9	11.22	1,549.1	1,567.8	1,619.7	10.98
Accounting clerks .....	70.2	.63	84.4	85.7	88.6	.60
General clerks, office .....	152.9	1.38	196.2	200.2	207.3	1.40
Production clerks .....	108.3	.97	138.9	139.1	142.9	.97
Secretaries .....	179.0	1.61	226.0	228.6	236.1	1.60
Shipping and receiving clerks .....	64.7	.58	80.5	82.1	85.0	.57
Shipping packers .....	71.0	.64	85.2	87.1	90.4	.61
Stock clerks, stockroom and warehouse .....	106.4	.96	122.3	123.1	126.8	.86
Craft and related workers .....	2,191.7	19.72	2,764.1	2,819.6	2,908.7	19.74
Electricians .....	84.7	.76	109.7	111.5	114.2	.78
Industrial machinery repairers .....	119.5	1.08	164.3	168.4	173.2	1.18
Maintenance repairers, general utility .....	87.2	.78	111.5	114.7	118.9	.80
Millwrights .....	51.4	.46	66.7	68.3	69.8	.48
Machinists .....	113.2	1.02	145.1	147.8	152.5	1.03
Machine tool setters, metalworking .....	54.4	.49	66.6	67.8	69.9	.47
Sheet-metal workers and tinsmiths .....	68.4	.62	83.2	85.7	89.2	.60
Toolmakers and diemakers .....	136.1	1.22	161.9	166.5	171.8	1.17
Blue-collar worker supervisors .....	372.7	3.35	458.9	468.4	483.2	3.28
Inspectors .....	266.7	2.40	344.9	348.1	358.0	2.44
Testers .....	76.6	.69	105.3	105.2	108.2	.74
Operatives .....	4,276.9	38.49	5,189.8	5,303.0	5,490.7	37.13
Assembler occupations .....	1,248.2	11.23	1,547.5	1,563.6	1,618.2	10.95
Assemblers .....	253.6	2.28	300.1	311.9	328.6	2.18
Electrical machinery equipment assemblers .....	98.6	.89	130.8	132.1	136.2	.93
Electrical and electronic assemblers .....	284.5	2.56	363.4	360.3	369.5	2.52
Machine assemblers .....	169.8	1.53	208.2	212.4	220.5	1.49
Machine tool operators .....	890.9	8.02	1,059.2	1,087.3	1,124.7	7.61
Drill press and boring machine operators .....	115.0	1.03	136.3	139.2	143.7	.97
Grinding and abrading machine operators, metal .....	114.4	1.03	122.1	125.5	129.8	.88
Lathe machine operators, metal .....	135.9	1.22	154.5	158.3	163.1	1.11
Milling/planning machine operators .....	60.2	.54	67.2	68.3	70.3	.48
Machine tool operators, combination .....	152.1	1.37	196.3	201.4	208.5	1.41
Machine tool operators, numerical control .....	66.1	.59	93.6	95.5	98.7	.67

See footnotes at end of table.



E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Durable goods manufacturing—Continued</b>						
Punch press operators, metal .....	146.0	1.31	165.8	171.9	178.7	1.20
Welders and flamecutters .....	300.4	2.70	341.2	353.1	365.8	2.47
Production packagers .....	111.4	1.00	133.8	137.3	142.5	.96
Painters, production .....	93.9	.85	106.1	108.4	112.2	.76
Sawyers .....	67.1	.60	80.9	82.7	86.0	.58
Industrial truck operators .....	153.7	1.38	181.7	187.2	193.8	1.31
Truck drivers .....	119.9	1.08	136.5	145.2	152.7	1.02
Filers, grinders, buffers, and chippers .....	98.3	.88	122.8	125.6	129.6	.88
Miscellaneous machine operatives, primary metals .....	69.1	.62	81.6	84.5	87.3	.59
Miscellaneous operatives, nec, durable goods .....	71.7	.65	83.8	86.6	90.3	.61
Service workers .....	192.1	1.73	234.4	238.6	246.3	1.67
Building custodians .....	121.2	1.09	145.4	148.6	153.5	1.04
Laborers, except farm .....	898.9	8.09	1,083.8	1,111.0	1,149.1	7.78
Helpers, trades .....	91.0	.82	108.0	112.0	116.3	.78
<b>Fabricated structural metal products</b>						
Total, all occupations .....	462.2	100.00	558.0	613.1	658.2	100.00
Professional, technical, and related workers .....	37.3	8.07	44.6	49.0	52.6	8.00
Civil engineers .....	1.1	.24	1.3	1.5	1.6	.24
Industrial engineers .....	1.9	.42	2.6	2.9	3.1	.47
Mechanical engineers .....	3.4	.74	4.4	4.8	5.2	.79
Drafters .....	11.3	2.45	11.3	12.4	13.3	2.03
Accountants and auditors .....	3.1	.67	4.1	4.5	4.9	.74
Cost estimators .....	3.1	.67	3.7	4.1	4.4	.66
Purchasing agents and buyers .....	2.7	.58	3.2	3.6	3.8	.58
Managers, officials, and proprietors .....	34.4	7.43	49.3	54.2	58.1	8.83
Sales workers .....	10.8	2.34	12.0	13.2	14.2	2.15
Clerical workers .....	43.2	9.34	49.7	54.6	58.6	8.90
Accounting clerks .....	2.2	.48	2.2	2.4	2.6	.40
Bookkeepers, hand .....	3.7	.79	4.0	4.3	4.7	.71
General clerks, office .....	7.6	1.64	9.5	10.4	11.2	1.70
Office machine operators .....	2.6	.56	2.8	3.1	3.4	.51
Payroll and timekeeping clerks .....	1.3	.28	1.5	1.7	1.8	.28
Production clerks .....	2.6	.56	3.1	3.4	3.7	.56
Secretaries .....	7.6	1.64	8.5	9.3	10.0	1.52
Shipping and receiving clerks .....	2.2	.49	2.7	3.0	3.2	.48
Shipping packers .....	1.8	.39	2.2	2.4	2.6	.39
Stock clerks, stockroom and warehouse .....	2.2	.48	2.2	2.4	2.6	.40
Craft and related workers .....	107.9	23.33	147.7	162.3	174.2	26.47
Electricians .....	2.0	.43	3.2	3.6	3.8	.58
Structural steel workers .....	3.6	.78	5.8	6.4	6.9	1.04
Industrial machinery repairers .....	4.5	.98	7.1	7.8	8.4	1.28
Maintenance repairers, general utility .....	3.2	.70	5.2	5.7	6.1	.93
Layout markers, metal .....	6.3	1.36	7.0	7.7	8.3	1.26
Machinists .....	3.1	.67	4.6	5.0	5.4	.82
Punch press setters, metal .....	1.5	.32	1.8	2.0	2.1	.32
Sheet-metal workers and tinsmiths .....	17.9	3.87	20.5	22.5	24.1	3.67
Toolmakers and diemakers .....	2.0	.42	2.1	2.3	2.5	.38
Blue-collar worker supervisors .....	15.4	3.33	18.6	20.5	22.0	3.34
Crane, derrick, and hoist operators .....	4.1	.88	5.5	6.0	6.4	.98
Inspectors .....	4.8	1.04	7.5	8.2	8.8	1.34

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Fabricated structural metal products—Continued</b>						
Operatives .....	182.1	39.39	202.7	222.8	239.1	36.33
Assemblers .....	33.1	7.16	36.6	40.2	43.1	6.56
Machine tool operators .....	46.0	9.95	50.0	54.9	59.0	8.96
Drill press and boring machine operators .....	4.4	.96	4.8	5.3	5.7	.86
Grinding and abrading machine operators, metal .....	3.2	.68	2.8	3.0	3.3	.50
Machine tool operators, combination .....	6.0	1.30	6.7	7.4	7.9	1.20
Punch press operators, metal .....	13.4	2.89	14.4	15.9	17.0	2.59
Power brake, bending machine operators, metal .....	9.0	1.96	9.8	10.8	11.6	1.76
Shear and slitter operators, metal .....	5.8	1.26	6.5	7.1	7.6	1.16
Welders and flamecutters .....	53.1	11.50	59.7	65.6	70.4	10.69
Packing and inspecting operatives .....	4.0	.86	4.2	4.7	5.0	.76
Painters, production .....	7.4	1.60	7.8	8.6	9.2	1.40
Sawyers .....	2.5	.53	3.0	3.3	3.5	.53
Industrial truck operators .....	4.8	1.04	5.8	6.4	6.9	1.04
Truck drivers .....	7.2	1.56	8.7	9.5	10.2	1.56
Filers, grinders, buffers, and chippers .....	4.1	.88	4.3	4.8	5.1	.78
Miscellaneous machine operatives, primary metals .....	2.5	.54	3.0	3.3	3.6	.54
Service workers .....	6.3	1.37	7.6	8.4	9.0	1.37
Building custodians .....	4.5	.98	5.5	6.0	6.4	.98
Laborers, except farm .....	40.3	8.72	44.3	48.7	52.3	7.94
Helpers, trades .....	17.4	3.77	19.3	21.3	22.8	3.47
<b>Office, computing, and accounting machines</b>						
Total, all occupations .....	489.7	100.00	731.5	762.5	778.6	100.00
Professional, technical, and related workers .....	175.0	35.74	284.0	296.0	302.2	38.82
Electrical engineers .....	29.4	6.00	51.1	53.3	54.4	6.98
Industrial engineers .....	12.5	2.55	20.9	21.8	22.3	2.86
Mechanical engineers .....	5.3	1.08	11.0	11.4	11.7	1.50
Drafters .....	4.0	.81	4.0	4.2	4.3	.55
Electrical and electronic technicians .....	29.3	5.99	54.0	56.2	57.4	7.38
Mechanical engineering technicians .....	2.9	.58	4.8	5.0	5.1	.65
Computer programmers .....	24.6	5.03	39.8	41.4	42.3	5.43
Computer systems analysts .....	7.3	1.48	11.5	12.0	12.2	1.57
Designers .....	2.7	.56	4.3	4.5	4.6	.59
Writers and editors .....	2.7	.56	4.1	4.2	4.3	.56
Accountants and auditors .....	6.9	1.42	10.6	11.1	11.3	1.45
Personnel and labor relations specialists .....	3.4	.69	5.1	5.3	5.4	.69
Purchasing agents and buyers .....	4.1	.84	5.8	6.0	6.2	.79
Managers, officials, and proprietors .....	54.0	11.03	86.1	89.7	91.6	11.76
Sales workers .....	5.6	1.14	7.2	7.5	7.6	.98
Clerical workers .....	89.8	18.35	119.0	124.0	126.6	16.26
Accounting clerks .....	5.4	1.10	6.3	6.6	6.7	.86
Clerical supervisors .....	1.5	.30	1.9	2.0	2.0	.26
General clerks, office .....	11.3	2.31	15.4	16.1	16.4	2.11
Computer operators .....	4.9	1.00	8.6	9.0	9.2	1.18
Data entry operators .....	1.7	.34	.7	.7	.7	.09
Order clerks .....	1.5	.31	2.3	2.3	2.4	.31
Production clerks .....	9.8	2.00	12.2	12.7	13.0	1.67
Secretaries .....	17.3	3.52	22.4	23.4	23.9	3.07
Typists .....	2.9	.60	4.0	4.1	4.2	.54
Shipping and receiving clerks .....	2.6	.54	3.9	4.1	4.2	.54
Shipping packers .....	2.7	.55	3.1	3.2	3.3	.42

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Office, computing, and accounting machines—Continued</b>						
Stock clerks, stockroom and warehouse .....	7.7	1.58	7.9	8.3	8.5	1.09
Craft and related workers .....	46.6	9.52	75.0	78.1	79.8	10.25
Computer service technicians .....	2.1	.44	8.8	9.2	9.4	1.21
Industrial machinery repairers .....	1.3	.26	1.9	2.0	2.0	.26
Maintenance repairers, general utility .....	2.5	.51	3.8	3.9	4.0	.51
Millwrights .....	1.2	.24	3.0	3.1	3.2	.41
Machinists .....	1.3	.27	1.9	2.0	2.1	.27
Blue-collar worker supervisors .....	7.9	1.62	11.3	11.8	12.1	1.55
Inspectors .....	13.8	2.81	19.5	20.4	20.8	2.67
Testers .....	7.3	1.49	10.9	11.3	11.6	1.49
Operatives .....	102.5	20.93	138.4	144.3	147.3	18.92
Electrical machinery equipment assemblers .....	24.6	5.03	35.0	36.5	37.2	4.78
Electrical and electronic assemblers .....	42.4	8.65	53.3	55.5	56.7	7.29
Machine assemblers .....	7.7	1.57	10.5	11.0	11.2	1.44
Drill press and boring machine operators .....	1.1	.22	1.6	1.7	1.7	.22
Grinding and abrading machine operators, metal .....	1.3	.27	1.9	2.0	2.1	.27
Machine tool operators, combination .....	1.0	.21	1.5	1.6	1.6	.21
Machine tool operators, numerical control .....	1.3	.26	1.9	2.0	2.1	.26
Welders and flamecutters .....	1.1	.23	1.7	1.7	1.8	.23
Packing and inspecting operatives .....	1.0	.21	1.5	1.6	1.6	.21
Service workers .....	5.1	1.03	7.0	7.3	7.4	.96
Building custodians .....	2.3	.48	2.9	3.0	3.1	.40
Guards .....	1.3	.26	1.9	2.0	2.0	.26
Laborers, except farm .....	11.1	2.27	15.0	15.7	16.0	2.05
Helpers, trades .....	1.5	.31	2.3	2.4	2.4	.31
Stock handlers .....	1.3	.27	2.0	2.0	2.1	.27
<b>Electronic components and accessories</b>						
Total, all occupations .....	568.7	100.00	861.9	849.8	855.4	100.00
Professional, technical, and related workers .....	107.5	18.90	189.2	186.5	187.7	21.95
Electrical engineers .....	26.8	4.71	61.9	61.0	61.4	7.18
Industrial engineers .....	6.1	1.07	10.5	10.4	10.5	1.22
Mechanical engineers .....	3.8	.66	7.6	7.5	7.6	.88
Drafters .....	4.7	.83	4.8	4.7	4.8	.56
Electrical and electronic technicians .....	23.0	4.05	35.0	34.5	34.8	4.06
Mechanical engineering technicians .....	2.9	.51	5.1	5.0	5.1	.59
Computer programmers .....	4.0	.70	7.3	7.2	7.3	.85
Computer systems analysts .....	2.7	.47	5.4	5.3	5.3	.62
Accountants and auditors .....	4.7	.83	7.8	7.7	7.7	.90
Personnel and labor relations specialists .....	2.5	.44	3.8	3.8	3.8	.45
Purchasing agents and/or buyers .....	3.7	.65	5.6	5.6	5.6	.65
Managers, officials, and proprietors .....	37.8	6.65	65.6	64.7	65.1	7.61
Sales workers .....	5.6	.98	7.8	7.7	7.8	.91
Clerical workers .....	63.3	11.14	86.3	85.1	85.7	10.02
Accounting clerks .....	4.2	.74	5.4	5.3	5.3	.62
Bookkeepers, hand .....	1.2	.21	1.3	1.3	1.3	.15
Clerical supervisors .....	1.4	.24	2.1	2.0	2.0	.24
General clerks, office .....	5.7	1.01	8.7	8.6	8.7	1.01
Computer operators .....	1.7	.29	2.5	2.5	2.5	.29
Data entry operators .....	1.3	.23	1.0	1.0	1.0	.12
Order clerks .....	1.6	.28	2.4	2.4	2.4	.28

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Electronic components and accessories—Continued</b>						
Payroll and timekeeping clerks .....	1.3	0.23	2.0	2.0	2.0	0.24
Personnel clerks .....	1.3	.23	2.0	1.9	1.9	.23
Production clerks .....	6.3	1.10	9.5	9.4	9.4	1.10
Secretaries .....	12.6	2.22	16.1	15.9	16.0	1.87
Typists .....	3.0	.53	3.6	3.5	3.5	.41
Shipping and receiving clerks .....	3.3	.58	5.0	4.9	5.0	.58
Shipping packers .....	2.6	.46	3.3	3.3	3.3	.39
Stock clerks, stockroom and warehouse .....	4.5	.80	5.4	5.3	5.3	.62
<b>Craft and related workers</b> .....	<b>80.8</b>	<b>14.20</b>	<b>113.9</b>	<b>112.3</b>	<b>113.1</b>	<b>13.22</b>
Electricians .....	1.7	.30	2.6	2.5	2.5	.30
Industrial machinery repairers .....	4.6	.81	7.0	6.9	7.0	.82
Maintenance repairers, general utility .....	3.6	.64	5.5	5.5	5.5	.64
Machinists .....	4.2	.74	6.4	6.3	6.3	.74
Toolmakers and diemakers .....	3.7	.66	4.9	4.8	4.9	.57
Etchers and engravers .....	2.3	.41	3.5	3.5	3.5	.41
Blue-collar worker supervisors .....	14.7	2.59	22.4	22.1	22.2	2.60
Inspectors .....	19.4	3.42	21.6	21.3	21.5	2.51
Testers .....	12.1	2.13	18.4	18.2	18.3	2.14
<b>Operatives</b> .....	<b>224.8</b>	<b>39.52</b>	<b>320.3</b>	<b>315.8</b>	<b>317.9</b>	<b>37.16</b>
<b>Assembler occupations</b> .....	<b>133.6</b>	<b>23.48</b>	<b>190.8</b>	<b>188.1</b>	<b>189.3</b>	<b>22.13</b>
Coil finishers .....	6.9	1.21	10.4	10.3	10.3	1.21
Electrical machinery equipment assemblers .....	8.6	1.51	12.0	11.8	11.9	1.39
Electrical and electronic assemblers .....	76.3	13.41	108.2	106.6	107.3	12.55
Machine assemblers .....	3.9	.69	6.0	5.9	5.9	.69
Wired, electronic .....	6.8	1.19	10.3	10.1	10.2	1.19
Electroplaters .....	4.2	.73	3.1	3.1	3.1	.36
Machine tool operators, combination .....	3.2	.56	4.8	4.7	4.8	.56
Machine tool operators, numerical control .....	2.3	.40	3.4	3.4	3.4	.40
Welders and flamecutters .....	2.3	.41	3.6	3.5	3.5	.41
Packing and inspecting operatives .....	2.3	.40	3.4	3.4	3.4	.40
Miscellaneous machine operatives, manufacturing, nec. ....	6.7	1.17	8.8	8.7	8.8	1.02
Coil winders .....	8.6	1.52	7.9	7.8	7.8	.91
<b>Service workers</b> .....	<b>7.4</b>	<b>1.30</b>	<b>9.2</b>	<b>9.1</b>	<b>9.1</b>	<b>1.07</b>
Building custodians .....	4.4	.78	4.7	4.7	4.7	.55
<b>Laborers, except farm</b> .....	<b>41.6</b>	<b>7.31</b>	<b>69.6</b>	<b>68.6</b>	<b>69.1</b>	<b>8.07</b>
<b>Motor vehicles and equipment</b>						
<b>Total, all occupations</b> .....	<b>690.0</b>	<b>100.00</b>	<b>845.8</b>	<b>859.1</b>	<b>870.5</b>	<b>100.00</b>
<b>Professional, technical, and related workers</b> .....	<b>60.4</b>	<b>8.75</b>	<b>102.6</b>	<b>104.3</b>	<b>105.6</b>	<b>12.14</b>
Industrial engineers .....	4.8	.69	5.9	6.0	6.1	.70
Mechanical engineers .....	3.6	.52	5.4	5.5	5.6	.64
Drafters .....	2.5	.37	2.1	2.1	2.1	.25
Mechanical engineering technicians .....	4.0	.58	8.5	8.7	8.8	1.01
Computer programmers .....	1.6	.23	3.4	3.5	3.5	.40
Computer systems analysts .....	1.6	.23	3.4	3.5	3.5	.40
Designers .....	2.8	.41	4.5	4.6	4.6	.53
Accountants and auditors .....	4.9	.71	6.0	6.1	6.2	.71
Personnel and labor relations specialists .....	2.6	.38	3.2	3.3	3.3	.38
Purchasing agents and/or buyers .....	2.5	.36	3.1	3.1	3.2	.36
<b>Managers, officials, and proprietors</b> .....	<b>27.6</b>	<b>3.99</b>	<b>41.4</b>	<b>42.1</b>	<b>42.6</b>	<b>4.90</b>
<b>Sales workers</b> .....	<b>4.3</b>	<b>.62</b>	<b>4.9</b>	<b>4.9</b>	<b>5.0</b>	<b>.58</b>

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Motor vehicles and equipment—Continued</b>						
Clerical workers .....	47.0	6.81	57.4	58.3	59.1	6.79
Accounting clerks .....	2.4	.35	3.0	3.0	3.1	.35
Bookkeepers, hand .....	1.4	.20	1.7	1.7	1.7	.20
General clerks, office .....	7.2	1.05	8.9	9.1	9.2	1.06
Production clerks .....	4.3	.63	5.4	5.4	5.5	.63
Secretaries .....	6.2	.91	7.7	7.8	7.9	.91
Shipping and receiving clerks .....	4.4	.64	5.1	5.2	5.2	.60
Stock clerks, stockroom and warehouse .....	5.0	.73	5.7	5.8	5.9	.67
Craft and related workers .....	153.1	22.19	195.0	198.1	200.7	23.06
Electricians .....	9.1	1.32	11.2	11.4	11.6	1.33
Plumbers and pipefitters .....	5.3	.77	6.5	6.6	6.7	.77
Automotive mechanics .....	4.4	.64	5.4	5.5	5.6	.64
Industrial machinery repairers .....	10.8	1.57	21.3	21.6	21.9	2.52
Maintenance repairers, general utility .....	2.6	.37	3.2	3.2	3.3	.37
Millwrights .....	7.0	1.01	9.5	9.7	9.8	1.13
Machinists .....	2.4	.35	2.9	3.0	3.0	.35
Machine tool setters, metalworking .....	10.5	1.53	10.5	10.7	10.8	1.25
Sheet-metal workers and tinsmiths .....	4.6	.67	5.7	5.8	5.9	.67
Toolmakers and diemakers .....	10.5	1.52	13.0	13.2	13.3	1.53
Blue-collar worker supervisors .....	28.9	4.19	35.7	36.2	36.7	4.22
Inspectors .....	33.9	4.91	41.8	42.5	43.1	4.95
Testers .....	2.8	.40	3.4	3.5	3.5	.41
Operatives .....	318.7	46.19	355.3	360.8	365.7	42.00
Assembler occupations .....	95.3	13.81	97.0	98.5	99.9	11.47
Machine assemblers .....	21.9	3.17	20.4	20.8	21.0	2.42
All other assemblers .....	71.1	10.30	73.8	74.9	75.9	8.72
Machine tool operators .....	66.1	9.59	72.9	74.0	75.0	8.62
Drill press and boring machine operators .....	11.7	1.69	14.4	14.6	14.8	1.70
Grinding and abrading machine operators, metal .....	7.9	1.15	6.3	6.4	6.5	.75
Lathe machine operators, metal .....	7.5	1.09	9.2	9.4	9.5	1.09
Milling/planning machine operators .....	2.2	.32	2.7	2.8	2.8	.32
Machine tool operators, combination .....	14.5	2.10	15.3	15.6	15.8	1.81
Machine tool operators, tool room .....	4.5	.65	5.6	5.7	5.7	.66
Punch press operators, metal .....	13.2	1.92	13.6	13.8	14.0	1.61
Power brake, bending machine operators, metal .....	2.5	.36	3.1	3.2	3.2	.37
Production packagers .....	1.9	.28	2.4	2.4	2.4	.28
Painters, production .....	10.9	1.57	8.5	8.7	8.8	1.01
Chauffeurs .....	2.3	.33	2.8	2.9	2.9	.33
Industrial truck operators .....	16.3	2.36	17.0	17.3	17.5	2.01
Truck drivers .....	3.2	.46	3.9	4.0	4.1	.47
Filers, grinders, buffers, and chippers .....	6.7	.97	8.3	8.4	8.5	.98
Service workers .....	20.8	3.01	23.7	24.0	24.4	2.80
Building custodians .....	14.7	2.14	16.2	16.5	16.7	1.92
Laborers, except farm .....	58.2	8.43	65.5	66.5	67.4	7.74
Conveyor operators and tenders .....	3.7	.54	4.6	4.7	4.8	.55
Helpers, trades .....	2.3	.34	2.9	2.9	3.0	.34
<b>Aircraft and parts</b>						
Total, all occupations .....	611.8	100.00	741.6	692.1	687.9	100.00
Professional, technical, and related workers .....	158.7	25.94	222.4	207.5	206.3	29.99
Aero-astronautic engineers .....	21.6	3.53	32.3	30.1	29.9	4.35
Electrical engineers .....	8.2	1.34	10.0	9.3	9.2	1.34
Industrial engineers .....	10.6	1.73	14.8	13.8	13.8	2.00

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Aircraft and parts—Continued</b>						
Mechanical engineers .....	9.2	1.50	12.8	12.0	11.9	1.73
Drafters .....	5.5	.89	4.4	4.1	4.1	.59
Electrical and electronic technicians .....	6.4	1.05	8.9	8.3	8.3	1.20
Mechanical engineering technicians .....	3.2	.52	4.4	4.2	4.1	.60
Computer programmers .....	2.3	.37	3.7	3.5	3.4	.50
Computer systems analysts .....	3.2	.53	6.3	5.9	5.9	.86
Accountants and auditors .....	6.3	1.02	8.2	7.6	7.6	1.10
Personnel and labor relations specialists .....	3.3	.53	3.9	3.7	3.7	.53
Purchasing agents and/or buyers .....	6.3	1.03	7.6	7.1	7.1	1.03
Managers, officials, and proprietors .....	47.5	7.77	68.4	63.8	63.5	9.23
Sales workers .....	2.3	.38	2.6	2.4	2.4	.35
Clerical workers .....	81.9	13.38	96.3	89.9	89.3	12.99
General clerks, office .....	9.0	1.47	10.9	10.2	10.1	1.47
Production clerks .....	14.5	2.36	17.5	16.4	16.3	2.36
Secretaries .....	9.0	1.47	11.5	10.8	10.7	1.56
Typists .....	3.1	.51	3.8	3.6	3.5	.51
Stock clerks, stockroom and warehouse .....	10.9	1.78	12.7	11.8	11.7	1.71
Craft and related workers .....	132.5	21.66	153.7	143.4	142.5	20.72
Electricians .....	4.5	.74	5.5	5.1	5.1	.74
Aircraft mechanics .....	22.4	3.66	26.1	24.3	24.2	3.52
Industrial machinery repairers .....	4.3	.71	5.2	4.9	4.9	.71
Machinists .....	7.9	1.28	7.4	6.9	6.9	1.00
Machine tool setters, metalworking .....	2.8	.45	3.3	3.1	3.1	.45
Sheet-metal workers and tinsmiths .....	6.5	1.06	7.9	7.3	7.3	1.06
Toolmakers and diemakers .....	11.8	1.93	14.3	13.4	13.3	1.93
Blue-collar worker supervisors .....	18.7	3.05	18.9	17.6	17.5	2.54
Operatives .....	168.1	27.48	178.3	166.4	165.4	24.04
Assembler occupations .....	57.8	9.45	54.2	50.6	50.3	7.31
Aircraft structure assemblers .....	30.2	4.93	24.5	22.8	22.7	3.30
Electrical machinery equipment assemblers .....	3.5	.57	4.2	3.9	3.9	.57
Electrical and electronic assemblers .....	8.8	1.44	10.7	10.0	9.9	1.44
Machine assemblers .....	6.6	1.08	5.9	5.5	5.5	.80
All other assemblers .....	8.7	1.43	8.9	8.3	8.3	1.20
Machine tool operators .....	58.9	9.63	60.1	56.1	55.7	8.10
Drill press and boring machine operators .....	7.8	1.27	9.5	8.8	8.8	1.27
Grinding and abrading machine operators, metal .....	7.1	1.17	5.7	5.3	5.3	.77
Lathe machine operators, metal .....	10.9	1.78	8.2	7.6	7.6	1.10
Milling/planing machine operators .....	9.5	1.55	8.2	7.6	7.6	1.10
Machine tool operators, combination .....	6.7	1.10	8.1	7.6	7.6	1.10
Machine tool operators, numerical control .....	7.3	1.20	8.9	8.3	8.2	1.20
Machine tool operators, tool room .....	4.4	.72	5.4	5.0	5.0	.72
Punch press operators, metal .....	2.2	.36	2.7	2.5	2.5	.36
Power brake, bending machine operators, metal .....	2.3	.38	2.8	2.6	2.6	.38
Welders and flamecutters .....	5.1	.83	6.1	5.7	5.7	.83
Painters, production .....	5.4	.88	6.5	6.1	6.0	.88
Filers, grinders, buffers, and chippers .....	5.5	.91	6.7	6.3	6.2	.91
Miscellaneous machine operatives, manufacturing, nec. ....	3.1	.50	3.7	3.5	3.4	.50
Miscellaneous operatives, nec, durable goods .....	4.5	.74	5.5	5.1	5.1	.74
Riveters .....	2.9	.47	3.5	3.2	3.2	.47
Service workers .....	9.7	1.58	11.7	10.9	10.8	1.58
Building custodians .....	5.0	.82	6.1	5.7	5.6	.82
Laborers, except farm .....	11.0	1.80	8.2	7.7	7.6	1.11

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Nondurable goods manufacturing</b>						
Total, all occupations .....	7,735.9	100.00	8,529.0	8,826.7	9,002.5	100.00
Professional, technical, and related workers .....	533.2	6.89	638.4	658.9	673.7	7.46
Chemical engineers .....	26.6	.34	36.1	37.1	38.1	.42
Mechanical engineers .....	23.6	.31	25.9	26.8	27.6	.30
Chemists .....	45.8	.59	52.9	54.6	55.9	.62
Computer programmers .....	15.0	.19	17.8	18.4	18.8	.21
Computer systems analysts .....	15.0	.19	25.4	26.1	26.7	.30
Reporters and correspondents .....	38.4	.50	48.8	50.5	51.4	.57
Writers and editors .....	44.9	.58	56.8	58.6	59.6	.66
Accountants and auditors .....	45.5	.59	51.4	53.3	54.7	.60
Personnel and labor relations specialists .....	18.6	.24	20.6	21.3	21.9	.24
Purchasing agents and/or buyers .....	23.4	.30	25.9	26.8	27.5	.30
Managers, officials, and proprietors .....	517.4	6.69	634.9	659.9	674.8	7.48
Sales workers .....	253.8	3.28	271.2	282.3	288.0	3.20
Sales clerks .....	29.2	.38	30.3	31.7	32.3	.36
Clerical workers .....	968.4	12.52	1,104.8	1,145.1	1,168.2	12.97
Accounting clerks .....	61.3	.79	67.0	69.5	71.1	.79
Bookkeepers, hand .....	43.3	.56	45.2	47.0	47.8	.53
Clerical supervisors .....	31.6	.41	36.8	38.0	38.6	.43
General clerks, office .....	115.6	1.49	137.6	142.6	145.4	1.62
Computer operators .....	16.9	.22	18.8	19.5	20.0	.22
Data entry operators .....	22.2	.29	19.4	20.0	20.4	.23
Order clerks .....	35.6	.46	40.3	41.9	42.8	.47
Payroll and timekeeping clerks .....	26.0	.34	28.4	29.3	29.7	.33
Production clerks .....	33.1	.43	37.4	38.8	39.8	.44
Secretaries .....	123.6	1.60	158.3	164.1	167.9	1.86
Typists .....	53.7	.69	60.8	63.1	64.5	.72
Shipping and receiving clerks .....	65.2	.84	69.7	72.6	74.1	.82
Shipping packers .....	84.7	1.09	95.6	99.1	100.5	1.12
Stock clerks, stockroom and warehouse .....	42.4	.55	45.2	46.7	47.6	.53
Craft and related workers .....	1,308.1	16.91	1,446.9	1,503.9	1,541.7	17.04
Electricians .....	39.0	.50	42.3	43.6	45.0	.49
Plumbers and pipefitters .....	25.8	.33	27.4	28.1	28.8	.32
Automotive mechanics .....	18.4	.24	17.6	18.3	18.8	.21
Instrument repairers .....	15.1	.19	16.4	16.8	17.3	.19
Industrial machinery repairers .....	96.2	1.24	105.8	109.7	113.3	1.24
Maintenance repairers, general utility .....	86.2	1.11	97.2	101.0	103.9	1.14
Millwrights .....	19.3	.25	23.0	23.5	24.3	.27
Machinists .....	38.9	.50	43.0	44.8	46.2	.51
Bookbinders, machine .....	23.3	.30	26.4	27.9	28.5	.32
Typesetters and compositors .....	79.8	1.03	65.0	67.9	69.3	.77
Camera operators, printing .....	21.2	.27	27.3	28.8	29.3	.33
Strippers, printing .....	23.4	.30	31.2	33.0	33.7	.37
Letter press operators .....	31.9	.41	32.4	34.1	34.8	.39
Offset lithographic press operators .....	80.9	1.05	98.9	104.8	107.0	1.19
Press operators and plate printers .....	15.8	.20	15.4	16.0	16.8	.18
Blue-collar worker supervisors .....	243.4	3.15	278.0	287.6	294.6	3.26
Inspectors .....	109.6	1.42	132.7	137.3	140.0	1.56
Testers .....	33.3	.43	36.0	37.0	38.2	.42
Operatives .....	3,293.2	42.57	3,525.7	3,639.1	3,693.2	41.23
Assemblers .....	51.5	.67	59.5	63.8	65.8	.72
Bindery workers, assembly .....	30.8	.40	28.9	30.5	31.2	.35
Pressers, hand .....	21.2	.27	26.0	26.2	25.6	.30
Pressers, machine .....	20.9	.27	25.5	25.7	25.1	.29

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Nondurable goods manufacturing—Continued</b>						
Meat cutters and butchers .....	54.6	0.71	59.5	60.3	61.5	0.68
Production packagers .....	321.0	4.15	339.8	353.1	362.1	4.00
Sewers and stitchers .....	717.4	9.27	763.1	773.6	759.3	8.76
Sewing machine operators, regular equipment, garment .....	510.1	6.59	532.6	538.5	525.9	6.10
Sewing machine operators, special equipment, garment .....	75.1	.97	80.7	81.7	80.1	.93
Sewing machine operators, regular equipment, nongarment .....	88.1	1.14	102.2	104.7	104.3	1.19
Sewing machine operators, special equipment, nongarment .....	28.5	.37	31.8	32.6	32.9	.37
All other sewers and stitchers .....	15.6	.20	15.8	16.1	16.2	.18
Textile operatives .....	308.7	3.99	340.4	346.4	354.0	3.93
Creelers, yarn .....	13.5	.17	16.6	16.9	17.5	.19
Doffers .....	18.4	.24	19.8	20.1	20.7	.23
Folders, hand .....	23.4	.30	26.9	27.5	27.5	.31
Knitting machine operators .....	19.5	.25	21.2	22.2	22.6	.25
Spinners, frame .....	24.4	.32	22.7	23.0	23.4	.26
Twister tenders .....	13.6	.18	17.4	17.6	18.2	.20
Weavers .....	27.9	.36	28.0	28.3	28.9	.32
Yarn winders .....	15.8	.20	19.0	19.2	19.7	.22
Transport equipment operatives .....	322.9	4.17	324.9	338.7	348.1	3.84
Industrial truck operators .....	100.9	1.30	109.0	113.0	116.9	1.28
Delivery and route workers .....	141.8	1.83	134.3	140.8	144.1	1.60
Truck drivers .....	77.4	1.00	78.6	81.7	84.0	.93
All other operatives .....	1,341.1	17.34	1,447.3	1,505.5	1,543.9	17.06
Cutters, machine .....	22.9	.30	26.5	27.4	28.1	.31
Die cutters and clicking machine operators .....	18.8	.24	18.0	18.8	18.8	.21
Miscellaneous machine operatives, meat and dairy products .....	42.4	.55	38.7	39.9	41.0	.45
Miscellaneous machine operatives, all other food products .....	51.8	.67	48.7	50.4	51.8	.57
Miscellaneous machine operatives, paper and allied products .....	91.9	1.19	96.9	100.0	104.8	1.13
Miscellaneous machine operatives, chemicals and allied products .....	142.6	1.84	167.8	173.0	178.4	1.96
Miscellaneous machine operatives, rubber and plastic products .....	160.6	2.08	205.1	220.3	228.8	2.50
Miscellaneous machine operatives, manufacturing, nec. ....	47.0	.61	55.5	58.7	60.1	.66
Miscellaneous machine operatives, nonmanufacturing .....	18.2	.24	15.5	15.9	16.1	.18
Miscellaneous operatives, nec, nondurable goods .....	209.2	2.70	218.5	225.0	228.2	2.55
Mixing operatives .....	30.3	.39	29.5	30.6	31.3	.35
Shoemaking machine operators .....	51.5	.67	34.3	36.0	34.1	.41
Service workers .....	156.5	2.02	166.3	171.9	175.9	1.95
Building custodians .....	103.6	1.34	108.4	112.3	114.8	1.27
Guards .....	23.4	.30	25.4	26.2	26.9	.30
Laborers, except farm .....	705.3	9.12	740.8	765.6	786.9	8.67
Cannery workers .....	55.5	.72	67.1	68.4	70.6	.77
Helpers, trades .....	36.6	.47	38.9	40.2	41.5	.46
Order fillers .....	50.4	.65	56.7	58.9	60.1	.67
<b>Newspapers</b>						
Total, all occupations .....	424.8	100.00	485.9	503.8	512.6	100.00
Professional, technical, and related workers .....	76.5	18.01	91.4	94.8	96.5	18.82
Computer programmers .....	1.2	.28	1.3	1.4	1.4	.27
Commercial and graphic artists and designers .....	3.7	.86	4.1	4.3	4.4	.85
Photographers .....	4.7	1.11	4.8	4.9	5.0	.98
Writers and editors .....	23.9	5.63	27.9	29.0	29.5	5.75
Accountants and auditors .....	1.1	.26	1.2	1.3	1.3	.26
Managers, officials, and proprietors .....	39.5	9.31	56.6	58.7	59.7	11.65
Sales workers .....	50.1	11.80	60.3	62.6	63.7	12.42
Clerical workers .....	91.8	21.62	104.9	108.8	110.7	21.60

See footnotes at end of table.



E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Newspapers—Continued</b>						
Accounting clerks .....	3.3	0.77	3.7	3.8	3.9	0.76
Bookkeepers, hand .....	6.9	1.62	6.8	7.1	7.2	1.40
Circulation clerks .....	7.7	1.82	8.7	9.0	9.2	1.79
Clerical supervisors .....	2.2	.51	2.5	2.5	2.6	.51
Customer service representatives, printing and publishing .....	2.0	.47	2.3	2.3	2.4	.47
Dispatchers, vehicle service or work .....	1.0	.24	1.2	1.2	1.2	.24
File clerks .....	1.5	.35	1.2	1.3	1.3	.25
General clerks, office .....	8.2	1.93	9.2	9.6	9.7	1.90
Messengers .....	2.6	.62	3.0	3.1	3.2	.62
Computer operators .....	1.3	.30	1.4	1.5	1.5	.29
Data entry operators .....	1.2	.28	.5	.5	.5	.10
Order clerks .....	1.7	.39	1.9	2.0	2.0	.39
Production clerks .....	1.8	.43	2.0	2.1	2.2	.42
Proofreaders .....	4.5	1.07	5.1	5.3	5.4	1.05
Secretaries .....	7.2	1.70	9.6	9.9	10.1	1.97
Typists .....	10.8	2.55	12.2	12.7	12.9	2.51
Shipping packers .....	1.1	.25	1.2	1.3	1.3	.25
Switchboard operators/receptionists .....	1.1	.26	1.2	1.3	1.3	.25
Telephone ad takers, newspapers .....	9.1	2.13	12.2	12.6	12.8	2.50
Telephone operators .....	1.3	.31	1.5	1.6	1.6	.31
Switchboard operators .....	1.3	.31	1.5	1.6	1.6	.31
Craft and related workers .....	88.3	20.78	78.1	81.0	82.4	16.08
Printing trades craft workers .....	74.3	17.48	61.7	64.0	65.1	12.69
Typesetters and compositors .....	38.1	8.97	25.3	26.3	26.7	5.21
Lithographers and photoengravers .....	10.8	2.55	13.9	14.4	14.7	2.86
Camera operators, printing .....	4.7	1.10	7.2	7.5	7.6	1.48
Photoengravers .....	2.5	.60	1.9	2.0	2.0	.39
Platemakers .....	2.3	.54	3.3	3.5	3.5	.69
Strippers, printing .....	1.3	.31	1.5	1.6	1.6	.31
Printing press operators .....	23.9	5.64	20.9	21.6	22.0	4.29
Letter press operators .....	9.6	2.25	10.8	11.2	11.4	2.22
Offset lithographic press operators .....	12.3	2.89	7.7	8.0	8.1	1.58
All other press and plate printers .....	2.1	.50	2.4	2.5	2.5	.49
Blue-collar worker supervisors .....	7.4	1.75	9.4	9.7	9.9	1.93
Operatives .....	56.6	13.32	68.7	71.2	72.4	14.13
Bindery workers, assembly .....	1.3	.29	1.4	1.5	1.5	.29
Delivery and route workers .....	21.3	5.02	27.0	28.0	28.4	5.55
Truck drivers .....	3.8	.90	4.3	4.5	4.6	.89
Miscellaneous machine operatives, nonmanufacturing .....	1.0	.25	1.2	1.2	1.2	.24
Miscellaneous operatives, nec, nondurable goods .....	16.5	3.89	20.6	21.3	21.7	4.23
Service workers .....	9.6	2.25	10.8	11.2	11.4	2.22
Building custodians .....	6.7	1.57	7.5	7.8	7.9	1.55
Guards .....	1.2	.29	1.4	1.4	1.4	.28
Laborers, except farm .....	12.4	2.92	14.9	15.5	15.8	3.07
<b>Drugs</b>						
Total, all occupations .....	199.8	100.00	274.6	279.8	282.5	100.00
Professional, technical, and related workers .....	49.3	24.65	70.7	72.0	72.7	25.74
Chemical engineers .....	1.4	.69	1.9	1.9	1.9	.69
Industrial engineers .....	1.2	.61	1.7	1.7	1.7	.61
Biological scientists .....	5.0	2.51	8.1	8.2	8.3	2.94
Chemists .....	8.2	4.10	11.2	11.5	11.6	4.10
Engineering and science technicians .....	12.8	6.41	17.5	17.8	18.0	6.37
Pharmacists .....	2.9	1.43	3.8	3.9	4.0	1.40

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Drugs—Continued</b>						
Computer programmers .....	1.1	0.55	1.5	1.5	1.5	0.55
Computer systems analysts .....	1.8	.90	4.5	4.6	4.6	1.64
Accountants and auditors .....	2.8	1.38	3.8	3.9	3.9	1.38
Personnel and labor relations specialists .....	1.3	.64	1.8	1.8	1.8	.64
Managers, officials, and proprietors .....	22.0	11.02	34.2	34.8	35.2	12.45
Sales workers .....	5.7	2.83	7.2	7.3	7.4	2.60
Clerical workers .....	36.7	18.37	52.5	53.4	53.9	19.10
Accounting clerks .....	2.4	1.19	2.8	2.8	2.9	1.01
Clerical supervisors .....	1.5	.75	2.9	3.0	3.0	1.06
General clerks, office .....	3.8	1.90	4.5	4.6	4.6	1.64
Order clerks .....	1.3	.66	1.8	1.9	1.9	.66
Production clerks .....	1.0	.52	1.4	1.5	1.5	.52
Secretaries .....	10.3	5.15	16.0	16.3	16.4	5.82
Typists .....	1.4	.72	2.0	2.0	2.0	.72
Shipping and receiving clerks .....	1.6	.81	2.2	2.3	2.3	.81
Shipping packers .....	1.9	.95	2.6	2.6	2.7	.95
Stock clerks, stockroom and warehouse .....	1.4	.70	1.4	1.5	1.5	.52
Craft and related workers .....	24.0	11.99	32.8	33.4	33.7	11.94
Industrial machinery repairers .....	2.3	1.16	3.2	3.2	3.3	1.16
Maintenance repairers, general utility .....	1.7	.83	2.3	2.3	2.4	.83
Blue-collar worker supervisors .....	5.7	2.85	7.8	8.0	8.0	2.85
Inspectors .....	3.6	1.81	5.0	5.1	5.1	1.81
Operatives .....	43.5	21.76	55.8	56.9	57.4	20.32
Production packagers .....	16.8	8.43	23.2	23.6	23.8	8.43
Industrial truck operators .....	1.6	.81	2.2	2.3	2.3	.81
Miscellaneous machine operatives, chemicals and allied products .....	12.9	6.45	17.7	18.1	18.2	6.46
Miscellaneous machine operatives, nonmanufacturing .....	1.2	.58	1.6	1.6	1.6	.58
Service workers .....	6.9	3.47	8.5	8.7	8.7	3.10
Building custodians .....	4.0	2.00	4.5	4.6	4.6	1.64
Guards .....	1.2	.61	1.7	1.7	1.7	.61
Laborers, except farm .....	11.8	5.91	13.1	13.3	13.4	4.76
Animal caretakers .....	1.1	.56	1.5	1.6	1.6	.56
<b>Industrial organic chemicals</b>						
Total, all occupations .....	174.3	100.00	218.2	222.9	224.1	100.00
Professional, technical, and related workers .....	41.6	23.84	55.8	57.0	57.3	25.56
Chemical engineers .....	6.3	3.60	8.2	8.4	8.4	3.76
Industrial engineers .....	1.1	.62	1.3	1.4	1.4	.62
Mechanical engineers .....	2.4	1.40	3.0	3.1	3.1	1.38
Chemists .....	5.8	3.30	7.2	7.4	7.4	3.30
Mechanical engineering technicians .....	1.2	.71	2.2	2.2	2.2	.99
Computer systems analysts .....	1.0	.60	2.2	2.2	2.2	.99
Accountants and auditors .....	2.2	1.25	2.7	2.8	2.8	1.24
Managers, officials, and proprietors .....	16.7	9.56	22.7	23.2	23.3	10.41
Sales workers .....	2.4	1.39	2.8	2.8	2.8	1.27
Clerical workers .....	21.4	12.31	29.2	29.8	30.0	13.37
Accounting clerks .....	2.0	1.17	2.5	2.6	2.6	1.16
General clerks, office .....	1.9	1.12	5.1	5.3	5.3	2.36

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Industrial organic chemicals—Continued</b>						
Secretaries .....	5.3	3.04	6.6	6.7	6.8	3.02
Stenographers .....	1.1	.64	1.4	1.4	1.4	.63
Typists .....	1.3	.75	1.6	1.7	1.7	.74
Stock clerks, stockroom and warehouse .....	1.2	.70	1.5	1.5	1.5	.69
<b>Craft and related workers</b> .....	<b>39.4</b>	<b>22.60</b>	<b>47.8</b>	<b>48.8</b>	<b>49.1</b>	<b>21.90</b>
Electricians .....	2.4	1.39	3.0	3.1	3.1	1.38
Plumbers and pipefitters .....	4.2	2.40	5.6	5.7	5.8	2.57
Instrument repairers .....	2.6	1.50	3.2	3.3	3.3	1.49
Industrial machinery repairers .....	3.4	1.94	4.2	4.3	4.3	1.93
Maintenance repairers, general utility .....	2.8	1.59	3.4	3.5	3.5	1.57
Millwrights .....	1.6	.94	2.0	2.1	2.1	.94
Machinists .....	1.5	.84	1.8	1.8	1.9	.83
Blue-collar worker supervisors .....	10.1	5.81	11.4	11.7	11.8	5.25
<b>Operatives</b> .....	<b>42.7</b>	<b>24.48</b>	<b>49.3</b>	<b>50.4</b>	<b>50.7</b>	<b>22.61</b>
Welders and flamecutters .....	1.1	.65	1.4	1.4	1.4	.64
Production packagers .....	1.2	.68	1.5	1.5	1.5	.68
Industrial truck operators .....	1.0	.59	1.3	1.3	1.3	.59
Miscellaneous machine operatives, chemicals and allied products .....	33.0	18.94	38.5	39.4	39.6	17.66
<b>Service workers</b> .....	<b>2.8</b>	<b>1.63</b>	<b>3.5</b>	<b>3.6</b>	<b>3.6</b>	<b>1.61</b>
Building custodians .....	1.4	.82	1.8	1.8	1.8	.81
<b>Laborers, except farm</b> .....	<b>7.3</b>	<b>4.19</b>	<b>7.2</b>	<b>7.3</b>	<b>7.3</b>	<b>3.28</b>
Loaders, tank cars and trucks .....	1.4	.83	1.8	1.8	1.8	.82
<b>Transportation, communications, and utilities</b>						
Total, all occupations .....	5,719.8	100.00	6,721.7	6,923.8	7,053.2	100.00
<b>Professional, technical, and related workers</b> .....	<b>449.3</b>	<b>7.86</b>	<b>618.9</b>	<b>630.9</b>	<b>637.6</b>	<b>9.11</b>
Electrical engineers .....	46.4	.81	82.0	83.8	84.4	1.21
Electrical and electronic technicians .....	38.5	.67	71.0	73.0	73.6	1.05
Airplane pilots .....	49.2	.86	65.8	66.7	67.4	.96
Announcers .....	44.0	.77	55.0	55.5	55.6	.80
Accountants and auditors .....	34.7	.61	45.6	46.6	47.4	.67
<b>Managers, officials, and proprietors</b> .....	<b>514.4</b>	<b>8.99</b>	<b>664.1</b>	<b>683.2</b>	<b>694.7</b>	<b>9.87</b>
Postmasters and mail superintendents .....	28.3	.49	22.6	24.4	25.0	.35
Railroad conductors .....	26.7	.47	16.8	18.0	19.4	.26
<b>Sales workers</b> .....	<b>140.5</b>	<b>2.46</b>	<b>233.7</b>	<b>238.6</b>	<b>239.9</b>	<b>3.45</b>
Travel agents .....	58.2	1.02	82.5	84.5	84.7	1.22
<b>Clerical workers</b> .....	<b>1,904.0</b>	<b>33.29</b>	<b>2,038.6</b>	<b>2,115.9</b>	<b>2,148.9</b>	<b>30.56</b>
Accounting clerks .....	51.0	.89	56.0	57.5	58.3	.83
Bookkeepers, hand .....	36.1	.63	40.3	41.2	41.7	.59
Clerical supervisors .....	60.2	1.05	77.7	79.9	80.8	1.15
Customer service representatives .....	88.9	1.56	120.4	123.8	124.8	1.79
Dispatchers, vehicle service or work .....	52.0	.91	63.5	65.1	66.5	.94
General clerks, office .....	186.0	3.25	232.5	238.8	242.3	3.45
Postal mail carriers .....	234.1	4.09	206.0	222.7	227.7	3.22
Postal service clerks .....	306.5	5.36	233.0	251.8	257.5	3.64
Meter readers, utilities .....	28.5	.50	35.2	35.6	36.2	.51
Reservation agents .....	52.9	.92	54.0	54.9	55.6	.79
Ticket agents .....	49.3	.86	47.9	48.9	49.9	.71
Secretaries .....	84.5	1.48	107.8	110.1	111.7	1.59
Typists .....	41.0	.72	43.8	45.0	45.4	.65
Stock clerks, stockroom and warehouse .....	41.9	.73	44.7	45.8	46.6	.66

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Transportation, communications, and utilities—Continued</b>						
Central office operators .....	108.7	1.90	84.2	86.9	87.5	1.26
Directory assistance operators .....	37.5	.66	41.8	43.1	43.4	.62
<b>Craft and related workers .....</b>	<b>1,080.8</b>	<b>18.90</b>	<b>1,243.8</b>	<b>1,276.8</b>	<b>1,302.1</b>	<b>18.47</b>
Aircraft mechanics .....	52.7	.92	65.3	66.1	66.8	.96
Automotive mechanics .....	42.8	.75	50.8	52.2	53.7	.75
Communications equipment mechanics .....	91.8	1.60	91.8	94.8	95.4	1.37
Central office repairers .....	50.2	.88	47.4	48.9	49.2	.71
Diesel mechanics .....	49.1	.86	60.1	61.7	63.3	.89
Cable splicers .....	41.8	.73	52.1	53.6	54.0	.77
Line installers, repairers .....	90.0	1.57	108.6	110.9	111.8	1.60
Railroad car repairers .....	24.2	.42	18.4	19.7	21.2	.28
Installers, repairers, section maintainers .....	74.0	1.29	94.9	98.0	98.6	1.42
Station installers .....	58.9	1.03	69.3	71.5	72.0	1.03
Blue-collar worker supervisors .....	147.6	2.58	180.9	186.2	189.8	2.69
<b>Operatives .....</b>	<b>1,043.6</b>	<b>18.24</b>	<b>1,245.6</b>	<b>1,280.3</b>	<b>1,318.3</b>	<b>18.49</b>
Busdrivers, local and intercity .....	146.5	2.56	158.8	165.5	177.2	2.39
Industrial truck operators .....	31.3	.55	33.6	34.6	35.2	.50
Railroad brake operators .....	56.6	.99	46.6	49.9	53.7	.72
Sailors and deckhands .....	27.0	.47	26.7	28.0	28.3	.40
Taxi drivers .....	31.2	.55	19.2	20.0	21.5	.29
Delivery and route workers .....	74.4	1.30	96.9	98.9	100.6	1.43
Truck drivers .....	575.9	10.07	750.7	766.7	781.3	11.07
<b>Service workers .....</b>	<b>153.6</b>	<b>2.69</b>	<b>175.7</b>	<b>179.8</b>	<b>182.8</b>	<b>2.60</b>
Building custodians .....	44.5	.78	46.2	47.5	48.3	.69
Flight attendants .....	52.9	.92	67.3	68.2	68.9	.99
<b>Laborers, except farm .....</b>	<b>433.5</b>	<b>7.58</b>	<b>501.2</b>	<b>516.3</b>	<b>528.8</b>	<b>7.46</b>
Helpers, trades .....	33.7	.59	34.6	35.8	37.1	.52
Line service attendants .....	30.1	.53	40.9	41.4	41.8	.60
<b>Trucking, local, long distance, and terminals<sup>1</sup></b>						
<b>Total, all occupations .....</b>	<b>1,120.8</b>	<b>100.00</b>	<b>1,459.1</b>	<b>1,489.7</b>	<b>1,516.2</b>	<b>100.00</b>
<b>Professional, technical, and related workers .....</b>	<b>9.7</b>	<b>.87</b>	<b>12.7</b>	<b>12.9</b>	<b>13.2</b>	<b>.87</b>
Accountants and auditors .....	5.7	.51	7.4	7.6	7.7	.51
Personnel and labor relations specialists .....	1.4	.12	1.8	1.8	1.9	.12
<b>Managers, officials, and proprietors .....</b>	<b>73.2</b>	<b>6.53</b>	<b>100.4</b>	<b>102.5</b>	<b>104.3</b>	<b>6.88</b>
<b>Sales workers .....</b>	<b>9.8</b>	<b>.88</b>	<b>12.8</b>	<b>13.0</b>	<b>13.3</b>	<b>.87</b>
Crating and moving estimators .....	5.7	.51	7.4	7.5	7.7	.51
<b>Clerical workers .....</b>	<b>175.1</b>	<b>15.62</b>	<b>218.9</b>	<b>223.5</b>	<b>227.5</b>	<b>15.00</b>
Adjustment clerks .....	4.0	.35	5.2	5.3	5.4	.35
Accounting clerks .....	3.5	.31	4.0	4.1	4.2	.27
Bookkeepers, hand .....	10.9	.97	12.2	12.5	12.7	.84
Cashiers .....	2.0	.18	4.5	4.6	4.7	.31
Clerical supervisors .....	3.4	.30	4.4	4.5	4.6	.30
Dispatchers, vehicle service or work .....	27.0	2.41	35.2	35.9	36.6	2.41
File clerks .....	1.9	.17	1.5	1.5	1.6	.10
General clerks, office .....	36.6	3.26	47.7	48.7	49.6	3.27
Bookkeeping, billing machine operators .....	8.0	.72	10.5	10.7	10.9	.72
Computer operators .....	1.4	.12	3.0	3.0	3.1	.20
Data entry operators .....	1.9	.17	.4	.4	.4	.03
Payroll and timekeeping clerks .....	2.4	.21	3.1	3.1	3.2	.21
Rate clerks, freight .....	8.2	.73	10.7	10.9	11.1	.73

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Trucking, local, long distance, and terminals<sup>1</sup>—Continued</b>						
Secretaries .....	14.9	1.33	17.5	17.9	18.2	1.20
Typists .....	3.7	.33	3.8	3.9	4.0	.26
Shipping and receiving clerks .....	5.1	.45	5.6	5.7	5.8	.39
Shipping packers .....	9.4	.84	11.3	11.6	11.8	.78
Stock clerks, stockroom and warehouse .....	8.8	.78	9.5	9.7	9.9	.65
Switchboard operators/receptionists .....	1.1	.10	1.5	1.5	1.5	.10
Traffic agents .....	8.8	.79	11.5	11.7	12.0	.79
<b>Craft and related workers .....</b>	<b>80.7</b>	<b>7.20</b>	<b>105.2</b>	<b>107.4</b>	<b>109.3</b>	<b>7.21</b>
Automotive body repairers .....	1.2	.10	1.5	1.5	1.6	.10
Automotive mechanics .....	13.4	1.20	17.5	17.9	18.2	1.20
Diesel mechanics .....	38.4	3.42	50.0	51.1	52.0	3.43
Maintenance repairers, general utility .....	1.3	.12	1.7	1.8	1.8	.12
Crane, derrick, and hoist operators .....	2.3	.21	3.1	3.1	3.2	.21
<b>Operatives .....</b>	<b>618.3</b>	<b>55.17</b>	<b>802.5</b>	<b>819.4</b>	<b>833.9</b>	<b>55.00</b>
Welders and flamecutters .....	1.1	.09	1.4	1.4	1.5	.10
Industrial truck operators .....	9.2	.82	10.4	10.6	10.8	.71
Delivery and route workers .....	67.1	5.98	87.3	89.2	90.8	5.99
Truck drivers .....	534.8	47.72	695.3	709.9	722.5	47.65
Tire changers and repairers .....	1.4	.12	1.8	1.8	1.8	.12
<b>Service workers .....</b>	<b>10.0</b>	<b>.89</b>	<b>13.0</b>	<b>13.3</b>	<b>13.5</b>	<b>.89</b>
Building custodians .....	6.9	.62	9.0	9.2	9.4	.62
Guards .....	1.9	.17	2.5	2.5	2.5	.17
<b>Laborers, except farm .....</b>	<b>144.0</b>	<b>12.85</b>	<b>193.6</b>	<b>197.7</b>	<b>201.2</b>	<b>13.27</b>
<b>Telephone communication</b>						
Total, all occupations .....	1,063.8	100.00	1,306.1	1,348.7	1,357.1	100.00
<b>Professional, technical, and related workers .....</b>	<b>68.6</b>	<b>6.45</b>	<b>104.7</b>	<b>108.2</b>	<b>108.8</b>	<b>8.02</b>
Electrical engineers .....	15.9	1.50	32.8	33.8	34.1	2.51
Industrial engineers .....	2.4	.23	3.9	4.1	4.1	.30
Mechanical engineers .....	1.6	.15	2.0	2.1	2.1	.15
Drafters .....	4.5	.42	3.7	3.8	3.8	.28
Electrical and electronic technicians .....	7.3	.69	13.7	14.2	14.3	1.05
Computer programmers .....	3.3	.31	4.1	4.3	4.3	.32
Computer systems analysts .....	3.5	.33	6.6	6.8	6.8	.50
Accountants and auditors .....	5.5	.51	7.7	8.0	8.0	.59
Personnel and labor relations specialists .....	4.9	.46	6.0	6.2	6.3	.46
<b>Managers, officials, and proprietors .....</b>	<b>100.1</b>	<b>9.41</b>	<b>133.1</b>	<b>137.4</b>	<b>138.3</b>	<b>10.19</b>
<b>Sales workers .....</b>	<b>18.6</b>	<b>1.75</b>	<b>34.6</b>	<b>35.7</b>	<b>35.9</b>	<b>2.65</b>
<b>Clerical workers .....</b>	<b>496.4</b>	<b>46.66</b>	<b>590.0</b>	<b>609.2</b>	<b>613.1</b>	<b>45.17</b>
Accounting clerks .....	15.9	1.50	17.7	18.2	18.4	1.35
Bookkeepers, hand .....	2.7	.25	3.3	3.4	3.4	.25
Cashiers .....	5.5	.51	9.6	9.9	10.0	.74
Clerical supervisors .....	31.0	2.92	43.1	44.5	44.8	3.30
Collectors, bill and account .....	2.5	.23	3.0	3.1	3.2	.23
Customer service representatives .....	64.6	6.07	89.3	92.2	92.8	6.84
Dispatchers, vehicle service or work .....	8.8	.82	10.8	11.1	11.2	.83
File clerks .....	3.5	.33	3.3	3.4	3.4	.25
General clerks, office .....	49.3	4.64	69.5	71.8	72.2	5.32
Mail clerks .....	2.4	.23	3.0	3.1	3.1	.23
Computer operators .....	4.8	.45	6.8	7.1	7.1	.52
Data entry operators .....	3.8	.36	4.7	4.9	4.9	.36

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Telephone communication—Continued</b>						
Payroll and timekeeping clerks .....	2.0	0.19	2.5	2.6	2.6	0.19
Personnel clerks .....	2.7	.25	3.3	3.4	3.4	.25
Production clerks .....	19.4	1.82	26.8	27.7	27.9	2.05
Secretaries .....	11.0	1.04	13.2	13.6	13.7	1.01
Stenographers .....	6.9	.65	8.6	8.8	8.9	.65
Typists .....	14.8	1.39	15.3	15.8	15.9	1.17
Statistical clerks .....	15.1	1.42	16.6	17.2	17.3	1.27
Stock clerks, stockroom and warehouse .....	7.3	.69	8.0	8.3	8.3	.61
Central office operators .....	107.7	10.12	82.8	85.5	86.0	6.34
Directory assistance operators .....	37.5	3.52	41.7	43.1	43.4	3.19
<b>Craft and related workers .....</b>	<b>361.3</b>	<b>33.97</b>	<b>423.5</b>	<b>437.4</b>	<b>440.1</b>	<b>32.43</b>
Automotive mechanics .....	3.4	.32	4.1	4.3	4.3	.32
Central office repairers .....	50.1	4.71	47.2	48.7	49.0	3.61
Frame wiremen .....	13.1	1.23	16.1	16.6	16.7	1.23
Trouble locators, test desk .....	18.9	1.78	15.7	16.2	16.3	1.20
Cable installers .....	4.1	.39	5.1	5.2	5.3	.39
Cable repairers .....	9.5	.90	11.8	12.1	12.2	.90
Cable splicers .....	36.0	3.38	44.3	45.8	46.1	3.39
Line installers, repairers .....	19.1	1.79	21.6	22.3	22.4	1.65
Radio and television service technicians .....	4.4	.42	5.5	5.6	5.7	.42
Installers, repairers, section maintainers .....	69.6	6.54	85.0	87.8	88.3	6.51
Station installers .....	58.2	5.47	67.7	69.9	70.3	5.18
Blue-collar worker supervisors .....	49.0	4.61	68.2	70.4	70.9	5.22
Stationary engineers .....	2.1	.19	1.8	1.8	1.8	.14
<b>Operatives .....</b>	<b>4.0</b>	<b>.37</b>	<b>4.9</b>	<b>5.1</b>	<b>5.1</b>	<b>.38</b>
<b>Service workers .....</b>	<b>12.6</b>	<b>1.18</b>	<b>12.6</b>	<b>13.0</b>	<b>13.1</b>	<b>.96</b>
Building custodians .....	9.8	.92	9.1	9.4	9.5	.70
<b>Laborers, except farm .....</b>	<b>2.2</b>	<b>.21</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>	<b>.21</b>
<b>Radio and television broadcasting</b>						
Total, all occupations .....	216.4	100.00	352.0	354.6	355.9	100.00
<b>Professional, technical, and related workers .....</b>	<b>113.5</b>	<b>52.46</b>	<b>157.9</b>	<b>159.1</b>	<b>159.6</b>	<b>44.85</b>
Electrical engineers .....	9.3	4.29	16.5	16.6	16.7	4.69
Broadcast technicians .....	14.0	6.47	17.4	17.6	17.6	4.96
Electrical and electronic technicians .....	1.8	.85	3.0	3.0	3.0	.86
Commercial and graphic artists and designers .....	1.5	.70	2.5	2.5	2.5	.71
Photographers .....	3.1	1.43	4.7	4.7	4.7	1.33
Announcers .....	43.9	20.31	55.0	55.4	55.6	15.61
Broadcast news analysts .....	8.8	4.05	12.0	12.1	12.1	3.41
Reporters and correspondents .....	6.5	3.01	8.5	8.6	8.6	2.43
Writers and editors .....	5.4	2.49	9.6	9.7	9.7	2.72
Writers, artists, entertainers, nec. ....	6.1	2.83	6.7	6.8	6.8	1.92
Accountants and auditors .....	1.2	.55	3.5	3.6	3.6	1.01
<b>Managers, officials, and proprietors .....</b>	<b>36.8</b>	<b>17.02</b>	<b>74.2</b>	<b>74.8</b>	<b>75.0</b>	<b>21.08</b>
<b>Sales workers .....</b>	<b>25.2</b>	<b>11.63</b>	<b>62.6</b>	<b>63.0</b>	<b>63.3</b>	<b>17.78</b>
<b>Clerical workers .....</b>	<b>35.1</b>	<b>16.22</b>	<b>50.3</b>	<b>50.7</b>	<b>50.9</b>	<b>14.29</b>
Bookkeepers, hand .....	3.6	1.66	3.9	3.9	3.9	1.11
General clerks, office .....	1.4	.63	2.3	2.3	2.3	.64
Bookkeeping, billing machine operators .....	1.8	.83	2.9	3.0	3.0	.83
Receptionists .....	2.5	1.16	4.1	4.2	4.2	1.17
Secretaries .....	9.0	4.15	11.8	11.9	11.9	3.34

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Radio and television broadcasting—Continued</b>						
Typists .....	1.5	0.69	1.4	1.4	1.4	0.40
Switchboard operators/receptionists .....	1.0	.47	1.7	1.7	1.7	.47
Traffic clerks .....	7.1	3.29	10.4	10.5	10.5	2.95
Craft and related workers .....	1.7	.76	2.7	2.7	2.7	.77
Operatives .....	.4	.17	.6	.6	.6	.18
Service workers .....	3.5	1.60	3.3	3.3	3.3	.93
Building custodians .....	3.0	1.38	2.5	2.5	2.5	.71
Laborers, except farm .....	.3	.13	.5	.5	.5	.13
<b>Wholesale and retail trade</b>						
Total, all occupations .....	20,551.0	100.00	26,046.1	26,838.0	27,191.7	100.00
Professional, technical, and related workers .....	777.5	3.78	1,013.4	1,045.0	1,057.9	3.89
Electrical and electronic technicians .....	91.9	.45	122.9	125.2	125.6	.47
Pharmacists .....	82.5	.40	104.3	109.0	111.3	.41
Designers .....	67.8	.33	87.7	91.3	93.0	.34
Accountants and auditors .....	101.6	.49	133.2	137.1	138.6	.51
Buyers, retail and wholesale trade .....	223.2	1.09	286.8	297.2	301.8	1.11
Managers, officials, and proprietors .....	1,918.7	9.34	2,585.0	2,669.9	2,708.3	9.95
Restaurant, cafe, and bar managers .....	312.8	1.52	452.9	458.5	461.1	1.71
Sales managers, retail trade .....	261.1	1.27	334.6	344.4	348.0	1.28
Store managers .....	772.0	3.76	1,018.9	1,064.9	1,087.9	3.97
Wholesalers .....	203.1	.99	256.1	260.9	261.8	.97
Sales workers .....	4,460.0	21.70	5,480.6	5,685.4	5,778.8	21.18
Sales representatives, nontechnical .....	583.4	2.84	724.3	743.1	749.4	2.77
Sales representatives, technical .....	1,320.3	6.42	1,651.9	1,706.7	1,729.7	6.36
Sales clerks .....	2,495.3	12.14	3,027.8	3,155.7	3,218.3	11.76
Clerical workers .....	4,250.3	20.68	5,374.8	5,559.2	5,640.3	20.71
Accounting clerks .....	162.0	.79	184.7	190.3	192.5	.71
Bookkeepers, hand .....	391.3	1.90	439.2	453.7	460.1	1.69
Cashiers .....	1,283.2	6.24	1,821.2	1,894.1	1,929.9	7.06
General clerks, office .....	571.9	2.78	730.7	754.1	763.6	2.81
Bookkeeping and billing operators .....	75.0	.36	89.0	91.2	91.9	.34
Data entry operators .....	51.0	.25	44.9	46.2	46.6	.17
Order clerks .....	160.9	.78	194.8	199.7	201.3	.74
Secretaries .....	231.2	1.12	286.5	294.3	297.1	1.10
Typists .....	68.9	.34	74.9	76.9	77.5	.29
Shipping and receiving clerks .....	187.2	.91	210.2	216.3	218.5	.81
Shipping packers .....	148.5	.72	167.6	171.4	172.5	.64
Stock clerks, stockroom and warehouse .....	512.5	2.49	582.7	602.5	610.9	2.24
Switchboard operators/receptionists .....	41.9	.20	52.7	54.1	54.6	.20
Craft and related workers .....	1,353.4	6.59	1,836.4	1,901.6	1,929.9	7.09
Automotive mechanics .....	378.2	1.84	563.6	588.0	599.6	2.19
Computer service technicians .....	41.8	.20	75.2	76.6	76.8	.29
Diesel mechanics .....	65.8	.32	80.6	82.5	83.1	.31
Maintenance repairers, general utility .....	88.5	.43	109.2	111.7	112.4	.42
Office machine repairers .....	48.0	.23	83.6	85.3	85.7	.32
Bakers .....	48.9	.24	59.8	62.3	63.6	.23
Blue-collar worker supervisors .....	127.2	.62	161.6	165.9	167.4	.62
Tailors .....	41.2	.20	57.2	59.7	61.0	.22

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Wholesale and retail trade—Continued</b>						
Operatives .....	1,832.1	8.91	2,101.7	2,177.2	2,209.9	8.11
Baggers .....	242.3	1.18	219.4	229.0	233.7	.85
Production packagers .....	89.9	.44	103.0	106.7	108.4	.40
Industrial truck operators .....	69.2	.34	82.8	84.9	85.5	.32
Delivery and route workers .....	439.8	2.14	522.5	537.9	543.8	2.00
Truck drivers .....	335.2	1.63	407.7	419.0	423.0	1.56
Fuel pump attendants and lubricators .....	354.5	1.73	391.6	412.1	422.1	1.54
Tire changers and repairers .....	57.1	.28	80.1	83.6	85.3	.31
Service workers .....	4,710.0	22.92	6,225.3	6,321.2	6,366.5	23.55
Building custodians .....	304.4	1.48	355.5	365.8	370.6	1.36
Bartenders .....	242.3	1.18	331.6	335.7	337.7	1.25
Butchers and meat cutters .....	172.9	.84	155.3	161.4	164.3	.60
Cooks, restaurant .....	267.1	1.30	384.7	389.7	392.0	1.45
Cooks, short order and specialty fast foods .....	386.6	1.88	506.7	513.6	516.8	1.91
Food preparation and service workers, fast food restaurants .....	792.7	3.86	1,072.8	1,086.2	1,092.5	4.05
Hosts/hostesses, restaurants, lounges, and coffee shops .....	93.8	.46	126.9	128.5	129.2	.48
Kitchen helpers .....	411.9	2.00	586.5	594.6	598.5	2.22
Pantry, sandwich, and coffee makers .....	57.0	.28	76.1	77.2	77.7	.29
Waiters and waitresses .....	1,364.4	6.64	1,791.6	1,815.4	1,826.7	6.76
Waiters' assistants .....	194.3	.95	240.2	243.2	244.6	.91
Laborers, except farm .....	1,248.9	6.08	1,429.0	1,478.6	1,500.2	5.51
Order fillers .....	247.0	1.20	283.7	289.9	291.5	1.08
Stock clerk, sales floor .....	596.9	2.90	681.0	710.8	725.6	2.65
<b>Wholesale trade</b>						
Total, all occupations .....	5,293.6	100.00	6,356.2	6,474.4	6,495.3	100.00
Professional, technical, and related workers .....	359.9	6.80	466.9	475.5	477.1	7.34
Electrical engineers .....	11.7	.22	16.0	16.3	16.3	.25
Industrial engineers .....	6.6	.13	8.0	8.2	8.2	.13
Mechanical engineers .....	9.4	.18	11.3	11.5	11.5	.18
Electrical and electronic technicians .....	90.9	1.72	121.5	123.7	124.1	1.91
Computer programmers .....	15.9	.30	24.9	25.4	25.4	.39
Computer systems analysts .....	25.1	.47	37.7	38.4	38.5	.59
Accountants and auditors .....	61.6	1.16	79.5	80.9	81.2	1.25
Buyers, retail and wholesale trade .....	72.3	1.37	88.8	90.4	90.7	1.40
Managers, officials, and proprietors .....	483.4	9.13	606.7	617.9	619.9	9.54
Sales managers, retail trade .....	153.8	2.90	198.0	201.7	202.3	3.11
Store managers .....	3.4	.06	4.2	4.3	4.3	.07
Wholesalers .....	202.5	3.82	255.3	260.1	260.9	4.02
Sales workers .....	1,093.4	20.66	1,394.7	1,420.6	1,425.2	21.94
Sales representatives, nontechnical .....	410.4	7.75	517.3	526.9	528.7	8.14
Sales representatives, technical .....	561.5	10.61	722.0	735.4	737.8	11.36
Sales clerks .....	116.3	2.20	148.8	151.5	152.0	2.34
Clerical workers .....	1,530.7	28.92	1,750.2	1,782.7	1,788.5	27.53
Accounting clerks .....	90.2	1.70	98.3	100.1	100.4	1.55
Bookkeepers, hand .....	114.6	2.17	123.8	126.1	126.5	1.95
Cashiers .....	36.0	.68	52.5	53.4	53.6	.83
Clerical supervisors .....	9.2	.17	10.8	11.0	11.1	.17
General clerks, office .....	289.1	5.46	353.3	359.9	361.1	5.56
Bookkeeping, billing machine operators .....	57.7	1.09	68.2	69.5	69.7	1.07
Computer operators .....	6.5	.12	7.8	8.0	8.0	.12
Data entry operators .....	36.0	.68	27.5	28.0	28.1	.43

See footnotes at end of table.



E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Wholesale trade—Continued</b>						
Order clerks .....	120.5	2.28	143.5	146.2	146.7	2.26
Receptionists .....	18.0	.34	21.5	21.9	22.0	.34
Secretaries .....	153.6	2.90	184.8	188.2	188.8	2.91
Typists .....	50.4	.95	54.3	55.3	55.5	.85
Shipping and receiving clerks .....	115.7	2.19	128.1	130.4	130.9	2.01
Shipping packers .....	127.7	2.41	140.9	143.6	144.0	2.22
Stock clerks, stockroom and warehouse .....	219.9	4.15	232.7	237.0	237.8	3.66
Switchboard operators/receptionists .....	29.7	.56	35.9	36.6	36.7	.56
Switchboard operators .....	6.6	.13	7.2	7.3	7.3	.11
Weighers .....	12.0	.23	14.8	15.1	15.1	.23
<b>Craft and related workers</b> .....	<b>547.0</b>	<b>10.33</b>	<b>698.4</b>	<b>711.4</b>	<b>713.7</b>	<b>10.99</b>
Automotive mechanics .....	78.3	1.48	90.9	92.6	92.9	1.43
Computer service technicians .....	41.4	.78	74.7	76.1	76.4	1.18
Diesel mechanics .....	55.4	1.05	65.1	66.3	66.5	1.02
Engineering equipment mechanics .....	38.3	.72	39.9	40.7	40.8	.63
Farm equipment mechanics .....	15.7	.30	15.8	16.1	16.1	.25
Maintenance repairers, general utility .....	72.7	1.37	90.0	91.6	91.9	1.42
Office machine repairers .....	43.7	.83	77.2	78.6	78.8	1.21
Machinists .....	8.4	.16	10.7	10.9	11.0	.17
Blue-collar worker supervisors .....	90.7	1.71	110.5	112.5	112.9	1.74
<b>Operatives</b> .....	<b>717.0</b>	<b>13.54</b>	<b>828.2</b>	<b>843.6</b>	<b>846.3</b>	<b>13.03</b>
Welders and flamecutters .....	8.7	.16	9.9	10.1	10.2	.16
Production packagers .....	26.6	.50	29.2	29.8	29.9	.46
Industrial truck operators .....	54.6	1.03	63.2	64.4	64.6	.99
Delivery and route workers .....	240.6	4.54	279.5	284.7	285.6	4.40
Truck drivers .....	231.3	4.37	271.6	276.7	277.6	4.27
Fuel pump attendants and lubricators .....	38.5	.73	46.7	47.5	47.7	.73
<b>Service workers</b> .....	<b>88.4</b>	<b>1.67</b>	<b>95.0</b>	<b>96.8</b>	<b>97.1</b>	<b>1.49</b>
Building custodians .....	52.7	1.00	56.2	57.3	57.4	.88
Butchers and meat cutters .....	23.7	.45	25.3	25.8	25.9	.40
<b>Laborers, except farm</b> .....	<b>473.7</b>	<b>8.95</b>	<b>516.2</b>	<b>525.8</b>	<b>527.5</b>	<b>8.12</b>
Conveyor operators and tenders .....	13.7	.26	16.3	16.6	16.7	.26
Helpers, trades .....	4.8	.09	5.8	6.0	6.0	.09
Order fillers .....	218.3	4.12	249.0	253.7	254.5	3.92
<b>Motor vehicles and auto parts and supplies</b>						
Total, all occupations .....	413.0	100.00	584.6	595.5	597.4	100.00
<b>Professional, technical, and related workers</b> .....	<b>17.0</b>	<b>4.12</b>	<b>27.1</b>	<b>27.6</b>	<b>27.7</b>	<b>4.63</b>
Computer programmers .....	1.4	.34	2.4	2.4	2.4	.40
Computer systems analysts .....	1.2	.28	2.4	2.4	2.4	.40
Accountants and auditors .....	4.7	1.13	7.7	7.8	7.8	1.31
Buyers, retail and wholesale trade .....	6.1	1.49	9.5	9.7	9.8	1.63
<b>Managers, officials, and proprietors</b> .....	<b>41.7</b>	<b>10.09</b>	<b>61.8</b>	<b>63.0</b>	<b>63.2</b>	<b>10.57</b>
Sales managers, retail trade .....	13.6	3.29	21.2	21.6	21.7	3.63
Wholesalers .....	18.2	4.40	28.5	29.0	29.1	4.87
<b>Sales workers</b> .....	<b>93.5</b>	<b>22.64</b>	<b>133.6</b>	<b>136.1</b>	<b>136.5</b>	<b>22.85</b>
Sales representatives, nontechnical .....	28.0	6.79	40.0	40.7	40.9	6.84
Sales representatives, technical .....	45.2	10.95	64.8	66.0	66.2	11.08
Sales clerks .....	19.7	4.76	28.0	28.6	28.7	4.80
<b>Clerical workers</b> .....	<b>123.8</b>	<b>29.97</b>	<b>161.8</b>	<b>164.8</b>	<b>165.4</b>	<b>27.68</b>
Accounting clerks .....	7.0	1.70	8.1	8.2	8.2	1.38

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Motor vehicles and auto parts and supplies—Continued</b>						
Bookkeepers, hand .....	10.2	2.48	12.6	12.9	12.9	2.16
Cashiers .....	3.8	.91	6.4	6.5	6.6	1.10
Bookkeeping and billing operators .....	5.4	1.31	6.5	6.6	6.6	1.11
Data entry operators .....	4.1	.99	2.4	2.4	2.4	.40
Secretaries .....	8.6	2.09	11.2	11.4	11.4	1.91
Typists .....	2.7	.65	2.8	2.9	2.9	.49
Shipping and receiving clerks .....	11.5	2.77	17.9	18.2	18.3	3.06
Shipping packers .....	7.0	1.68	8.0	8.1	8.1	1.36
Stock clerks, stockroom and warehouse .....	23.4	5.66	26.5	27.0	27.0	4.53
Switchboard operators/receptionists .....	1.8	.44	2.6	2.6	2.6	.44
<b>Craft and related workers</b> .....	<b>62.8</b>	<b>15.21</b>	<b>89.9</b>	<b>91.6</b>	<b>91.9</b>	<b>15.39</b>
Automotive body repairers .....	2.0	.48	2.8	2.9	2.9	.48
Automotive mechanics .....	26.6	6.44	37.2	37.9	38.0	6.37
Diesel mechanics .....	15.1	3.66	21.6	22.0	22.0	3.69
Maintenance repairers, general utility .....	3.5	.84	5.0	5.0	5.1	.85
Machinists .....	2.9	.70	4.1	4.2	4.2	.71
Blue-collar worker supervisors .....	7.9	1.92	12.4	12.6	12.6	2.12
<b>Operatives</b> .....	<b>42.1</b>	<b>10.20</b>	<b>64.0</b>	<b>65.1</b>	<b>65.4</b>	<b>10.94</b>
Transport equipment operatives .....	30.3	7.35	47.2	48.0	48.2	8.06
Industrial truck operators .....	2.6	.63	3.7	3.8	3.8	.63
Delivery and route workers .....	17.5	4.24	27.9	28.4	28.5	4.77
Truck drivers .....	9.3	2.26	14.3	14.6	14.6	2.44
Fuel pump attendants and lubricators .....	3.3	.79	4.7	4.8	4.8	.80
Miscellaneous machine operatives, nonmanufacturing .....	1.5	.37	2.2	2.2	2.2	.37
Tire changers and repairers .....	2.2	.54	3.2	3.3	3.3	.55
<b>Service workers</b> .....	<b>4.2</b>	<b>1.02</b>	<b>6.0</b>	<b>6.1</b>	<b>6.1</b>	<b>1.02</b>
Building custodians .....	3.6	.88	5.2	5.3	5.3	.89
<b>Laborers, except farm</b> .....	<b>27.9</b>	<b>6.75</b>	<b>40.5</b>	<b>41.2</b>	<b>41.3</b>	<b>6.92</b>
Stock handlers .....	18.7	4.54	28.6	29.1	29.2	4.89
<b>Machinery, equipment, and supplies</b>						
Total, all occupations .....	1,344.9	100.00	1,630.8	1,661.2	1,666.5	100.00
<b>Professional, technical, and related workers</b> .....	<b>154.5</b>	<b>11.49</b>	<b>203.5</b>	<b>207.2</b>	<b>207.9</b>	<b>12.48</b>
Electrical engineers .....	4.0	.30	6.5	6.6	6.7	.40
Industrial engineers .....	3.3	.24	3.9	4.0	4.0	.24
Mechanical engineers .....	5.4	.40	6.6	6.7	6.7	.40
Drafters .....	2.5	.19	2.4	2.4	2.4	.15
Electrical and electronic technicians .....	62.7	4.67	83.9	85.4	85.7	5.14
Computer programmers .....	5.5	.41	8.3	8.5	8.5	.51
Computer systems analysts .....	16.9	1.26	23.7	24.2	24.3	1.46
Accountants and auditors .....	15.2	1.13	20.4	20.7	20.8	1.25
Buyers, retail and wholesale trade .....	15.2	1.13	18.4	18.7	18.8	1.13
<b>Managers, officials, and proprietors</b> .....	<b>117.2</b>	<b>8.72</b>	<b>153.4</b>	<b>156.3</b>	<b>156.8</b>	<b>9.41</b>
Sales managers, retail trade .....	39.2	2.92	52.4	53.4	53.6	3.22
Wholesalers .....	38.2	2.84	51.2	52.1	52.3	3.14
<b>Sales workers</b> .....	<b>275.6</b>	<b>20.49</b>	<b>360.3</b>	<b>367.0</b>	<b>368.2</b>	<b>22.09</b>
Sales representatives, nontechnical .....	154.9	11.52	202.9	206.7	207.3	12.44
Sales representatives, technical .....	96.8	7.19	128.4	130.8	131.2	7.87
Sales clerks .....	23.9	1.78	28.9	29.5	29.6	1.77
<b>Clerical workers</b> .....	<b>347.6</b>	<b>25.85</b>	<b>373.3</b>	<b>380.3</b>	<b>381.5</b>	<b>22.89</b>
Accounting clerks .....	21.8	1.62	21.5	21.9	22.0	1.32

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Machinery, equipment, and supplies—Continued</b>						
Bookkeepers, hand .....	25.7	1.91	24.6	25.1	25.1	1.51
Cashiers .....	4.5	.34	6.3	6.4	6.4	.39
General clerks, office .....	76.3	5.67	87.9	89.5	89.8	5.39
Bookkeeping and billing operators .....	13.6	1.01	16.5	16.8	16.8	1.01
Data entry operators .....	6.8	.51	4.4	4.5	4.5	.27
Receptionists .....	5.5	.41	6.7	6.8	6.8	.41
Secretaries .....	47.0	3.50	53.0	54.0	54.2	3.25
Typists .....	14.5	1.08	14.7	14.9	15.0	.90
Shipping and receiving clerks .....	22.1	1.64	21.8	22.2	22.3	1.34
Shipping packers .....	18.6	1.39	19.4	19.8	19.8	1.19
Stock clerks, stockroom and warehouse .....	39.4	2.93	40.2	41.0	41.1	2.47
Switchboard operators/receptionists .....	8.4	.62	10.1	10.3	10.4	.62
Craft and related workers .....	295.4	21.97	383.7	390.8	392.1	23.53
Plumbers and pipefitters .....	2.2	.17	2.7	2.7	2.8	.17
Mechanics, repairers, and installers .....	246.3	18.32	325.8	331.9	333.0	19.98
Automotive mechanics .....	38.6	2.87	38.6	39.3	39.5	2.37
Computer service technicians .....	38.2	2.84	70.9	72.2	72.4	4.35
Diesel mechanics .....	35.2	2.62	37.8	38.5	38.6	2.32
Engineering equipment mechanics .....	35.7	2.66	36.8	37.5	37.6	2.26
Farm equipment mechanics .....	15.4	1.14	15.4	15.7	15.7	.94
Industrial machinery repairers .....	3.5	.26	4.3	4.4	4.4	.26
Maintenance repairers, general utility .....	28.8	2.14	36.5	37.2	37.3	2.24
Office machine repairers .....	39.7	2.95	72.1	73.4	73.7	4.42
Machinists .....	3.9	.29	4.7	4.8	4.8	.29
Blue-collar worker supervisors .....	24.2	1.80	28.1	28.6	28.7	1.72
Crane, derrick, and hoist operators .....	2.8	.20	3.3	3.4	3.4	.20
Opticians, dispensing and optical mechanics .....	2.0	.15	2.0	2.0	2.0	.12
Operatives .....	76.8	5.71	79.4	80.9	81.2	4.87
Welders and flamecutters .....	4.0	.30	4.8	4.9	4.9	.30
Chauffeurs .....	1.2	.09	1.5	1.5	1.5	.09
Industrial truck operators .....	4.8	.36	5.8	6.0	6.0	.36
Delivery and route workers .....	20.9	1.55	20.4	20.7	20.8	1.25
Truck drivers .....	23.6	1.76	25.4	25.9	26.0	1.56
Service workers .....	24.4	1.82	23.2	23.6	23.7	1.42
Building custodians .....	23.2	1.73	21.7	22.1	22.1	1.33
Laborers, except farm .....	53.3	3.96	54.0	55.0	55.2	3.31
Helpers, trades .....	2.7	.20	3.3	3.4	3.4	.20
Order fillers .....	31.0	2.30	32.3	32.9	33.0	1.98
<b>Retail trade</b>						
Total, all occupations .....	15,257.4	100.00	19,689.9	20,363.6	20,696.4	100.00
Professional, technical, and related workers .....	417.6	2.74	546.5	569.4	580.8	2.80
Pharmacists .....	82.1	.54	103.9	108.6	110.9	.53
Designers .....	62.7	.41	79.9	83.3	85.0	.41
Accountants and auditors .....	40.0	.26	53.8	56.2	57.4	.28
Buyers, retail and wholesale trade .....	150.9	.99	198.0	206.8	211.1	1.02
Managers, officials, and proprietors .....	1,435.3	9.41	1,978.3	2,051.9	2,088.4	10.08
Auto parts department managers .....	34.0	.22	50.1	52.4	53.5	.26
Auto service department managers .....	42.7	.28	63.7	66.6	68.0	.33
Restaurant, café, and bar managers .....	312.8	2.05	452.9	458.5	461.1	2.25
Sales managers, retail trade .....	107.3	.70	136.6	142.7	145.7	.70
Store managers .....	768.6	5.04	1,014.7	1,060.7	1,083.6	5.21
All other managers .....	169.2	1.11	259.5	270.3	275.7	1.33

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Retail trade—Continued</b>						
Sales workers .....	3,366.6	22.07	4,085.9	4,264.8	4,353.6	20.94
Sales representatives, nontechnical .....	173.0	1.13	206.9	216.2	220.8	1.06
Sales representatives, technical .....	758.8	4.97	929.9	971.3	991.9	4.77
Sales clerks .....	2,379.0	15.59	2,879.0	3,004.2	3,066.3	14.75
Clerical workers .....	2,719.6	17.82	3,624.7	3,776.5	3,851.9	18.55
Accounting clerks .....	71.8	.47	86.4	90.2	92.0	.44
Bookkeepers, hand .....	276.6	1.81	315.5	327.6	333.6	1.61
Cashiers .....	1,247.3	8.17	1,768.8	1,840.6	1,876.3	9.04
Clerical supervisors .....	26.6	.17	37.0	38.7	39.5	.19
General clerks, office .....	282.8	1.85	377.4	394.2	402.5	1.94
Order clerks .....	40.5	.27	51.3	53.6	54.7	.26
Secretaries .....	77.6	.51	101.7	106.1	108.3	.52
Service clerks .....	22.1	.15	31.8	33.2	33.8	.16
Shipping and receiving clerks .....	71.5	.47	82.2	85.8	87.6	.42
Shipping packers .....	20.8	.14	26.7	27.9	28.4	.14
Stock clerks, stockroom and warehouse .....	292.6	1.92	350.0	365.5	373.1	1.79
Craft and related workers .....	806.5	5.29	1,138.0	1,190.2	1,216.2	5.84
Automotive body repairers .....	44.8	.29	68.1	71.2	72.7	.35
Automotive mechanics .....	300.0	1.97	472.8	495.4	506.7	2.43
Bakers .....	46.9	.31	57.6	60.2	61.4	.30
Blue-collar worker supervisors .....	36.6	.24	51.1	53.3	54.5	.26
Merchandise displayers and window trimmers .....	16.5	.11	26.3	27.4	28.0	.13
Tailors .....	41.0	.27	57.0	59.5	60.7	.29
Operatives .....	1,115.1	7.31	1,273.5	1,333.6	1,363.5	6.55
Baggers .....	242.0	1.59	219.1	228.6	233.4	1.12
Production packagers .....	63.2	.41	73.8	76.9	78.5	.38
Delivery and route workers .....	199.2	1.31	243.0	253.1	258.2	1.24
Truck drivers .....	103.9	.68	136.0	142.3	145.4	.70
Fuel pump attendants and lubricators .....	316.1	2.07	345.0	364.6	374.4	1.79
Tire changers and repairers .....	54.4	.36	76.4	79.8	81.5	.39
Service workers .....	4,621.6	30.29	6,130.3	6,224.4	6,269.4	30.57
Building custodians .....	251.7	1.65	299.3	308.6	313.2	1.52
Food service workers .....	4,237.8	27.78	5,637.9	5,716.9	5,754.4	28.07
Bakers, bread and pastry .....	22.7	.15	30.7	31.1	31.3	.15
Bartenders .....	242.2	1.59	331.6	335.7	337.7	1.65
Butchers and meat cutters .....	149.2	.98	130.0	135.6	138.4	.67
Cooks, restaurant .....	266.9	1.75	384.5	389.5	391.9	1.91
Cooks, short order and specialty fast foods .....	386.2	2.53	506.1	513.0	516.3	2.52
Food preparation and service workers, fast food restaurants .....	792.2	5.19	1,072.2	1,085.6	1,092.0	5.33
Hosts/hostesses, restaurants, lounges, and coffee shops .....	93.8	.61	126.9	128.4	129.2	.63
Kitchen helpers .....	411.4	2.70	586.0	594.1	597.9	2.92
Pantry, sandwich, and coffee makers .....	56.3	.37	75.3	76.4	76.9	.38
Waiters and waitresses .....	1,363.8	8.94	1,790.9	1,814.7	1,826.0	8.91
Waiters' assistants .....	194.2	1.27	240.1	243.1	244.5	1.19
All other food service workers .....	257.9	1.69	362.5	368.4	371.3	1.81
Supervisors, nonworking, service .....	42.5	.28	58.2	59.1	59.6	.29
Laborers, except farm .....	775.2	5.08	912.8	952.8	972.7	4.68
Cleaners, vehicle .....	43.5	.28	62.0	64.9	66.3	.32
Order fillers .....	28.6	.19	34.6	36.2	37.0	.18
Stock clerk, sales floor .....	595.0	3.90	678.7	708.5	723.3	3.48

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Department stores</b>						
Total, all occupations .....	1,884.8	100.00	2,829.8	2,954.6	3,016.1	100.00
Professional, technical, and related workers .....	69.7	3.70	111.0	115.9	118.3	3.92
Computer programmers .....	1.4	.08	2.2	2.3	2.3	.08
Commercial and graphic artists and designers .....	3.8	.20	5.7	6.0	6.1	.20
Designers .....	2.7	.14	4.8	5.0	5.1	.17
Accountants and auditors .....	3.9	.21	5.9	6.2	6.3	.21
Buyers, retail and wholesale trade .....	35.5	1.89	59.3	61.9	63.1	2.09
Personnel and labor relations specialists .....	7.5	.40	11.3	11.8	12.0	.40
Managers, officials, and proprietors .....	121.4	6.44	215.4	224.9	229.5	7.61
Sales managers, retail trade .....	22.6	1.20	33.9	35.4	36.1	1.20
Store managers .....	30.7	1.63	53.0	55.3	56.5	1.87
Sales workers .....	859.5	45.60	1,254.7	1,310.0	1,337.2	44.34
Sales representatives, nontechnical .....	14.5	.77	18.6	19.4	19.8	.66
Sales representatives, technical .....	124.7	6.62	176.4	184.2	188.0	6.23
Sales clerks .....	673.8	35.75	999.1	1,043.2	1,064.9	35.31
Clerical workers .....	490.3	26.02	758.3	791.8	808.2	26.80
Adjustment clerks .....	15.7	.83	23.6	24.6	25.1	.83
Accounting clerks .....	18.8	1.00	25.3	26.4	26.9	.89
Bookkeepers, hand .....	9.5	.51	12.3	12.9	13.2	.44
Cashiers .....	94.5	5.01	179.4	187.3	191.2	6.34
Clerical supervisors .....	16.5	.88	24.8	25.9	26.4	.88
Collectors, bill and account .....	6.2	.33	7.4	7.7	7.9	.26
Credit authorizers .....	16.9	.90	25.4	26.5	27.1	.90
File clerks .....	4.8	.26	5.3	5.5	5.7	.19
General clerks, office .....	46.2	2.45	77.3	80.7	82.3	2.73
Bookkeeping, billing machine operators .....	3.6	.19	5.4	5.7	5.8	.19
Computer operators .....	1.4	.08	2.1	2.2	2.3	.08
Data entry operators .....	6.1	.32	8.8	9.2	9.4	.31
Peripheral EDP equipment operators .....	1.8	.10	2.8	2.9	2.9	.10
Order clerks .....	15.6	.83	23.4	24.4	24.9	.83
Payroll and timekeeping clerks .....	5.5	.29	8.2	8.6	8.7	.29
Personnel clerks .....	4.9	.26	7.4	7.7	7.9	.26
Secretaries .....	12.2	.65	18.7	19.5	20.0	.66
Typists .....	4.6	.24	4.9	5.1	5.2	.17
Service clerks .....	20.4	1.08	29.5	30.8	31.4	1.04
Shipping and receiving clerks .....	18.3	.97	22.7	23.6	24.1	.80
Shipping packers .....	12.7	.67	17.0	17.8	18.2	.60
Stock clerks, stockroom and warehouse .....	48.1	2.55	62.5	65.2	66.6	2.21
Switchboard operators .....	11.1	.59	7.4	7.7	7.8	.26
Craft and related workers .....	92.0	4.88	137.9	144.0	147.0	4.87
Appliance installers and repairers .....	11.7	.62	17.6	18.3	18.7	.62
Automotive mechanics .....	13.8	.73	17.8	18.6	19.0	.63
Industrial machinery repairers .....	5.2	.28	7.9	8.2	8.4	.28
Blue-collar worker supervisors .....	9.0	.48	13.6	14.2	14.5	.48
Merchandise displayers and window trimmers .....	10.5	.55	18.7	19.5	19.9	.66
Tailors .....	8.5	.45	12.8	13.4	13.7	.45
Operatives .....	40.0	2.12	55.2	57.6	58.8	1.95
Delivery and route workers .....	2.8	.15	4.1	4.3	4.4	.15
Truck drivers .....	5.3	.28	7.9	8.3	8.4	.28
Dressmakers, except factory .....	3.6	.19	5.3	5.6	5.7	.19
Tire changers and repairers .....	12.0	.64	13.2	13.8	14.1	.47
Service workers .....	127.1	6.74	185.0	193.2	197.2	6.54
Building custodians .....	34.5	1.83	37.5	39.1	40.0	1.32

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Department stores—Continued</b>						
Cooks, short order and specialty fast foods .....	5.0	0.26	8.0	8.3	8.5	0.28
Kitchen helpers .....	7.4	.39	11.2	11.7	11.9	.39
Waiters and waitresses .....	12.1	.64	18.2	19.0	19.4	.64
Cosmetologists/women's hairstylists .....	12.2	.65	18.3	19.1	19.5	.65
Guards .....	7.4	.39	20.1	21.0	21.4	.71
Store detectives .....	17.3	.92	24.6	25.7	26.2	.87
Supervisors, nonworking, service .....	3.7	.19	5.5	5.8	5.9	.19
Laborers, except farm .....	84.9	4.51	112.3	117.3	119.7	3.97
Order fillers .....	4.9	.26	6.5	6.8	6.9	.23
Stock clerk, sales floor .....	65.3	3.46	83.7	87.4	89.2	2.96
<b>Grocery stores</b>						
Total, all occupations .....	2,163.4	100.00	2,458.0	2,564.8	2,617.9	100.00
Professional, technical, and related workers .....	39.1	1.81	44.5	46.4	47.3	1.81
Pharmacists .....	1.3	.06	1.5	1.6	1.6	.06
Buyers, retail and wholesale trade .....	33.7	1.56	38.2	39.9	40.7	1.56
Managers, officials, and proprietors .....	178.1	8.23	229.8	239.8	244.8	9.35
Sales managers, retail trade .....	2.0	.09	2.3	2.4	2.4	.09
Store managers .....	150.0	6.94	191.2	199.5	203.6	7.78
Sales workers .....	238.5	11.03	238.7	249.0	254.2	9.71
Sales representatives, technical .....	1.4	.06	1.4	1.4	1.5	.06
Sales clerks .....	236.7	10.94	237.0	247.2	252.4	9.64
Clerical workers .....	808.3	37.36	1,023.2	1,067.7	1,089.8	41.63
Accounting clerks .....	2.2	.10	2.5	2.7	2.7	.10
Bookkeepers, hand .....	30.4	1.40	32.5	34.0	34.7	1.32
Cashiers .....	641.8	29.67	838.7	875.2	893.3	34.12
Clerical supervisors .....	1.1	.05	1.3	1.3	1.3	.05
General clerks, office .....	34.6	1.60	39.3	41.0	41.8	1.60
Secretaries and stenographers .....	9.2	.42	11.1	11.6	11.8	.45
Stock clerks, stockroom and warehouse .....	83.0	3.84	91.0	94.9	96.9	3.70
Craft and related workers .....	30.2	1.40	34.3	35.8	36.6	1.40
Maintenance repairers, general utility .....	1.1	.05	1.2	1.3	1.3	.05
Bakers .....	23.8	1.10	27.0	28.2	28.8	1.10
Blue-collar worker supervisors .....	2.2	.10	2.5	2.6	2.7	.10
Operatives .....	319.9	14.78	307.2	320.6	327.2	12.50
Baggers .....	239.3	11.06	215.7	225.1	229.7	8.77
Production packagers .....	50.1	2.31	56.9	59.4	60.6	2.31
Industrial truck operators .....	1.3	.06	1.5	1.6	1.6	.06
Delivery and route workers .....	7.2	.33	8.2	8.5	8.7	.33
Truck drivers .....	11.0	.51	12.5	13.1	13.3	.51
Miscellaneous machine operatives, all other food products .....	8.6	.40	9.8	10.2	10.4	.40
Service workers .....	174.0	8.04	159.2	166.1	169.6	6.48
Building custodians .....	22.6	1.05	25.7	26.8	27.4	1.05
Butchers and meat cutters .....	131.7	6.09	111.2	116.0	118.4	4.52
Cooks, restaurant .....	1.3	.06	1.4	1.5	1.5	.06
Cooks, short order and specialty fast foods .....	2.6	.12	2.9	3.0	3.1	.12
Kitchen helpers .....	1.1	.05	1.3	1.3	1.4	.05
Pantry, sandwich, and coffee makers .....	2.0	.09	2.3	2.4	2.4	.09
Waiters and waitresses .....	2.9	.13	3.3	3.4	3.5	.13
Guards .....	1.7	.08	2.0	2.0	2.1	.08

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Grocery stores—Continued</b>						
Laborers, except farm .....	375.3	17.35	421.0	439.3	448.4	17.13
Stock clerk, sales floor .....	363.2	16.79	407.2	424.9	433.7	16.57
<b>Motor vehicle dealers (new and used)</b>						
Total, all occupations .....	690.5	100.00	1,051.4	1,098.7	1,122.2	100.00
Professional, technical, and related workers .....	12.3	1.79	18.8	19.6	20.1	1.79
Accountants and auditors .....	12.1	1.76	18.5	19.3	19.7	1.76
Managers, officials, and proprietors .....	101.1	14.65	163.2	170.5	174.2	15.52
Auto parts department managers .....	22.3	3.23	34.5	36.0	36.8	3.28
Auto service department managers .....	29.0	4.20	45.7	47.8	48.8	4.35
Store managers .....	44.7	6.48	75.1	78.5	80.1	7.14
Sales workers .....	154.6	22.39	222.8	232.8	237.8	21.19
Sales representatives, nontechnical .....	22.3	3.24	29.1	30.4	31.0	2.76
Sales representatives, technical .....	125.3	18.14	181.2	189.3	193.4	17.23
Sales clerks .....	6.8	.99	12.4	12.9	13.2	1.18
Clerical workers .....	109.4	15.84	151.3	158.1	161.5	14.39
Accounting clerks .....	13.0	1.88	15.0	15.6	16.0	1.42
Bookkeepers, hand .....	19.7	2.85	22.3	23.4	23.9	2.13
Cashiers .....	11.6	1.69	19.1	20.0	20.4	1.82
General clerks, office .....	25.4	3.67	38.6	40.4	41.2	3.67
Receptionists .....	1.2	.18	1.8	1.9	2.0	.18
Secretaries .....	5.4	.78	6.3	6.6	6.7	.60
Stock clerks, stockroom and warehouse .....	21.6	3.13	31.6	33.0	33.7	3.01
Switchboard operators/receptionists .....	6.4	.92	9.7	10.1	10.4	.92
Switchboard operators .....	2.0	.30	2.2	2.3	2.4	.21
Craft and related workers .....	220.4	31.93	358.5	374.6	382.7	34.10
Automotive body repairers .....	40.6	5.88	61.8	64.6	66.0	5.88
Automotive mechanics .....	153.8	22.28	257.1	268.6	274.4	24.45
Auto repair service estimators .....	8.0	1.16	12.1	12.7	13.0	1.16
Diesel mechanics .....	7.0	1.01	10.6	11.1	11.3	1.01
Blue-collar worker supervisors .....	10.3	1.48	15.6	16.3	16.7	1.48
Operatives .....	25.4	3.68	38.7	40.5	41.3	3.68
Painters, automotive .....	8.6	1.24	13.1	13.7	14.0	1.25
Delivery and route workers .....	6.3	.91	9.6	10.0	10.2	.91
Truck drivers .....	3.1	.44	4.7	4.9	5.0	.44
Fuel pump attendants and lubricators .....	4.1	.60	6.3	6.6	6.7	.60
Service workers .....	19.2	2.77	29.0	30.3	31.0	2.76
Building custodians .....	18.6	2.70	28.4	29.6	30.3	2.70
Laborers, except farm .....	48.0	6.95	69.1	72.2	73.8	6.58
Cleaners, vehicle .....	36.6	5.30	51.7	54.1	55.2	4.92
Helpers, trades .....	9.3	1.35	14.1	14.8	15.1	1.35
<b>Gasoline service stations</b>						
Total, all occupations .....	550.4	100.00	695.3	735.5	755.6	100.00
Professional, technical, and related workers .....	3.2	.57	4.0	4.2	4.3	.57
Accountants and auditors .....	2.9	.53	3.7	3.9	4.0	.53
Managers, officials, and proprietors .....	64.4	11.71	84.6	89.5	92.0	12.17

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Gasoline service stations—Continued</b>						
Store managers .....	61.7	11.22	81.2	85.9	88.2	11.68
Sales workers .....	2.0	.37	2.3	2.4	2.5	.33
Sales representatives, technical .....	1.0	.19	1.1	1.2	1.2	.16
Clerical workers .....	68.1	12.37	122.0	129.1	132.6	17.55
Bookkeepers, hand .....	16.4	2.98	17.8	18.8	19.4	2.56
Cashiers .....	41.3	7.50	91.0	96.3	98.9	13.09
General clerks, office .....	9.3	1.70	11.8	12.5	12.8	1.70
Craft and related workers .....	72.2	13.11	108.4	114.7	117.8	15.59
Automotive mechanics .....	70.3	12.76	106.0	112.1	115.2	15.24
Operatives .....	315.9	57.39	342.9	362.8	372.7	49.32
Truck drivers .....	13.5	2.46	17.1	18.1	18.6	2.46
Fuel pump attendants and lubricators .....	300.7	54.63	323.7	342.5	351.8	46.56
Service workers .....	22.0	3.99	27.8	29.4	30.2	3.99
Building custodians .....	1.3	.23	1.6	1.7	1.8	.23
Cooks, restaurant .....	1.1	.20	1.4	1.5	1.5	.20
Kitchen helpers .....	6.2	1.13	7.9	8.3	8.6	1.13
Waiters and waitresses .....	10.9	1.99	13.8	14.6	15.0	1.99
Laborers, except farm .....	2.7	.48	3.4	3.6	3.6	.48
Cleaners, vehicle .....	1.5	.27	1.9	2.0	2.0	.27
<b>Eating and drinking places</b>						
Total, all occupations .....	4,781.4	100.00	6,472.6	6,551.5	6,588.6	100.00
Professional, technical, and related workers .....	29.8	.62	40.3	40.8	41.1	.62
Musicians .....	18.4	.38	24.9	25.2	25.3	.38
Managers, officials, and proprietors .....	328.7	6.88	474.5	480.3	483.0	7.33
Restaurant, cafe, and bar managers .....	311.2	6.51	450.8	456.3	458.9	6.96
Sales workers .....	54.0	1.13	67.3	68.1	68.5	1.04
Sales clerks .....	52.9	1.11	65.9	66.7	67.0	1.02
Clerical workers .....	223.7	4.68	310.5	314.3	316.1	4.80
Accounting clerks .....	2.3	.05	2.6	2.6	2.6	.04
Bookkeepers, hand .....	56.8	1.19	66.2	67.0	67.3	1.02
Cashiers .....	150.3	3.14	222.5	225.2	226.5	3.44
General clerks, office .....	4.0	.08	5.4	5.4	5.4	.08
Secretaries .....	2.8	.06	3.8	3.8	3.8	.06
Stock clerks, stockroom and warehouse .....	1.6	.03	2.2	2.3	2.3	.03
Craft and related workers .....	4.5	.09	6.0	6.1	6.1	.09
Maintenance repairers, general utility .....	1.9	.04	2.6	2.6	2.6	.04
Operatives .....	22.2	.46	30.0	30.4	30.6	.46
Delivery and route workers .....	16.8	.35	22.8	23.1	23.2	.35
Fuel pump attendants and lubricators .....	1.4	.03	1.9	1.9	1.9	.03
Service workers .....	4,112.9	86.02	5,536.4	5,603.8	5,635.6	85.54
Building custodians .....	107.1	2.24	125.2	126.7	127.4	1.93
Food service workers .....	3,944.9	82.51	5,326.7	5,391.6	5,422.2	82.30
Bakers, bread and pastry .....	22.0	.46	29.8	30.2	30.4	.46
Bartenders .....	240.2	5.02	329.1	333.1	335.0	5.08
Cooks, restaurant .....	259.9	5.44	375.0	379.5	381.7	5.79

See footnotes at end of table.



**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Eating and drinking places—Continued</b>						
Cooks, short order and specialty fast foods .....	369.2	7.72	484.2	490.1	492.9	7.48
Food preparation and service workers, fast food restaurants .....	783.0	16.37	1,061.6	1,074.5	1,080.6	16.40
Hosts/hostesses, restaurants, lounges, and coffee shops .....	92.9	1.94	125.7	127.2	128.0	1.94
Kitchen helpers .....	391.7	8.19	559.9	566.7	569.9	8.65
Pantry, sandwich, and coffee makers .....	51.8	1.08	70.2	71.0	71.4	1.08
Waiters and waitresses .....	1,319.7	27.60	1,735.8	1,757.0	1,766.9	26.82
Waiters' assistants .....	192.6	4.03	238.0	240.9	242.2	3.68
All other food service workers .....	220.2	4.61	315.2	319.0	320.8	4.87
Supervisors, nonworking, service .....	37.6	.79	50.8	51.5	51.8	.79
Laborers, except farm .....	5.5	.12	7.5	7.6	7.6	.12
<b>Finance, insurance, and real estate</b>						
Total, all occupations .....	5,350.3	100.00	7,081.6	7,173.9	7,290.3	100.00
Professional, technical, and related workers .....	506.0	9.46	696.0	706.0	718.3	9.84
Actuaries .....	5.6	.10	7.3	7.4	7.5	.10
Computer programmers .....	39.8	.74	65.0	65.9	67.0	.92
Computer systems analysts .....	31.3	.58	54.9	55.7	56.6	.78
Financial analysts .....	14.9	.28	19.6	19.8	20.2	.28
Public relations specialists .....	9.9	.18	13.6	13.7	13.9	.19
Accountants and auditors .....	74.6	1.39	102.9	104.2	106.0	1.45
Brokers' floor reps and security traders .....	10.6	.20	13.0	13.1	13.4	.18
Claim examiners, property/casualty insurance .....	20.3	.38	26.1	26.6	27.0	.37
Credit analysts, chief .....	8.3	.16	11.9	12.0	12.2	.17
Credit analysts .....	20.5	.38	29.3	29.5	30.1	.41
Insurance investigators .....	9.5	.18	12.2	12.4	12.6	.17
Lawyers .....	9.9	.18	13.8	14.0	14.3	.20
Personnel and labor relations specialists .....	14.4	.27	18.5	18.7	19.0	.26
Safety inspectors .....	7.3	.14	10.4	10.6	10.8	.15
Special agents, insurance .....	25.2	.47	38.1	38.8	39.5	.54
Title examiners and abstractors .....	10.3	.19	15.2	15.7	16.1	.22
Underwriters .....	75.8	1.42	90.2	91.8	93.4	1.28
Managers, officials, and proprietors .....	912.8	17.06	1,268.5	1,284.4	1,305.4	17.90
Sales workers .....	507.9	9.49	732.3	743.1	756.0	10.36
Real estate brokers .....	17.2	.32	23.5	23.9	24.2	.33
Sales agents, sales representatives, real estate .....	95.7	1.79	166.7	169.1	171.7	2.36
Real estate appraisers .....	16.5	.31	29.2	29.5	30.0	.41
Sales agents and brokers, insurance .....	244.7	4.57	321.6	327.4	333.1	4.56
Sales agents and representatives, financial services .....	22.4	.42	33.0	33.3	33.9	.46
Security salesworkers .....	62.4	1.17	87.3	88.1	90.0	1.23
Clerical workers .....	2,856.9	53.40	3,632.2	3,678.2	3,737.3	51.27
Adjustment clerks .....	8.4	.16	11.2	11.3	11.5	.16
New accounts tellers .....	67.3	1.26	79.1	79.9	81.1	1.11
Tellers .....	471.5	8.81	607.0	613.1	621.7	8.55
Accounting clerks .....	103.5	1.93	122.0	123.6	125.7	1.72
Bookkeepers, hand .....	68.1	1.27	78.9	80.0	81.3	1.11
Brokerage clerks .....	16.5	.31	20.2	20.3	20.8	.28
Cashiers .....	25.6	.48	40.8	41.3	42.0	.58
Checking clerks .....	18.0	.34	22.4	22.7	23.0	.32
Claims adjusters .....	49.9	.93	78.2	79.7	81.0	1.11
Claims clerks .....	46.7	.87	69.7	70.9	72.2	.99
Claims examiner, insurance .....	47.3	.88	61.1	62.2	63.3	.87
Clerical supervisors .....	155.3	2.90	214.3	217.0	220.5	3.03
Collectors, bill and account .....	47.4	.89	72.2	72.9	74.2	1.02
Credit clerks, banking and insurance .....	49.6	.93	75.7	76.4	77.8	1.07

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Finance, insurance, and real estate—Continued</b>						
Credit reporters .....	6.3	0.12	8.1	8.1	8.3	0.11
File clerks .....	76.5	1.43	74.3	75.4	76.7	1.05
General clerks, office .....	355.8	6.65	429.9	435.5	442.5	6.07
Insurance checkers .....	15.0	.28	22.1	22.5	22.8	.31
Insurance clerks, except medical .....	10.6	.20	14.4	14.6	14.8	.20
Loan closers .....	45.3	.85	63.4	64.1	65.2	.89
Mail clerks .....	30.3	.57	39.3	39.9	40.5	.56
Messengers .....	27.5	.51	36.4	36.8	37.4	.51
Mortgage closing clerks .....	15.3	.29	22.4	22.6	23.0	.31
Bookkeeping and billing operators .....	73.2	1.37	90.3	91.2	92.4	1.27
Bookkeeping, billing machine operators .....	18.5	.35	22.7	23.0	23.3	.32
Proof machine operators .....	47.4	.89	58.7	59.4	60.1	.83
Computer operators .....	37.8	.71	59.1	59.9	60.8	.83
Data entry operators .....	45.7	.85	42.1	42.8	43.5	.60
Peripheral EDP equipment operators .....	14.2	.27	21.0	21.3	21.6	.30
Payroll and timekeeping clerks .....	10.2	.19	14.4	14.6	14.9	.20
Policy change clerks .....	27.6	.52	30.0	30.5	31.0	.43
Raters .....	52.7	.98	67.8	69.0	70.2	.96
Real estate clerks .....	13.1	.25	19.3	19.6	19.9	.27
Receptionists .....	30.9	.58	42.7	43.3	44.0	.60
Safe deposit clerks .....	13.9	.26	17.9	18.1	18.3	.25
Secretaries .....	280.4	5.24	337.4	341.7	347.5	4.76
Stenographers .....	26.2	.49	29.2	29.7	30.2	.41
Typists .....	118.6	2.22	140.1	142.2	144.7	1.98
Statement clerks .....	33.6	.63	43.8	44.2	44.8	.62
Switchboard operators/receptionists .....	29.4	.55	40.1	40.6	41.3	.57
Switchboard operators .....	16.1	.30	19.1	19.3	19.6	.27
Title searchers .....	5.1	.09	7.3	7.5	7.7	.10
Worksheet clerks .....	10.6	.20	15.1	15.3	15.6	.21
<b>Craft and related workers</b> .....	<b>147.7</b>	<b>2.76</b>	<b>200.1</b>	<b>202.7</b>	<b>205.7</b>	<b>2.83</b>
Maintenance repairers, general utility .....	93.3	1.74	128.2	129.9	131.7	1.81
Blue-collar worker supervisors .....	12.0	.22	16.6	16.8	17.0	.23
<b>Operatives</b> .....	<b>12.1</b>	<b>.23</b>	<b>16.5</b>	<b>16.7</b>	<b>16.9</b>	<b>.23</b>
<b>Service workers</b> .....	<b>321.2</b>	<b>6.00</b>	<b>414.5</b>	<b>419.6</b>	<b>425.7</b>	<b>5.85</b>
Building custodians .....	201.6	3.77	250.6	253.7	257.4	3.54
Guards .....	58.3	1.09	79.0	79.9	81.1	1.11
<b>Laborers, except farm</b> .....	<b>85.7</b>	<b>1.60</b>	<b>121.5</b>	<b>123.1</b>	<b>124.9</b>	<b>1.72</b>
Gardeners and groundskeepers, except farm .....	62.6	1.17	89.7	90.9	92.3	1.27
Helpers, trades .....	10.5	.20	14.1	14.3	14.5	.20
<b>Commercial and stock savings banks</b>						
Total, all occupations .....	1,504.4	100.00	1,879.1	1,898.4	1,921.7	100.00
<b>Professional, technical, and related workers</b> .....	<b>89.0</b>	<b>5.92</b>	<b>118.7</b>	<b>119.9</b>	<b>121.4</b>	<b>6.32</b>
Computer programmers .....	9.0	.60	13.5	13.7	13.8	.72
Computer systems analysts .....	8.5	.57	14.1	14.2	14.4	.75
Financial analysts .....	2.8	.19	3.5	3.6	3.6	.19
Public relations specialists .....	3.3	.22	4.0	4.1	4.1	.21
Accountants and auditors .....	16.5	1.10	22.7	23.0	23.3	1.21
Credit analysts, chief .....	3.6	.24	4.5	4.6	4.6	.24
Credit analysts .....	8.0	.53	9.9	10.0	10.1	.53
Personnel and labor relations specialists .....	4.9	.33	6.1	6.2	6.2	.32
<b>Managers, officials, and proprietors</b> .....	<b>279.6</b>	<b>18.58</b>	<b>335.9</b>	<b>339.3</b>	<b>343.5</b>	<b>17.87</b>

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Commercial and stock savings banks—Continued</b>						
Sales workers .....	14.8	0.99	20.5	20.7	21.0	1.09
Real estate appraisers .....	2.5	.16	5.2	5.3	5.3	.28
Sales agents and representatives, financial services .....	9.8	.65	12.1	12.2	12.4	.64
Clerical workers .....	1,078.4	71.69	1,348.0	1,361.9	1,378.6	71.74
Adjustment clerks .....	6.3	.42	7.8	7.9	8.0	.41
Bank tellers .....	383.9	25.52	496.6	501.7	507.8	26.43
New accounts tellers .....	41.2	2.74	49.2	49.7	50.3	2.62
Tellers .....	342.7	22.78	447.4	452.0	457.5	23.81
Accounting clerks .....	26.4	1.76	29.8	30.1	30.5	1.59
Bookkeepers, hand .....	14.7	.98	15.3	15.5	15.7	.82
Cashiers .....	2.2	.14	3.6	3.7	3.7	.19
Checking clerks .....	12.9	.85	15.9	16.1	16.3	.85
Clerical supervisors .....	58.7	3.90	78.6	79.4	80.4	4.18
Coin machine operators and currency sorters .....	4.3	.29	5.3	5.4	5.5	.28
Collectors, bill and account .....	17.0	1.13	24.1	24.3	24.6	1.28
Credit clerks, banking and insurance .....	18.7	1.24	23.1	23.3	23.6	1.23
Credit reporters .....	4.1	.27	5.1	5.1	5.2	.27
File clerks .....	18.3	1.22	17.9	18.1	18.3	.95
General clerks, office .....	109.8	7.30	136.7	138.1	139.8	7.27
Insurance clerks, except medical .....	2.1	.14	2.7	2.7	2.7	.14
Loan closers .....	19.0	1.27	22.7	23.0	23.3	1.21
Mail clerks .....	8.8	.58	10.9	11.0	11.1	.58
Messengers .....	13.6	.90	16.9	17.0	17.2	.90
Mortgage closing clerks .....	5.6	.37	6.9	7.0	7.1	.37
Bookkeeping, billing machine operators .....	9.3	.62	11.5	11.6	11.7	.61
Proof machine operators .....	45.8	3.05	56.7	57.3	58.0	3.02
Transit clerks .....	6.4	.42	7.9	7.9	8.0	.42
Computer operators .....	14.2	.94	24.5	24.8	25.1	1.30
Data entry operators .....	13.9	.93	8.8	8.9	9.0	.47
Peripheral EDP equipment operators .....	6.5	.43	10.7	10.8	11.0	.57
Payroll and timekeeping clerks .....	3.3	.22	4.0	4.1	4.1	.21
Personnel clerks .....	2.9	.19	3.6	3.6	3.6	.19
Receptionists .....	6.1	.41	7.6	7.6	7.7	.40
Safe deposit clerks .....	11.4	.76	14.1	14.2	14.4	.75
Secretaries .....	73.6	4.89	81.6	82.4	83.4	4.34
Stenographers .....	5.5	.37	5.3	5.3	5.4	.28
Typists .....	19.6	1.30	21.4	21.6	21.9	1.14
Sorting clerks, banking .....	6.3	.42	7.7	7.8	7.9	.41
Statement clerks .....	28.6	1.90	35.4	35.7	36.2	1.88
Switchboard operators/receptionists .....	5.1	.34	6.3	6.3	6.4	.33
Telephone operators .....	6.3	.42	6.0	6.1	6.1	.32
Craft and related workers .....	4.2	.28	5.2	5.2	5.3	.28
Maintenance repairers, general utility .....	1.5	.10	1.9	1.9	1.9	.10
Operatives .....	2.5	.17	3.1	3.2	3.2	.17
Service workers .....	35.2	2.34	46.8	47.3	47.9	2.49
Building custodians .....	22.3	1.48	27.6	27.9	28.3	1.47
Guards .....	8.7	.58	14.1	14.2	14.4	.75
Laborers, except farm .....	.6	.04	.8	.8	.8	.04
<b>Fire, marine, and casualty insurance</b>						
Total, all occupations .....	472.1	100.00	633.5	644.9	656.0	100.00
Professional, technical, and related workers .....	102.4	21.69	144.1	146.7	149.2	22.74

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Fire, marine, and casualty insurance—Continued</b>						
Industrial engineers .....	1.4	0.30	1.9	1.9	2.0	0.30
Computer programmers .....	8.4	1.79	14.4	14.7	15.0	2.28
Computer systems analysts .....	5.5	1.17	10.1	10.3	10.4	1.59
Accountants and auditors .....	6.3	1.34	8.5	8.7	8.8	1.34
Claim examiners, property/casualty insurance .....	13.0	2.75	17.4	17.7	18.0	2.75
Insurance investigators .....	5.1	1.08	6.8	6.9	7.1	1.08
Lawyers .....	2.7	.56	4.4	4.5	4.6	.70
Personnel and labor relations specialists .....	1.7	.35	2.2	2.3	2.3	.35
Safety inspectors .....	5.5	1.17	7.4	7.6	7.7	1.17
Special agents, insurance .....	8.4	1.79	11.3	11.5	11.7	1.79
Underwriters .....	32.2	6.82	43.2	44.0	44.7	6.82
Managers, officials, and proprietors .....	54.8	11.61	73.7	75.1	76.3	11.64
Sales workers .....	23.4	4.95	31.4	31.9	32.5	4.95
Real estate agents and brokers .....	1.9	.40	2.5	2.6	2.6	.40
Sales agents and brokers, insurance .....	19.7	4.17	26.4	26.9	27.3	4.17
Clerical workers .....	285.0	60.36	375.7	382.4	389.0	59.30
Accounting clerks .....	10.7	2.26	13.3	13.6	13.8	2.10
Bookkeepers, hand .....	1.3	.28	1.8	1.8	1.8	.28
Cashiers .....	1.5	.32	2.0	2.0	2.1	.32
Claims adjusters .....	28.3	6.00	47.6	48.5	49.3	7.52
Claims clerks .....	15.5	3.29	24.5	25.0	25.4	3.87
Claims examiner, insurance .....	7.7	1.63	12.9	13.2	13.4	2.04
Clerical supervisors .....	16.0	3.38	21.4	21.8	22.2	3.38
Collectors, bill and account .....	1.5	.31	2.0	2.0	2.0	.31
File clerks .....	21.3	4.52	21.8	22.2	22.6	3.44
General clerks, office .....	23.4	4.95	24.7	25.1	25.6	3.90
Insurance checkers .....	5.4	1.15	7.3	7.4	7.5	1.15
Insurance clerks, except medical .....	2.6	.55	3.5	3.6	3.6	.55
Mail clerks .....	5.7	1.20	7.6	7.8	7.9	1.20
Computer operators .....	3.9	.83	5.3	5.4	5.5	.83
Data entry operators .....	7.7	1.64	10.4	10.6	10.7	1.64
Peripheral EDP equipment operators .....	1.6	.33	2.1	2.2	2.2	.33
Personnel clerks .....	1.1	.23	1.5	1.5	1.5	.23
Policy change clerks .....	7.1	1.50	9.5	9.7	9.8	1.50
Raters .....	27.5	5.82	36.8	37.5	38.1	5.81
Secretaries .....	20.8	4.40	24.9	25.3	25.8	3.93
Stenographers .....	3.9	.82	5.2	5.3	5.4	.82
Typists .....	29.7	6.30	37.9	38.6	39.2	5.98
Statistical clerks .....	1.5	.31	1.9	2.0	2.0	.31
Switchboard operators/receptionists .....	2.2	.46	2.9	3.0	3.0	.46
Worksheet clerks .....	6.9	1.47	9.3	9.5	9.7	1.47
Craft and related workers .....	1.9	.40	2.4	2.5	2.5	.38
Operatives .....	.2	.04	.3	.3	.3	.04
Service workers .....	4.1	.87	5.5	5.6	5.7	.87
Building custodians .....	2.2	.47	2.9	3.0	3.1	.47
Laborers, except farm .....	.4	.08	.5	.5	.5	.08
<b>Real estate agents and managers</b>						
Total, all occupations .....	371.1	100.00	641.0	650.1	660.2	100.00
Professional, technical, and related workers .....	9.6	2.58	16.1	16.4	16.6	2.52
Accountants and auditors .....	4.2	1.14	7.3	7.4	7.6	1.14

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Real estate agents and managers—Continued</b>						
Managers, officials, and proprietors .....	64.1	17.28	123.4	125.2	127.1	19.25
Sales workers .....	110.3	29.74	196.8	199.6	202.7	30.70
Real estate brokers .....	13.6	3.66	19.3	19.6	19.9	3.01
Sales agents, sales representatives, real estate .....	77.8	20.97	145.8	147.9	150.2	22.75
Real estate appraisers .....	6.8	1.84	10.7	10.9	11.1	1.68
Sales agents and brokers, insurance .....	2.1	.56	3.6	3.6	3.7	.56
Clerical workers .....	87.7	23.63	134.2	136.1	138.2	20.94
Accounting clerks .....	5.6	1.52	7.7	7.8	8.0	1.21
Bookkeepers, hand .....	9.5	2.55	13.4	13.6	13.8	2.08
Clerical supervisors .....	3.8	1.03	6.6	6.7	6.8	1.03
General clerks, office .....	14.5	3.90	23.1	23.4	23.8	3.61
Loan closers .....	1.4	.39	2.5	2.5	2.6	.39
Data entry operators .....	1.3	.34	2.2	2.2	2.3	.34
Real estate clerks .....	5.9	1.60	10.2	10.4	10.5	1.60
Receptionists .....	4.8	1.30	8.3	8.4	8.6	1.30
Secretaries .....	26.1	7.04	36.8	37.3	37.9	5.74
Typists .....	3.6	.97	4.2	4.3	4.3	.65
Switchboard operators/receptionists .....	3.9	1.04	6.7	6.8	6.9	1.04
Switchboard operators .....	1.0	.28	1.8	1.8	1.8	.28
Craft and related workers .....	32.6	8.79	62.4	63.3	64.3	9.73
Carpenters .....	3.3	.88	5.7	5.8	5.8	.88
Painters, construction and maintenance .....	2.7	.72	4.6	4.7	4.7	.72
Maintenance repairers, general utility .....	21.7	5.83	43.9	44.5	45.2	6.84
Blue-collar worker supervisors .....	2.7	.73	4.7	4.8	4.8	.73
Operatives .....	1.5	.40	2.6	2.6	2.6	.40
Service workers .....	50.7	13.67	80.4	81.6	82.8	12.55
Building custodians .....	34.8	9.38	54.2	54.9	55.8	8.45
Guards .....	7.8	2.11	10.6	10.7	10.9	1.65
Laborers, except farm .....	14.5	3.91	25.1	25.4	25.8	3.91
Gardeners and groundskeepers, except farm .....	9.3	2.52	16.1	16.4	16.6	2.52
Helpers, trades .....	2.1	.56	3.6	3.7	3.7	.56
<b>Services</b>						
Total, all occupations .....	27,456.3	100.00	36,553.4	37,247.0	38,354.1	100.00
Professional, technical, and related workers .....	9,238.2	33.65	12,444.3	12,681.5	13,051.4	34.05
Drafters .....	119.6	.44	148.7	153.7	159.0	.41
Nurses, registered .....	1,159.4	4.22	1,771.8	1,786.8	1,849.3	4.80
Physicians .....	289.9	1.06	433.9	440.4	458.5	1.18
Medical laboratory technologists .....	93.6	.34	137.5	138.8	143.7	.37
Computer programmers .....	93.5	.34	198.2	200.7	203.8	.54
Teachers .....	3,811.5	13.88	4,438.3	4,536.0	4,634.2	12.18
Adult education teachers .....	94.5	.34	126.0	128.9	132.0	.35
College and university faculty .....	742.9	2.71	618.3	631.5	645.1	1.70
Graduate assistants .....	139.8	.51	121.6	124.2	126.9	.33
Preschool teachers .....	261.1	.95	359.8	369.8	376.9	.99
Secondary school teachers .....	1,023.0	3.73	1,126.9	1,151.0	1,175.8	3.09
Vocational education teachers .....	94.0	.34	134.3	137.5	140.5	.37
Accountants and auditors .....	272.1	.99	443.4	456.7	473.0	1.23
Clergy .....	275.2	1.00	279.4	285.0	296.2	.77
Counselors .....	125.5	.46	136.8	140.1	143.3	.38
Lawyers .....	156.9	.57	267.1	277.0	287.7	.74

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Services—Continued</b>						
Librarians .....	122.6	0.45	134.5	137.3	140.6	0.37
Caseworkers .....	146.9	.53	215.0	218.6	225.5	.59
Managers, officials, and proprietors .....	1,873.6	6.82	2,691.9	2,749.5	2,839.5	7.38
Sales workers .....	295.0	1.07	437.6	446.2	460.8	1.20
Clerical workers .....	5,247.9	19.11	7,029.2	7,161.3	7,372.0	19.23
Accounting clerks .....	161.6	.59	192.5	196.3	202.5	.53
Bookkeepers, hand .....	214.8	.78	252.9	258.7	267.8	.69
Cashiers .....	155.9	.57	234.8	239.0	248.1	.64
Clerical supervisors .....	97.7	.36	142.3	144.3	148.3	.39
File clerks .....	130.1	.47	159.0	161.2	165.9	.43
General clerks, office .....	594.4	2.17	835.6	851.5	876.2	2.29
Data entry operators .....	112.7	.41	111.7	113.3	115.8	.30
Receptionists .....	277.7	1.01	429.1	437.6	454.2	1.17
Secretaries .....	1,128.4	4.11	1,512.2	1,545.5	1,594.3	4.15
Stenographers .....	101.8	.37	95.5	97.1	99.7	.26
Typists .....	332.6	1.21	421.8	428.9	440.1	1.15
Teachers' aides .....	462.7	1.69	579.0	593.1	605.6	1.59
Switchboard operators .....	99.6	.36	133.1	134.6	137.6	.36
Craft and related workers .....	996.8	3.63	1,369.7	1,403.1	1,461.9	3.77
Automotive mechanics .....	136.2	.50	213.5	220.7	231.2	.59
Maintenance repairers, general utility .....	208.9	.76	274.2	278.8	286.8	.75
Operatives .....	1,061.9	3.87	1,337.8	1,369.1	1,421.3	3.68
Busdrivers, school .....	244.2	.89	288.1	294.4	300.8	.79
Service workers .....	8,136.2	29.63	10,422.8	10,598.6	10,886.8	28.45
Food service workers .....	1,655.8	6.03	2,140.3	2,171.0	2,230.1	5.83
Bartenders .....	96.9	.35	120.7	122.4	126.5	.33
Cooks, institutional .....	374.4	1.36	472.7	481.6	493.4	1.29
Kitchen helpers .....	423.2	1.54	536.6	544.5	558.9	1.46
Waiters and waitresses .....	265.4	.97	371.9	376.3	386.3	1.01
Waiters' assistants .....	103.2	.38	138.5	140.1	144.1	.38
Selected health service workers .....	2,042.7	7.44	2,822.6	2,854.8	2,947.3	7.66
Dental assistants .....	149.1	.54	208.3	212.9	223.8	.57
Licensed practical nurses .....	540.5	1.97	745.6	752.8	776.9	2.02
Medical assistants .....	96.5	.35	142.0	144.4	149.9	.39
Nursing aides, orderlies, and attendants .....	1,089.8	3.97	1,492.5	1,509.3	1,552.5	4.05
Psychiatric aides .....	131.5	.48	184.0	185.0	191.9	.50
Child care workers .....	164.5	.60	223.9	230.5	235.0	.62
Cosmetologists/women's hairstylists .....	206.1	.75	253.2	267.7	282.4	.72
Guards .....	435.4	1.59	659.7	665.9	675.5	1.79
Child care workers, private household .....	403.7	1.47	322.4	335.1	340.6	.90
Housekeepers, private household .....	89.0	.32	71.1	73.9	75.1	.20
Maids and servants, private household .....	492.7	1.79	394.4	410.1	416.8	1.10
Laborers, except farm .....	606.9	2.21	820.1	837.6	860.4	2.25
Gardeners and groundskeepers, except farm .....	249.9	.91	252.4	258.8	265.9	.69
<b>Hotels and other lodging places</b>						
Total, all occupations .....	1,099.2	100.00	1,460.4	1,471.8	1,494.8	100.00
Professional, technical, and related workers .....	25.6	2.33	34.3	34.5	35.1	2.35
Musicians .....	1.3	.12	1.8	1.8	1.8	.12
Public relations specialists .....	1.0	.09	1.4	1.4	1.4	.10
Accountants and auditors .....	7.1	.64	10.5	10.5	10.7	.72

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Hotels and other lodging places—Continued</b>						
Personnel and labor relations specialists .....	1.1	0.10	1.5	1.5	1.6	0.10
Purchasing agents and/or buyers .....	1.4	.13	1.9	1.9	1.9	.13
Recreation workers .....	6.6	.60	8.1	8.1	8.3	.55
Managers, officials, and proprietors .....	75.0	6.82	91.8	92.5	94.0	6.29
Restaurant, cafe, and bar managers .....	3.7	.34	5.0	5.0	5.1	.34
Sales workers .....	12.9	1.17	20.1	20.2	20.5	1.37
Sales clerks .....	5.5	.50	7.2	7.2	7.3	.49
Clerical workers .....	180.5	16.42	235.8	237.6	241.4	16.15
Accounting clerks .....	6.8	.62	8.1	8.1	8.3	.55
Bookkeepers, hand .....	14.1	1.28	16.7	16.8	17.1	1.14
Cashiers .....	22.9	2.08	39.1	39.4	40.1	2.68
Clerical supervisors .....	4.7	.43	6.2	6.3	6.4	.43
Desk clerks, except bowling floor .....	85.3	7.76	103.5	104.3	105.9	7.08
General clerks, office .....	5.8	.53	6.6	6.6	6.7	.45
Payroll and timekeeping clerks .....	3.5	.32	4.7	4.7	4.8	.32
Personnel clerks .....	1.1	.10	1.5	1.5	1.5	.10
Receptionists .....	1.9	.17	2.4	2.4	2.5	.17
Secretaries .....	11.3	1.03	13.3	13.4	13.6	.91
Typists .....	2.0	.18	2.7	2.7	2.7	.18
Stock clerks, stockroom and warehouse .....	3.0	.27	4.0	4.1	4.1	.28
Switchboard operators/receptionists .....	1.6	.15	2.2	2.2	2.2	.15
Switchboard operators .....	8.7	.79	11.6	11.7	11.9	.79
Craft and related workers .....	39.4	3.58	56.0	56.4	57.3	3.83
Carpenters .....	1.4	.12	1.8	1.8	1.9	.12
Painters, construction and maintenance .....	3.4	.31	4.5	4.5	4.6	.31
Maintenance repairers, general utility .....	25.7	2.33	37.9	38.2	38.8	2.60
Blue-collar worker supervisors .....	2.7	.24	3.5	3.6	3.6	.24
Operatives .....	30.9	2.81	41.2	41.6	42.2	2.82
Laundry operators, small establishment .....	12.1	1.10	16.1	16.2	16.5	1.10
Pressers, machine laundry .....	3.2	.29	4.3	4.3	4.4	.29
Washers, machine and starchers .....	6.3	.57	8.4	8.5	8.6	.58
Chauffeurs .....	1.7	.15	2.2	2.2	2.3	.15
Parking attendants .....	2.3	.21	3.1	3.1	3.2	.21
Service workers .....	716.7	65.20	957.5	965.0	980.1	65.56
Building custodians .....	273.7	24.90	337.1	339.8	345.1	23.09
Food service workers .....	352.2	32.04	497.9	501.8	509.7	34.10
Bakers, bread and pastry .....	1.4	.13	1.8	1.9	1.9	.13
Bartenders .....	31.9	2.90	43.6	43.9	44.6	2.99
Cooks and chefs .....	51.9	4.72	73.1	73.7	74.8	5.01
Cooks, institutional .....	3.4	.31	4.3	4.4	4.4	.30
Cooks, restaurant .....	41.5	3.77	58.8	59.2	60.1	4.02
Cooks, short order and specialty fast foods .....	7.0	.64	10.0	10.1	10.2	.69
Food preparation and service workers, fast food restaurants .....	2.3	.21	3.0	3.0	3.1	.21
Hosts/hostesses, restaurants, lounges, and coffee shops .....	15.2	1.38	20.2	20.4	20.7	1.39
Kitchen helpers .....	48.2	4.39	65.2	65.7	66.7	4.46
Pantry, sandwich, and coffee makers .....	10.0	.91	13.4	13.5	13.7	.92
Waiters and waitresses .....	145.6	13.24	210.1	211.7	215.0	14.39
Waiters' assistants .....	37.6	3.42	50.0	50.4	51.2	3.43
All other food service workers .....	7.6	.69	16.6	16.8	17.0	1.14
Bellhops, bag porters, and doorkeepers .....	20.2	1.83	21.2	21.4	21.7	1.45
Housekeepers, hotel and motel .....	21.1	1.92	28.4	28.6	29.0	1.94
Recreation facility attendants .....	2.7	.24	3.5	3.5	3.6	.24
Guards .....	13.9	1.27	18.4	18.6	18.9	1.26
Lifeguards .....	4.3	.39	5.7	5.7	5.8	.39

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Hotels and other lodging places—Continued</b>						
Supervisors, nonworking, service .....	14.3	1.30	19.1	19.3	19.6	1.31
Laborers, except farm .....	18.1	1.65	23.8	24.0	24.3	1.63
Gardeners and groundskeepers, except farm .....	10.4	.95	13.5	13.6	13.9	.93
Helpers, trades .....	1.7	.16	2.3	2.3	2.4	.16
<b>Services to dwellings and other buildings</b>						
Total, all occupations .....	532.9	100.00	966.0	974.0	983.4	100.00
Professional, technical, and related workers .....	2.8	.52	5.0	5.1	5.1	.52
Accountants and auditors .....	1.3	.24	2.4	2.4	2.4	.24
Managers, officials, and proprietors .....	24.6	4.61	72.0	72.6	73.3	7.46
Sales workers .....	7.1	1.33	17.8	18.0	18.2	1.85
Clerical workers .....	18.8	3.52	28.9	29.1	29.4	2.99
Accounting clerks .....	1.2	.22	1.6	1.6	1.7	.17
Bookkeepers, hand .....	2.4	.46	3.4	3.4	3.5	.35
General clerks, office .....	5.0	.93	9.0	9.0	9.1	.93
Payroll and timekeeping clerks .....	1.5	.28	2.7	2.7	2.7	.28
Secretaries .....	5.6	1.05	6.5	6.5	6.6	.67
Typists .....	1.0	.20	1.9	1.9	1.9	.20
Craft and related workers .....	13.7	2.57	30.9	31.1	31.4	3.20
Painters, construction and maintenance .....	2.0	.38	4.7	4.7	4.8	.48
Maintenance repairers, general utility .....	3.7	.69	6.6	6.7	6.8	.69
Blue-collar worker supervisors .....	4.4	.82	12.8	13.0	13.1	1.33
Operatives .....	32.2	6.04	47.6	48.0	48.5	4.93
Delivery and route workers .....	1.2	.22	2.1	2.2	2.2	.22
Exterminators .....	20.6	3.87	29.9	30.2	30.5	3.10
Termite treaters and helpers .....	7.2	1.35	10.3	10.4	10.5	1.07
Service workers .....	424.8	79.71	747.5	753.6	760.9	77.38
Building custodians .....	409.3	76.80	714.6	720.5	727.5	73.98
Protective service workers .....	4.0	.76	7.3	7.4	7.4	.76
Supervisors, nonworking, service .....	8.7	1.62	20.6	20.8	21.0	2.14
Laborers, except farm .....	9.0	1.68	16.3	16.4	16.6	1.68
Gardeners and groundskeepers, except farm .....	4.8	.91	8.8	8.9	8.9	.91
<b>Personnel supply services</b>						
Total, all occupations .....	557.8	100.00	1,227.0	1,237.0	1,248.8	100.00
Professional, technical, and related workers .....	89.3	16.01	187.4	188.9	190.7	15.27
Electrical engineers .....	2.0	.37	4.5	4.5	4.6	.37
Drafters .....	4.7	.83	6.8	6.9	6.9	.56
Electrical and electronic technicians .....	3.3	.59	7.3	7.3	7.4	.59
Nurses, registered .....	29.4	5.26	64.6	65.1	65.7	5.26
Computer programmers .....	1.3	.23	2.8	2.8	2.9	.23
Accountants and auditors .....	2.4	.42	5.9	5.9	6.0	.48
Employment interviewers .....	28.8	5.17	56.4	56.8	57.4	4.59
Lawyers .....	1.3	.24	3.6	3.6	3.6	.29
Managers, officials, and proprietors .....	19.7	3.53	57.2	57.7	58.2	4.66
Sales workers .....	10.1	1.82	22.3	22.5	22.7	1.82

See footnotes at end of table.



E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Personnel supply services—Continued</b>						
Clerical workers .....	232.5	41.67	495.9	499.9	504.7	40.41
Accounting clerks .....	6.0	1.08	8.2	8.3	8.3	.67
Bookkeepers, hand .....	5.0	.90	7.0	7.1	7.1	.57
Cashiers .....	3.5	.63	8.2	8.3	8.3	.67
Clerical supervisors .....	1.8	.33	4.0	4.1	4.1	.33
File clerks .....	17.0	3.04	27.2	27.4	27.7	2.22
General clerks, office .....	44.2	7.93	112.1	113.0	114.1	9.14
Mail clerks .....	2.2	.39	4.8	4.8	4.9	.39
Office machine operators .....	17.5	3.13	23.9	24.1	24.3	1.95
Computer operators .....	2.3	.42	5.1	5.2	5.2	.42
Data entry operators .....	8.5	1.52	4.3	4.3	4.4	.35
Peripheral EDP equipment operators .....	2.3	.40	5.0	5.0	5.0	.40
Payroll and timekeeping clerks .....	2.9	.52	6.4	6.4	6.5	.52
Personnel clerks .....	1.2	.21	2.6	2.6	2.6	.21
Receptionists .....	11.2	2.00	24.6	24.8	25.0	2.00
Secretaries .....	37.7	6.76	95.0	95.7	96.7	7.74
Stenographers .....	8.6	1.54	18.9	19.0	19.2	1.54
Typists .....	42.7	7.65	83.8	84.5	85.3	6.83
Shipping and receiving clerks .....	1.1	.20	1.5	1.5	1.5	.12
Shipping packers .....	1.7	.31	3.8	3.9	3.9	.31
Statistical clerks .....	1.4	.26	2.1	2.2	2.2	.17
Stock clerks, stockroom and warehouse .....	4.1	.73	8.9	9.0	9.1	.73
Switchboard operators/receptionists .....	6.0	1.07	13.2	13.3	13.4	1.07
Switchboard operators .....	3.6	.64	7.8	7.9	8.0	.64
Craft and related workers .....	11.5	2.07	25.3	25.5	25.8	2.07
Maintenance repairers, general utility .....	1.3	.24	2.9	2.9	2.9	.24
Operatives .....	31.0	5.56	71.3	71.9	72.6	5.81
Welders and flamecutters .....	1.4	.26	3.2	3.2	3.2	.26
Production packagers .....	3.4	.61	7.5	7.6	7.6	.61
Chauffeurs .....	1.4	.26	3.2	3.2	3.2	.26
Industrial truck operators .....	1.2	.21	1.6	1.6	1.6	.13
Truck drivers .....	14.4	2.58	35.7	36.0	36.3	2.91
Service workers .....	91.0	16.31	187.4	188.9	190.8	15.27
Building custodians .....	9.4	1.69	18.7	18.9	19.1	1.53
Food service workers .....	8.1	1.45	17.7	17.9	18.1	1.45
Licensed practical nurses .....	27.5	4.93	55.4	55.9	56.4	4.52
Nursing aides, orderlies, and attendants .....	3.6	.65	7.0	7.0	7.1	.57
Laborers, except farm .....	72.7	13.03	180.1	181.6	183.3	14.68
Helpers, trades .....	1.7	.31	3.8	3.9	3.9	.31
<b>Computer and data processing services</b>						
Total, all occupations .....	357.5	100.00	698.2	704.0	710.8	100.00
Professional, technical, and related workers .....	124.0	34.68	304.3	306.8	309.8	43.58
Electrical engineers .....	4.0	1.13	9.3	9.4	9.5	1.33
Drafters .....	1.1	.31	1.4	1.4	1.5	.21
Electrical and electronic technicians .....	10.6	2.98	31.4	31.6	32.0	4.50
Computer programmers .....	47.5	13.27	109.3	110.2	111.2	15.65
Computer systems analysts .....	42.4	11.86	112.0	112.9	114.0	16.04
Adult education teachers .....	1.1	.30	2.5	2.5	2.6	.36
Writers and editors .....	2.8	.77	6.3	6.3	6.4	.90
Accountants and auditors .....	3.9	1.09	9.9	10.0	10.1	1.42
Managers, officials, and proprietors .....	44.7	12.50	79.9	80.5	81.3	11.44

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Computer and data processing services—Continued</b>						
Sales workers .....	16.4	4.58	35.6	35.9	36.3	5.10
Clerical workers .....	159.5	44.60	248.2	250.2	252.6	35.54
Accounting clerks .....	6.2	1.75	7.2	7.2	7.3	1.03
Bookkeepers, hand .....	2.0	.57	2.2	2.3	2.3	.32
Cashiers .....	2.3	.65	5.0	5.1	5.1	.72
Clerical supervisors .....	4.7	1.30	7.8	7.9	8.0	1.12
File clerks .....	1.8	.49	1.4	1.4	1.5	.20
General clerks, office .....	12.5	3.49	2.9	2.9	2.9	.41
Mail clerks .....	2.1	.60	4.2	4.2	4.3	.60
Computer operators .....	24.7	6.91	82.4	83.1	83.9	11.80
Data entry operators .....	51.9	14.53	42.9	43.3	43.7	6.15
Peripheral EDP equipment operators .....	6.0	1.69	12.4	12.5	12.7	1.78
Payroll and timekeeping clerks .....	1.4	.40	3.4	3.4	3.4	.48
Production clerks .....	4.2	1.18	8.2	8.3	8.4	1.18
Receptionists .....	1.4	.39	3.3	3.3	3.3	.47
Secretaries .....	12.4	3.47	15.3	15.4	15.6	2.19
Typists .....	3.5	.97	4.8	4.8	4.9	.68
Shipping and receiving clerks .....	1.4	.39	2.3	2.3	2.3	.33
Stock clerks, stockroom and warehouse .....	1.0	.29	2.4	2.4	2.4	.34
Switchboard operators/receptionists .....	1.9	.54	4.4	4.4	4.5	.63
Craft and related workers .....	5.9	1.66	16.4	16.6	16.7	2.36
Computer service technicians .....	3.2	.89	10.8	10.9	11.0	1.55
Operatives .....	4.7	1.33	9.3	9.3	9.4	1.33
Delivery and route workers .....	2.8	.78	5.5	5.5	5.6	.78
Service workers .....	1.4	.39	2.7	2.7	2.8	.39
Laborers, except farm .....	.9	.26	1.8	1.8	1.9	.26
<b>Automobile repair shops</b>						
Total, all occupations .....	359.8	100.00	506.0	524.2	549.5	100.00
Professional, technical, and related workers .....	2.3	.63	3.2	3.3	3.5	.63
Accountants and auditors .....	1.6	.45	2.3	2.3	2.5	.45
Managers, officials, and proprietors .....	56.7	15.75	85.3	88.3	92.6	16.85
Sales workers .....	6.6	1.83	9.2	9.6	10.0	1.83
Clerical workers .....	38.2	10.63	48.9	50.7	53.1	9.67
Accounting clerks .....	1.8	.51	2.1	2.2	2.3	.41
Bookkeepers, hand .....	8.4	2.33	9.8	10.1	10.6	1.93
Cashiers .....	1.7	.47	2.4	2.5	2.6	.47
General clerks, office .....	10.0	2.78	12.8	13.2	13.8	2.52
Payroll and timekeeping clerks .....	1.5	.43	2.2	2.3	2.4	.43
Receptionists .....	1.8	.51	2.6	2.7	2.8	.51
Secretaries and stenographers .....	5.7	1.59	7.1	7.3	7.7	1.39
Stock clerks, stockroom and warehouse .....	4.7	1.31	6.6	6.9	7.2	1.31
Craft and related workers .....	187.1	51.99	266.9	276.5	289.9	52.76
Automotive body repairers .....	53.7	14.91	60.4	62.5	65.6	11.93
Auto seat cover and top installers .....	4.3	1.21	6.1	6.3	6.6	1.21
Automotive mechanics .....	97.0	26.97	156.1	161.7	169.6	30.85
Diesel mechanics .....	11.5	3.19	16.1	16.7	17.5	3.19
Maintenance repairers, general utility .....	2.2	.62	3.2	3.3	3.4	.62

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Automobile repair shops—Continued</b>						
All other mechanics, repairers, and installers .....	3.0	0.83	4.2	4.3	4.5	0.83
Machinists .....	3.6	.99	5.0	5.2	5.5	.99
Blue-collar worker supervisors .....	3.8	1.05	5.3	5.5	5.8	1.05
Glass installers .....	5.4	1.51	7.7	7.9	8.3	1.51
Operatives .....	52.2	14.51	68.9	71.3	74.8	13.61
Welders and flamecutters .....	4.8	1.33	6.7	7.0	7.3	1.33
Painters, automotive .....	20.5	5.70	28.9	29.9	31.3	5.70
Painters, production .....	1.7	.47	2.4	2.5	2.6	.47
Delivery and route workers .....	3.8	1.05	5.3	5.5	5.8	1.06
Truck drivers .....	5.0	1.39	7.0	7.3	7.6	1.39
Fuel pump attendants and lubricators .....	4.1	1.15	5.8	6.0	6.3	1.15
Service workers .....	4.7	1.31	6.6	6.9	7.2	1.31
Laborers, except farm .....	12.1	3.35	17.0	17.6	18.4	3.35
Cleaners, vehicle .....	2.9	.81	4.1	4.3	4.5	.81
Helpers, trades .....	6.6	1.82	9.2	9.6	10.0	1.82
<b>Nursing and personal care facilities</b>						
Total, all occupations .....	1,066.0	100.00	1,717.5	1,744.5	1,782.6	100.00
Professional, technical, and related workers .....	132.1	12.40	229.1	232.7	237.7	13.34
Medical workers, except technicians .....	94.5	8.86	168.2	170.9	174.6	9.79
Dietitians .....	7.2	.67	11.5	11.7	12.0	.67
Nurses, registered .....	71.1	6.67	129.4	131.4	134.3	7.53
Pharmacists .....	1.2	.11	1.7	1.8	1.8	.10
Physicians .....	3.0	.28	4.9	5.0	5.1	.28
Manual arts, music, recreational therapists .....	3.4	.32	5.5	5.6	5.7	.32
Occupational therapists .....	1.7	.16	4.1	4.2	4.3	.24
Physical therapists .....	4.0	.37	6.4	6.5	6.7	.37
Health technologists and technicians .....	14.6	1.37	23.6	24.0	24.5	1.38
Dietetic technicians .....	6.3	.59	10.1	10.3	10.5	.59
Health record technicians .....	2.7	.25	4.4	4.4	4.5	.25
Physical therapy assistants .....	4.8	.45	7.7	7.9	8.0	.45
Accountants and auditors .....	2.2	.21	3.6	3.6	3.7	.21
Recreation workers .....	12.3	1.15	19.8	20.1	20.5	1.15
Caseworkers .....	4.7	.45	7.6	7.8	7.9	.45
Managers, officials, and proprietors .....	44.6	4.18	86.5	87.8	89.8	5.03
Sales workers .....	.2	.02	.4	.4	.4	.02
Clerical workers .....	38.2	3.58	61.3	62.3	63.7	3.57
Accounting clerks .....	1.9	.18	2.5	2.6	2.6	.15
Bookkeepers, hand .....	5.0	.47	8.1	8.2	8.4	.47
Clerical supervisors .....	1.7	.16	2.8	2.8	2.9	.16
General clerks, office .....	6.3	.59	8.9	9.1	9.3	.52
Payroll and timekeeping clerks .....	2.3	.21	3.6	3.7	3.8	.21
Receptionists .....	4.2	.40	6.8	6.9	7.1	.40
Secretaries .....	5.0	.47	9.6	9.8	10.0	.56
Typists .....	2.0	.19	3.2	3.3	3.3	.19
Switchboard operators/receptionists .....	3.1	.29	5.0	5.1	5.2	.29
Craft and related workers .....	14.4	1.35	23.2	23.6	24.1	1.35
Painters, construction and maintenance .....	1.1	.10	1.8	1.8	1.9	.10
Maintenance repairers, general utility .....	10.8	1.01	17.3	17.6	18.0	1.01
Blue-collar worker supervisors .....	1.4	.13	2.3	2.3	2.4	.13

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Nursing and personal care facilities—Continued</b>						
Operatives .....	30.2	2.83	48.6	49.3	50.4	2.83
Laundering, drycleaning, and pressing machine operators .....	27.1	2.54	43.5	44.2	45.2	2.53
Pressers, machine laundry .....	2.7	.26	4.4	4.5	4.6	.26
Washers, machine and starchers .....	24.2	2.27	39.0	39.6	40.5	2.27
Service workers .....	800.6	75.10	1,259.3	1,279.1	1,307.0	73.32
Building custodians .....	70.4	6.60	121.5	123.4	126.1	7.08
Cooks, institutional .....	37.2	3.49	69.4	70.5	72.0	4.04
Cooks, short order and specialty fast foods .....	1.4	.13	2.4	2.5	2.5	.14
Kitchen helpers .....	74.9	7.02	132.5	134.5	137.5	7.71
Waiters and waitresses .....	7.1	.66	12.0	12.2	12.4	.70
Waiters' assistants .....	7.4	.69	11.9	12.1	12.3	.69
Health aides, except nursing .....	1.5	.15	2.5	2.5	2.6	.15
Licensed practical nurses .....	93.6	8.78	140.5	142.7	145.8	8.18
Nursing aides, orderlies, and attendants .....	469.6	44.05	706.4	717.5	733.1	41.13
Psychiatric aides .....	1.2	.11	2.0	2.0	2.0	.11
Housekeepers, hotel and motel .....	11.4	1.07	18.4	18.7	19.1	1.07
Welfare service aides .....	4.6	.43	7.4	7.5	7.6	.43
Guards .....	2.1	.20	3.4	3.5	3.5	.20
Supervisors, nonworking, service .....	1.9	.18	3.1	3.2	3.3	.18
Laborers, except farm .....	5.7	.54	9.2	9.3	9.5	.54
Gardeners and groundskeepers, except farm .....	3.1	.29	5.0	5.1	5.2	.29
<b>Hospitals</b>						
Total, all occupations .....	4,166.4	100.00	5,748.6	5,777.6	5,997.5	100.00
Professional, technical, and related workers .....	1,605.6	38.54	2,314.5	2,326.2	2,414.7	40.26
Medical workers, except technicians .....	1,093.7	26.25	1,616.6	1,624.8	1,686.6	28.12
Dentists .....	3.0	.07	4.2	4.2	4.3	.07
Dietitians .....	16.6	.40	23.0	23.1	24.0	.40
Nurses, registered .....	848.8	20.37	1,276.9	1,283.3	1,332.2	22.21
Pharmacists .....	30.1	.72	40.7	40.9	42.4	.71
Physicians .....	100.5	2.41	139.5	140.2	145.6	2.43
Therapists .....	93.5	2.24	130.8	131.4	136.4	2.27
Respiratory therapists .....	41.4	.99	57.5	57.8	60.0	1.00
Manual arts, music, recreational therapists .....	8.5	.20	11.8	11.8	12.3	.21
Occupational therapists .....	10.3	.25	17.3	17.4	18.1	.30
Physical therapists .....	18.5	.44	23.7	23.9	24.8	.41
Speech pathologists and audiologists .....	3.8	.09	5.2	5.2	5.4	.09
All other therapists .....	11.0	.26	15.2	15.3	15.9	.26
Health technologists and technicians .....	355.2	8.53	475.1	477.5	495.7	8.27
Clinical laboratory technologists and technicians .....	144.4	3.47	176.9	177.8	184.6	3.08
Biochemistry technologists .....	10.8	.26	15.0	15.1	15.6	.26
Blood bank technology specialists .....	13.1	.31	18.1	18.2	18.9	.32
Cytotechnologists .....	2.8	.07	3.9	3.9	4.1	.07
Histologic technologists .....	5.5	.13	7.7	7.7	8.0	.13
Medical laboratory technicians .....	35.7	.86	34.7	34.9	36.2	.60
Medical laboratory technologists .....	68.9	1.65	86.9	87.3	90.7	1.51
Microbiology technologists .....	7.6	.18	10.6	10.6	11.1	.18
Dietetic technicians .....	6.8	.16	9.5	9.5	9.9	.17
EEG technologists .....	4.8	.12	6.7	6.7	7.0	.12
EKG technicians .....	16.4	.39	22.7	22.8	23.7	.40
Health record technicians .....	13.6	.33	18.8	18.9	19.6	.33
Physical therapy assistants .....	18.5	.44	25.7	25.8	26.8	.45
Physician assistants .....	4.3	.10	5.7	5.8	6.0	.10
Radiologic technologists .....	77.5	1.86	107.5	108.0	112.1	1.87
Radiologic technologists and nuclear medical technicians .....	30.3	.73	42.1	42.3	43.9	.73

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Hospitals—Continued</b>						
X-ray technicians .....	47.1	1.13	65.4	65.7	68.2	1.14
Surgical technicians .....	34.1	.82	47.3	47.6	49.4	.82
All other health technologists and technicians .....	33.9	.81	53.1	53.3	55.3	.92
Accountants and auditors .....	12.3	.30	18.1	18.2	18.9	.31
Clergy .....	4.2	.10	5.9	5.9	6.1	.10
Librarians .....	7.2	.17	10.0	10.0	10.4	.17
Personnel and labor relations specialists .....	8.9	.21	12.3	12.4	12.9	.21
Purchasing agents and/or buyers .....	8.6	.21	11.9	12.0	12.4	.21
Caseworkers .....	36.8	.88	51.1	51.4	53.3	.89
Managers, officials, and proprietors .....	141.0	3.38	191.8	192.8	200.1	3.34
Sales workers .....	2.2	.05	3.1	3.1	3.2	.05
Clerical workers .....	665.9	15.98	871.6	876.0	909.4	15.16
Accounting clerks .....	19.0	.46	24.4	24.5	25.5	.42
Bookkeepers, hand .....	5.7	.14	6.9	6.9	7.2	.12
Cashiers .....	19.1	.46	32.7	32.9	34.2	.57
Clerical supervisors .....	22.2	.53	30.9	31.0	32.2	.54
File clerks .....	39.0	.94	49.2	49.4	51.3	.86
General clerks, office .....	64.6	1.55	69.4	69.7	72.4	1.21
Insurance clerks, medical .....	44.8	1.08	68.1	68.5	71.1	1.18
Typists .....	54.5	1.31	56.8	57.1	59.3	.99
Craft and related workers .....	88.2	2.12	117.6	118.2	122.7	2.05
Operatives .....	64.8	1.56	88.4	88.9	92.3	1.54
Service workers .....	1,571.3	37.71	2,123.1	2,133.9	2,215.1	36.93
Food service workers .....	249.4	5.99	354.0	355.8	369.4	6.16
Bakers, bread and pastry .....	2.6	.06	3.6	3.7	3.8	.06
Cooks, institutional .....	39.9	.96	61.4	61.7	64.1	1.07
Cooks, short order and specialty fast foods .....	3.4	.08	5.0	5.0	5.2	.09
Kitchen helpers .....	80.5	1.93	111.7	112.3	116.6	1.94
Pantry, sandwich, and coffee makers .....	6.3	.15	8.8	8.8	9.2	.15
Waiters and waitresses .....	7.6	.18	12.0	12.1	12.6	.21
Waiters' assistants .....	21.4	.51	29.7	29.9	31.0	.52
All other food service workers .....	87.0	2.09	120.7	121.3	125.9	2.10
Selected health service workers .....	991.1	23.79	1,285.9	1,292.4	1,341.6	22.37
Dental assistants .....	2.1	.05	3.0	3.0	3.1	.05
Health aides, except nursing .....	5.1	.12	7.0	7.1	7.4	.12
Licensed practical nurses .....	333.0	7.99	438.6	440.8	457.6	7.63
Medical assistants .....	5.3	.13	7.0	7.0	7.3	.12
Nursing aides, orderlies, and attendants .....	491.7	11.80	616.9	620.0	643.6	10.73
Pharmacy helpers .....	26.6	.64	36.9	37.0	38.5	.64
Psychiatric aides .....	127.2	3.05	176.5	177.4	184.2	3.07
Child care workers .....	6.7	.16	9.3	9.3	9.7	.16
Housekeepers, hotel and motel .....	25.0	.60	34.6	34.8	36.1	.60
Welfare service aides .....	5.5	.13	7.4	7.4	7.7	.13
Guards .....	30.6	.73	42.5	42.7	44.3	.74
Supervisors, nonworking, service .....	19.0	.46	26.4	26.5	27.6	.46
Laborers, except farm .....	27.4	.66	38.4	38.6	40.1	.67
<b>Outpatient care facilities</b>						
Total, all occupations .....	161.8	100.00	351.6	357.1	364.9	100.00
Professional, technical, and related workers .....	74.6	46.13	164.0	166.6	170.2	46.64

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Outpatient care facilities—Continued</b>						
Nurses, registered .....	12.6	7.78	26.9	27.4	28.0	7.66
Physicians .....	11.1	6.85	24.1	24.4	25.0	6.85
Manual arts, music, recreational therapists .....	1.1	.68	2.4	2.4	2.5	.68
Occupational therapists .....	1.1	.69	2.9	2.9	3.0	.82
Physical therapists .....	1.4	.85	3.0	3.0	3.1	.85
Speech pathologists and audiologists .....	2.3	1.43	5.0	5.1	5.2	1.43
All other therapists .....	1.9	1.19	4.2	4.2	4.3	1.19
Medical laboratory technicians .....	1.4	.86	3.0	3.1	3.1	.86
Medical laboratory technologists .....	1.1	.66	2.3	2.3	2.4	.66
Physical therapy assistants .....	1.0	.63	2.2	2.2	2.3	.63
Physician assistants .....	1.4	.88	3.3	3.3	3.4	.93
X-ray technicians .....	1.3	.79	2.8	2.8	2.9	.79
Psychologists .....	4.4	2.74	9.6	9.8	10.0	2.74
Accountants and auditors .....	1.5	.93	3.3	3.3	3.4	.93
Caseworkers .....	18.5	11.44	40.2	40.9	41.7	11.44
Managers, officials, and proprietors .....	14.8	9.14	31.8	32.3	33.0	9.05
Sales workers .....	.7	.46	1.6	1.7	1.7	.46
Clerical workers .....	41.2	25.44	91.0	92.5	94.5	25.89
Accounting clerks .....	2.1	1.28	3.5	3.6	3.7	1.00
Bookkeepers, hand .....	1.7	1.05	2.7	2.7	2.8	.76
Clerical supervisors .....	1.6	.98	3.4	3.5	3.6	.98
File clerks .....	2.2	1.34	3.7	3.8	3.9	1.06
General clerks, office .....	5.2	3.22	10.5	10.6	10.9	2.98
Insurance clerks, medical .....	1.7	1.04	3.7	3.7	3.8	1.04
Receptionists .....	7.0	4.34	18.2	18.5	18.9	5.18
Secretaries .....	6.2	3.83	16.9	17.2	17.6	4.82
Typists .....	4.1	2.51	6.9	7.0	7.1	1.95
Switchboard operators/receptionists .....	1.7	1.02	3.6	3.7	3.7	1.02
Craft and related workers .....	1.5	.92	3.2	3.3	3.3	.92
Operatives .....	1.3	.79	2.8	2.8	2.9	.79
Service workers .....	27.4	16.91	56.4	57.3	58.5	16.04
Building custodians .....	2.5	1.54	4.9	4.9	5.0	1.38
Food service workers .....	1.0	.63	2.2	2.2	2.3	.63
Licensed practical nurses .....	4.9	3.06	10.8	11.0	11.2	3.07
Medical assistants .....	3.7	2.32	7.2	7.3	7.4	2.04
Nursing aides, orderlies, and attendants .....	5.0	3.10	7.4	7.5	7.7	2.11
Psychiatric aides .....	1.0	.63	2.2	2.2	2.3	.63
Welfare service aides .....	4.9	3.00	13.0	13.2	13.4	3.68
Laborers, except farm .....	.3	.22	.7	.7	.7	.20
<b>Educational services</b>						
Total, all occupations .....	7,683.6	100.00	8,632.0	8,816.1	9,006.0	100.00
Professional, technical, and related workers .....	4,273.1	55.61	4,893.6	4,997.9	5,105.6	56.69
Nurses, registered .....	43.0	.56	48.6	49.7	50.7	.56
Speech pathologists and audiologists .....	28.6	.37	32.3	33.0	33.7	.37
Library technicians .....	23.1	.30	24.7	25.3	25.8	.29
Computer programmers .....	11.5	.15	18.5	18.9	19.3	.21
Computer systems analysts .....	8.5	.11	17.0	17.4	17.8	.20
Psychologists .....	26.9	.35	30.4	31.0	31.7	.35
Teachers .....	3,631.7	47.27	4,187.6	4,276.9	4,369.0	48.51
Adult education teachers .....	65.5	.85	86.8	88.7	90.6	1.01

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Educational services—Continued</b>						
Athletic coaches .....	15.8	0.21	17.8	18.2	18.6	0.21
College and university faculty .....	742.9	9.67	618.3	631.5	645.1	7.16
Extension service specialists .....	13.5	.18	15.3	15.6	15.9	.18
Graduate assistants .....	139.8	1.82	121.6	124.2	126.9	1.41
Preschool teachers .....	169.6	2.21	234.6	239.6	244.8	2.72
Kindergarten and elementary school teachers .....	1,351.0	17.58	1,818.8	1,857.6	1,897.6	21.07
Secondary school teachers .....	1,023.0	13.31	1,126.9	1,151.0	1,175.8	13.06
Vocational education teachers .....	77.9	1.01	110.7	113.0	115.5	1.28
All other teachers .....	32.5	.42	36.8	37.5	38.4	.43
Counselors .....	90.8	1.18	86.8	88.7	90.6	1.01
Curriculum specialists .....	23.0	.30	26.0	26.6	27.1	.30
Librarians .....	107.4	1.40	113.0	115.4	117.9	1.31
Caseworkers .....	15.3	.20	17.3	17.7	18.1	.20
Managers, officials, and proprietors .....	380.0	4.95	435.8	445.0	454.6	5.05
Restaurant, cafe, and bar managers .....	40.9	.53	35.0	35.8	36.6	.41
School administrators .....	132.8	1.73	149.7	152.8	156.1	1.73
Assistant principals .....	38.0	.49	43.8	44.7	45.7	.51
Principals .....	81.8	1.07	93.1	95.1	97.1	1.08
Superintendents .....	13.0	.17	12.8	13.0	13.3	.15
Sales workers .....	14.4	.19	16.3	16.6	17.0	.19
Clerical workers .....	1,351.0	17.58	1,548.0	1,581.1	1,615.1	17.93
Admissions evaluators .....	10.5	.14	11.8	12.1	12.3	.14
Accounting clerks .....	27.5	.36	29.2	29.8	30.4	.34
Bookkeepers, hand .....	25.6	.33	27.0	27.6	28.2	.31
Cashiers .....	12.4	.16	16.6	16.9	17.3	.19
General clerks, office .....	176.4	2.30	224.1	228.9	233.8	2.60
Library assistants .....	66.5	.87	75.2	76.8	78.5	.87
Computer operators .....	11.1	.14	22.0	22.5	23.0	.26
Data entry operators .....	11.4	.15	12.9	13.2	13.5	.15
Secretaries .....	300.6	3.91	347.5	354.9	362.6	4.03
Stenographers .....	35.0	.46	8.7	8.9	9.1	.10
Typists .....	78.7	1.02	79.1	80.8	82.5	.92
Teachers' aides .....	376.3	4.90	469.7	479.7	490.0	5.44
Craft and related workers .....	152.8	1.99	176.6	180.4	184.3	2.05
Automotive mechanics .....	15.5	.20	22.6	23.1	23.6	.26
Maintenance repairers, general utility .....	74.4	.97	84.1	85.9	87.7	.97
Operatives .....	270.0	3.51	312.6	319.3	326.2	3.62
Busdrivers, school .....	233.7	3.04	274.0	279.8	285.9	3.17
Service workers .....	1,154.9	15.03	1,174.0	1,199.1	1,224.9	13.60
Building custodians .....	527.4	6.86	534.6	546.0	557.8	6.19
Cooks, institutional .....	238.2	3.10	264.0	269.6	275.4	3.06
Kitchen helpers .....	154.7	2.01	147.6	150.8	154.0	1.71
Guards .....	40.2	.52	34.5	35.2	36.0	.40
Supervisors, nonworking, service .....	28.0	.36	31.6	32.3	33.0	.37
Laborers, except farm .....	87.5	1.14	75.0	76.6	78.3	.87
Gardeners and groundskeepers, except farm .....	36.7	.48	26.1	26.6	27.2	.30
Helpers, trades .....	12.6	.16	14.3	14.6	14.9	.17
<b>Child day care services</b>						
Total, all occupations .....	302.5	100.00	406.7	424.6	428.6	100.00
Professional, technical, and related workers .....	88.8	29.36	121.3	126.6	127.8	29.83

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Child day care services—Continued</b>						
Dietitians .....	2.0	0.67	2.7	2.8	2.9	0.67
Nurses, registered .....	1.2	.39	1.6	1.6	1.7	.39
Preschool teachers .....	75.3	24.90	103.1	107.7	108.7	25.36
Accountants and auditors .....	2.5	.82	3.3	3.5	3.5	.82
Caseworkers .....	2.1	.71	2.9	3.0	3.0	.71
Managers, officials, and proprietors .....	28.7	9.49	35.4	37.0	37.3	8.71
Restaurant, cafe, and bar managers .....	2.2	.73	3.0	3.1	3.1	.73
Sales workers .....	.2	.08	.3	.3	.3	.08
Clerical workers .....	64.1	21.20	82.1	85.8	86.6	20.20
Bookkeepers, hand .....	3.0	.99	3.3	3.5	3.5	.82
General clerks, office .....	1.9	.64	1.7	1.8	1.6	.43
Receptionists .....	1.2	.38	1.6	1.6	1.6	.38
Secretaries .....	3.4	1.11	4.5	4.7	4.8	1.11
Teachers' aides .....	50.9	16.83	65.9	68.8	69.4	16.20
Craft and related workers .....	.7	.23	.9	1.0	1.0	.23
Operatives .....	6.1	2.02	8.2	8.6	8.7	2.02
Busdrivers, school .....	5.5	1.81	7.4	7.7	7.8	1.81
Service workers .....	113.5	37.53	158.0	164.9	166.5	38.85
Building custodians .....	6.8	2.23	9.1	9.5	9.6	2.23
Cooks, institutional .....	13.7	4.52	18.3	19.1	19.3	4.51
Kitchen helpers .....	3.6	1.20	4.1	4.3	4.4	1.02
Child care attendants .....	8.5	2.80	11.4	11.9	12.0	2.80
Child care workers .....	75.7	25.03	108.0	112.7	113.8	26.55
Welfare service aides .....	1.5	.50	2.0	2.1	2.1	.50
Laborers, except farm .....	.3	.09	.4	.4	.4	.09
<b>Engineering, architectural, and surveying services</b>						
Total, all occupations .....	568.7	100.00	961.7	998.4	1,037.7	100.00
Professional, technical, and related workers .....	366.9	64.52	606.1	629.2	654.0	63.02
Engineers .....	121.7	21.41	226.7	235.3	244.6	23.57
Aero-astronautic engineers .....	1.5	.26	2.5	2.5	2.6	.26
Chemical engineers .....	4.8	.85	8.2	8.5	8.8	.85
Civil engineers .....	48.1	8.46	89.0	92.4	96.0	9.25
Electrical engineers .....	22.0	3.88	43.0	44.6	46.4	4.47
Industrial engineers .....	3.2	.56	5.3	5.6	5.8	.56
Mechanical engineers .....	30.1	5.29	58.1	60.3	62.7	6.04
All other engineers .....	8.8	1.54	14.8	15.4	16.0	1.54
Geologists .....	1.3	.24	2.3	2.4	2.5	.24
Engineering and science technicians .....	156.0	27.42	227.2	235.8	245.1	23.62
Civil engineering technicians .....	19.7	3.47	37.2	38.6	40.1	3.87
Drafters .....	96.9	17.04	121.8	126.5	131.5	12.67
Electrical and electronic technicians .....	5.7	1.00	9.6	10.0	10.4	1.00
Mechanical engineering technicians .....	3.6	.64	6.2	6.4	6.7	.64
Surveyors .....	18.3	3.21	30.6	31.7	33.0	3.18
All other engineering and science technicians .....	11.6	2.04	21.5	22.3	23.2	2.24
Computer programmers .....	3.9	.68	8.0	8.3	8.6	.83
Computer systems analysts .....	3.8	.67	7.9	8.2	8.5	.82
Commercial and graphic artists and designers .....	2.0	.35	3.4	3.5	3.7	.35
Designers .....	10.0	1.75	19.0	19.7	20.5	1.98
Writers and editors .....	2.1	.38	3.6	3.8	3.9	.38
Accountants and auditors .....	4.7	.83	8.0	8.3	8.6	.83

See footnotes at end of table.



**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Engineering, architectural, and surveying services—Continued</b>						
Architects .....	38.1	6.70	58.7	60.9	63.3	6.10
Cost estimators .....	4.5	.79	8.0	8.3	8.6	.83
Purchasing agents and/or buyers .....	2.0	.36	3.4	3.6	3.7	.36
Managers, officials, and proprietors .....	62.3	10.95	123.3	128.0	133.1	12.82
Sales workers .....	2.8	.49	4.7	4.9	5.1	.49
Clerical workers .....	88.0	15.48	142.0	147.4	153.2	14.76
Accounting clerks .....	4.4	.77	6.4	6.7	6.9	.67
Bookkeepers, hand .....	5.9	1.03	9.0	9.3	9.7	.93
Clerical supervisors .....	1.5	.26	2.5	2.6	2.7	.26
File clerks .....	1.6	.28	1.7	1.8	1.9	.18
General clerks, office .....	12.4	2.18	23.9	24.8	25.8	2.48
Messengers .....	1.1	.20	1.9	2.0	2.1	.20
Computer operators .....	2.1	.37	3.8	3.9	4.0	.39
Data entry operators .....	1.3	.24	2.3	2.4	2.4	.24
Payroll and timekeeping clerks .....	1.8	.32	3.1	3.2	3.3	.32
Receptionists .....	2.5	.45	4.3	4.5	4.6	.45
Secretaries .....	29.5	5.19	47.1	48.9	50.8	4.89
Stenographers .....	1.5	.26	2.5	2.6	2.7	.26
Typists .....	9.3	1.64	11.9	12.4	12.9	1.24
Switchboard operators/receptionists .....	2.9	.51	4.9	5.1	5.3	.51
Craft and related workers .....	12.2	2.15	20.4	21.2	22.0	2.12
Operatives .....	28.5	5.00	51.6	53.5	55.6	5.36
Photographic process workers .....	1.0	.18	1.3	1.4	1.4	.14
Surveyor helpers .....	22.7	3.99	42.2	43.8	45.6	4.39
Service workers .....	4.2	.74	7.1	7.4	7.7	.74
Laborers, except farm .....	3.9	.68	6.6	6.8	7.1	.68
<b>Accounting, auditing, and bookkeeping services</b>						
Total, all occupations .....	353.3	100.00	576.6	598.7	622.2	100.00
Professional, technical, and related workers .....	178.1	50.42	303.6	315.2	327.6	52.65
Computer programmers .....	3.0	.85	5.6	5.8	6.0	.97
Computer systems analysts .....	4.1	1.15	8.0	8.3	8.6	1.39
Accountants and auditors .....	148.5	42.02	258.0	267.8	278.4	44.73
Tax preparers .....	17.0	4.80	22.9	23.8	24.7	3.97
Managers, officials, and proprietors .....	40.3	11.41	69.6	72.3	75.1	12.08
Sales workers .....	1.6	.47	2.7	2.8	2.9	.47
Clerical workers .....	129.2	36.56	194.1	201.6	209.5	33.67
Accounting clerks .....	16.0	4.54	19.8	20.5	21.3	3.43
Bookkeepers, hand .....	14.6	4.14	15.7	16.3	16.9	2.72
Clerical supervisors .....	1.2	.33	1.9	2.0	2.1	.33
File clerks .....	1.2	.34	1.0	1.1	1.1	.18
General clerks, office .....	14.7	4.17	25.7	26.7	27.8	4.46
Bookkeeping, billing machine operators .....	3.1	.88	5.1	5.3	5.5	.88
Computer operators .....	10.3	2.90	16.7	17.4	18.0	2.90
Data entry operators .....	5.7	1.62	9.3	9.7	10.1	1.62
Payroll and timekeeping clerks .....	1.5	.41	2.4	2.5	2.6	.41
Receptionists .....	7.8	2.19	14.7	15.2	15.8	2.54
Secretaries .....	25.3	7.17	41.5	43.1	44.8	7.20

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Accounting, auditing, and bookkeeping services—Continued</b>						
Stenographers .....	2.0	0.58	3.3	3.5	3.6	0.58
Typists .....	12.0	3.39	16.6	17.3	18.0	2.89
Switchboard operators/receptionists .....	4.6	1.30	6.0	6.2	6.5	1.04
Craft and related workers .....	.7	.20	1.2	1.2	1.3	.20
Operatives .....	.3	.09	.5	.6	.6	.09
Service workers .....	2.7	.77	4.4	4.6	4.8	.77
Laborers, except farm .....	.2	.07	.4	.4	.4	.07
<b>Government</b>						
Total, all occupations .....	7,461.4	100.00	8,185.0	8,038.0	8,345.0	100.00
Professional, technical, and related workers .....	1,760.7	23.60	1,995.1	1,927.5	2,013.2	23.98
Civil engineers .....	60.9	.82	72.4	70.5	73.4	.88
Nurses, registered .....	96.7	1.30	109.7	106.1	110.8	1.32
Physicians .....	36.5	.49	44.1	41.1	43.5	.51
Air traffic controllers .....	20.9	.28	24.1	21.8	23.3	.27
Computer programmers .....	22.1	.30	29.9	29.3	30.5	.36
Computer systems analysts .....	40.0	.54	60.9	57.4	60.5	.71
Accountants and auditors .....	95.5	1.28	114.0	110.4	115.2	1.37
Lawyers .....	61.2	.82	68.1	66.8	69.4	.83
Personnel and labor relations specialists .....	41.5	.56	48.2	45.8	48.2	.57
Purchasing agents and/or buyers .....	31.2	.42	38.1	35.4	37.5	.44
Recreation workers .....	49.7	.67	54.2	55.0	56.4	.68
Caseworkers .....	143.2	1.92	130.3	132.0	135.6	1.64
Community organization workers .....	26.5	.36	28.5	29.0	29.7	.36
Tax examiners, collectors, and revenue agents .....	46.9	.63	54.3	51.8	54.3	.64
Managers, officials, and proprietors .....	700.8	9.39	808.1	792.0	822.9	9.85
Construction inspectors, public administration .....	39.0	.52	45.8	45.8	47.2	.57
Health and regulatory inspectors .....	97.1	1.30	107.5	104.3	108.7	1.30
Sales workers .....	23.1	.31	25.2	24.6	25.6	.31
Clerical workers .....	1,738.2	23.30	1,852.8	1,805.6	1,879.9	22.46
Accounting clerks .....	89.5	1.20	95.3	92.8	96.6	1.15
Cashiers .....	40.6	.54	49.5	50.0	51.4	.62
Clerical supervisors .....	44.0	.59	45.7	46.1	47.4	.57
Dispatchers, police, fire, and ambulance .....	46.4	.62	50.5	51.4	52.7	.64
Eligibility workers, welfare .....	30.9	.41	30.7	31.3	32.1	.39
File clerks .....	30.6	.41	29.1	29.6	30.4	.37
General clerks, office .....	267.3	3.58	287.4	278.3	290.4	3.46
Mail clerks .....	31.2	.42	38.1	35.2	37.4	.44
Data entry operators .....	39.5	.53	24.2	23.5	24.5	.29
Secretaries .....	204.5	2.74	246.3	239.2	249.3	2.98
Stenographers .....	82.3	1.10	53.1	52.6	54.4	.65
Typists .....	286.1	3.83	284.0	278.1	289.0	3.46
Craft and related workers .....	737.8	9.89	841.2	821.5	854.6	10.22
Electricians .....	38.4	.52	44.5	43.0	44.9	.53
Automotive mechanics .....	43.4	.58	47.8	47.6	49.2	.59
Industrial machinery repairers .....	33.7	.45	39.5	37.5	39.4	.47
Maintenance repairers, general utility .....	77.0	1.03	84.9	85.0	87.6	1.06
Blue-collar worker supervisors .....	67.0	.90	81.6	82.7	84.9	1.03
Heavy equipment operators .....	85.3	1.14	91.4	92.2	94.8	1.15
Water and sewage treatment plant operators .....	66.6	.89	70.0	71.0	72.9	.88

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Government—Continued</b>						
Operatives .....	313.0	4.19	347.2	341.0	354.0	4.24
Busdrivers, local and intercity .....	63.7	.85	69.5	70.6	72.4	.88
Truck drivers .....	79.3	1.06	88.4	87.8	90.8	1.09
Service workers .....	1,591.8	21.33	1,716.0	1,723.6	1,774.9	21.44
Building custodians .....	128.7	1.72	123.4	122.5	126.7	1.52
Licensed practical nurses .....	38.2	.51	42.8	41.7	43.4	.52
Nursing aides, orderlies, and attendants .....	120.1	1.61	124.9	122.2	127.1	1.52
Recreation facility attendants .....	32.6	.44	35.1	35.7	36.6	.44
Welfare service aides .....	39.1	.52	35.7	36.2	37.1	.45
Correction officials and jailers .....	110.5	1.48	144.6	146.5	150.4	1.82
Crossing guards, school .....	37.9	.51	41.6	42.4	43.4	.53
Fire fighters .....	200.6	2.69	214.3	216.7	222.6	2.70
Fire officers .....	46.3	.62	50.8	51.7	53.0	.64
Guards .....	30.0	.40	39.7	39.2	40.6	.49
Police detectives .....	59.5	.80	69.4	67.9	70.6	.84
Police officers .....	96.8	1.30	106.2	106.8	109.9	1.33
Police patrolmen/women .....	363.3	4.87	383.4	390.2	399.9	4.85
Laborers, except farm .....	595.9	7.99	599.3	602.2	620.0	7.49
Highway maintenance workers .....	165.0	2.21	172.0	175.0	179.4	2.18
Garbage collectors .....	79.2	1.06	77.3	78.7	80.7	.98
Gardeners and groundskeepers, except farm .....	66.6	.89	72.5	73.4	75.4	.91
<b>Federal Government</b>						
Total, all occupations .....	2,076.7	100.00	2,625.0	2,379.0	2,545.0	100.00
Professional, technical, and related workers .....	717.4	34.55	924.9	838.3	896.7	35.24
Civil engineers .....	18.7	.90	29.1	26.4	28.2	1.11
Electrical engineers .....	24.2	1.16	30.8	27.9	29.9	1.17
Mechanical engineers .....	10.1	.49	12.9	11.7	12.5	.49
Biological scientists .....	13.5	.65	19.3	17.5	18.8	.74
Electrical and electronic technicians .....	21.8	1.05	27.9	25.2	27.0	1.06
Nurses, registered .....	39.1	1.88	49.8	45.1	48.3	1.90
Physicians .....	26.6	1.28	33.9	30.8	32.9	1.29
Air traffic controllers .....	20.9	1.01	24.1	21.8	23.3	.92
Computer programmers .....	7.7	.37	9.8	8.9	9.5	.37
Computer systems analysts .....	28.6	1.38	41.2	37.4	40.0	1.57
Economists .....	8.1	.39	11.1	10.0	10.7	.42
Adult education teachers .....	15.3	.74	19.6	17.7	19.0	.74
Accountants and auditors .....	36.6	1.76	50.3	45.6	48.8	1.92
Foresters and conservationists .....	13.3	.64	17.0	15.4	16.5	.65
Lawyers .....	17.6	.85	22.4	20.3	21.7	.85
Personnel and labor relations specialists .....	23.1	1.11	29.4	26.7	28.5	1.12
Purchasing agents and buyers .....	24.3	1.17	31.0	28.1	30.1	1.18
Tax examiners, collectors, and revenue agents .....	24.4	1.18	31.1	28.2	30.2	1.19
Managers, officials, and proprietors .....	207.3	9.98	273.2	247.6	264.9	10.41
Health and regulatory inspectors .....	36.2	1.74	46.1	41.8	44.7	1.76
Sales workers .....	7.5	.36	9.9	8.9	9.6	.38
Clerical workers .....	577.3	27.80	719.8	652.3	697.8	27.42
Accounting clerks .....	31.5	1.52	37.8	34.3	36.7	1.44
Claims adjusters .....	15.3	.74	19.5	17.7	18.9	.74
Claims clerks .....	16.4	.79	20.9	18.9	20.3	.80
General clerks, office .....	103.8	5.00	127.5	115.6	123.7	4.86
Mail clerks .....	25.4	1.22	32.4	29.3	31.4	1.23

See footnotes at end of table.

**E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued**

(Numbers in thousands)

Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Federal Government—Continued</b>						
Computer operators .....	10.4	0.50	15.9	14.4	15.4	0.61
Data entry operators .....	13.4	.65	10.6	9.6	10.3	.40
Payroll and timekeeping clerks .....	9.6	.46	12.2	11.1	11.9	.47
Personnel clerks .....	21.4	1.03	27.3	24.8	26.5	1.04
Secretaries .....	77.2	3.72	102.8	93.2	99.7	3.92
Stenographers .....	16.4	.79	13.2	12.0	12.8	.50
Typists .....	83.6	4.02	98.5	89.3	95.5	3.75
<b>Craft and related workers .....</b>	<b>245.9</b>	<b>11.84</b>	<b>310.6</b>	<b>281.5</b>	<b>301.1</b>	<b>11.83</b>
Carpenters .....	9.3	.45	11.9	10.8	11.5	.45
Electricians .....	16.4	.79	20.9	18.9	20.3	.80
Painters, construction and maintenance .....	9.7	.47	12.3	11.2	12.0	.47
Plumbers and pipefitters .....	18.2	.88	23.2	21.0	22.5	.88
Aircraft mechanics .....	25.6	1.23	32.0	29.0	31.1	1.22
Industrial machinery repairers .....	18.9	.91	24.1	21.8	23.4	.92
Maintenance repairers, general utility .....	10.1	.49	12.9	11.7	12.5	.49
Sheet-metal workers and tinsmiths .....	13.4	.65	17.1	15.5	16.6	.65
<b>Operatives .....</b>	<b>88.7</b>	<b>4.27</b>	<b>111.6</b>	<b>101.2</b>	<b>108.2</b>	<b>4.25</b>
Machine tool operators, combination .....	16.0	.77	20.4	18.5	19.8	.78
Truck drivers .....	15.2	.73	19.3	17.5	18.8	.74
<b>Service workers .....</b>	<b>164.2</b>	<b>7.91</b>	<b>205.4</b>	<b>186.2</b>	<b>199.2</b>	<b>7.83</b>
Building custodians .....	22.1	1.06	28.1	25.5	27.3	1.07
Licensed practical nurses .....	13.3	.64	16.9	15.3	16.4	.64
Nursing aides, orderlies, and attendants .....	37.9	1.82	43.9	39.8	42.5	1.67
Fire fighters .....	10.5	.51	13.4	12.2	13.0	.51
Guards .....	8.6	.41	10.9	9.9	10.6	.42
Police detectives .....	19.3	.93	24.7	22.4	23.9	.94
Police officers .....	9.0	.43	11.5	10.4	11.1	.44
Laborers, except farm .....	68.3	3.29	69.6	63.1	67.5	2.65
<b>Local government, except education and hospitals</b>						
Total, all occupations .....	3,707.8	100.00	3,999.0	4,070.0	4,171.0	100.00
<b>Professional, technical, and related workers .....</b>	<b>500.6</b>	<b>13.50</b>	<b>547.5</b>	<b>557.3</b>	<b>571.1</b>	<b>13.69</b>
Civil engineers .....	19.4	.52	21.3	21.7	22.2	.53
Nurses, registered .....	36.8	.99	40.4	41.1	42.1	1.01
Urban and regional planners .....	15.4	.42	17.0	17.3	17.7	.42
Accountants and auditors .....	25.1	.68	27.5	28.0	28.7	.69
Assessors .....	26.5	.72	29.1	29.6	30.4	.73
Lawyers .....	30.3	.82	33.3	33.9	34.7	.83
Librarians .....	16.1	.43	17.7	18.0	18.4	.44
Recreation workers .....	45.7	1.23	50.2	51.1	52.4	1.26
Social workers .....	84.1	2.27	81.8	83.3	85.3	2.05
Caseworkers .....	61.5	1.66	57.0	58.0	59.4	1.42
Community organization workers .....	22.6	.61	24.8	25.3	25.9	.62
<b>Managers, officials, and proprietors .....</b>	<b>335.8</b>	<b>9.06</b>	<b>381.3</b>	<b>388.1</b>	<b>397.7</b>	<b>9.53</b>
Construction inspectors, public administration .....	28.9	.78	33.5	34.1	35.0	.84
Health and regulatory inspectors .....	26.4	.71	29.0	29.5	30.2	.73
Sales workers .....	2.4	.07	2.9	2.9	3.0	.07
<b>Clerical workers .....</b>	<b>713.6</b>	<b>19.25</b>	<b>737.8</b>	<b>750.9</b>	<b>769.5</b>	<b>18.45</b>
Accounting clerks .....	37.3	1.00	38.9	39.6	40.6	.97
Cashiers .....	28.1	.76	36.9	37.5	38.5	.92
Clerical supervisors .....	21.7	.59	23.8	24.3	24.9	.60

See footnotes at end of table.

E-1. Employment in selected industries and occupations, 1982 and projected 1995 alternatives—Continued

(Numbers in thousands)

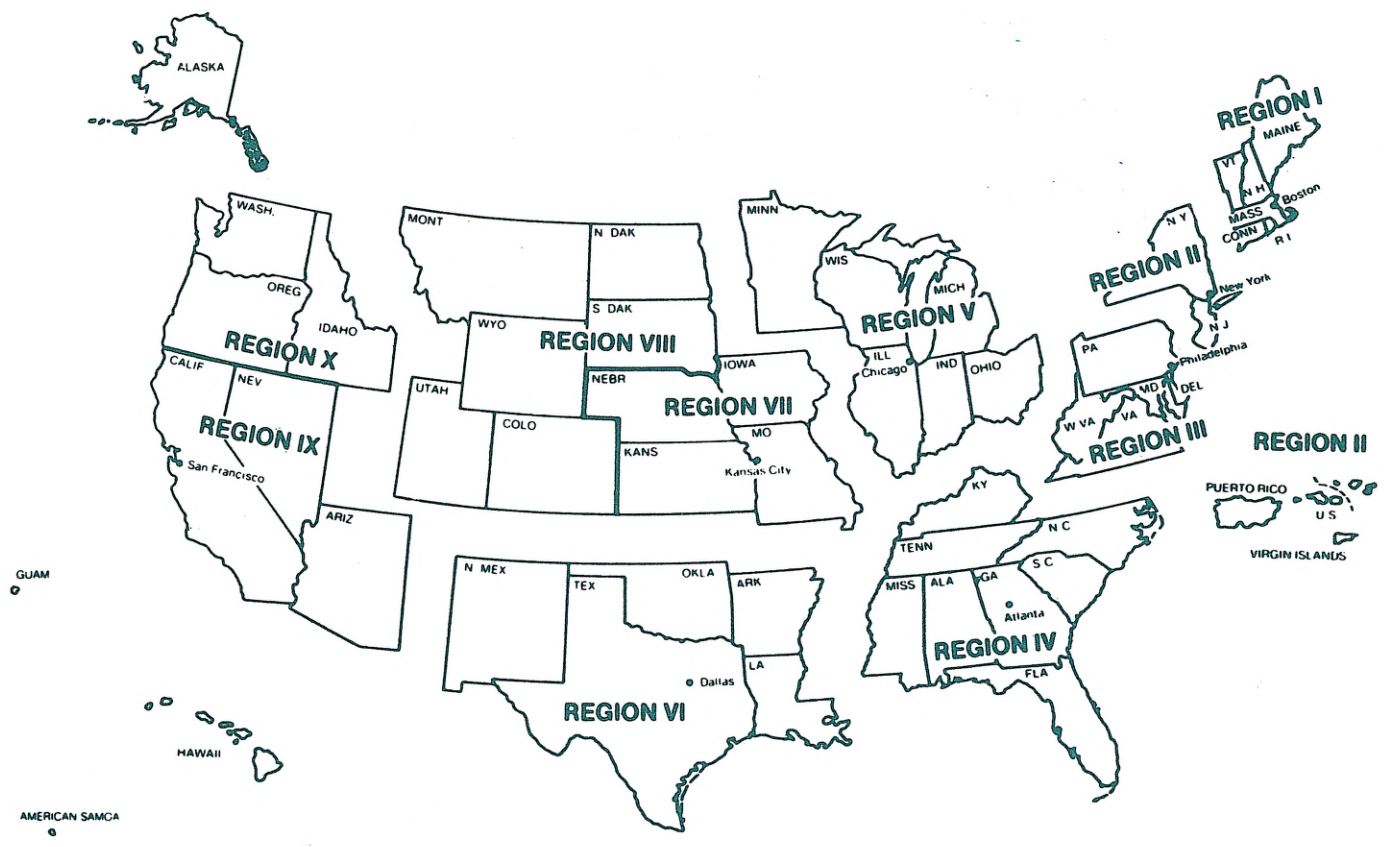
Occupation	1982		1995 alternatives			
	Number	Percent	Number			Percent
			Low	Moderate	High	
<b>Local government, except education and hospitals—Continued</b>						
Court clerks .....	20.9	0.56	22.9	23.3	23.9	0.57
Dispatchers, police, fire, and ambulance .....	43.6	1.18	47.8	48.7	49.9	1.20
File clerks .....	21.0	.57	21.1	21.5	22.0	.53
General clerks, office .....	94.4	2.55	98.5	100.3	102.8	2.46
Secretaries .....	67.5	1.82	80.6	82.0	84.0	2.01
Stenographers .....	27.5	.74	16.3	16.6	17.0	.41
Typists .....	109.2	2.95	110.1	112.0	114.8	2.75
Town clerks .....	26.0	.70	28.6	29.1	29.8	.71
Craft and related workers .....	401.2	10.82	443.5	451.3	462.6	11.09
Electricians .....	18.3	.49	20.1	20.5	21.0	.50
Automotive mechanics .....	29.7	.80	32.6	33.1	34.0	.81
Maintenance repairers, general utility .....	58.3	1.57	64.0	65.1	66.7	1.60
Blue-collar worker supervisors .....	48.8	1.32	61.5	62.6	64.1	1.54
Heavy equipment operators .....	59.3	1.60	65.1	66.2	67.9	1.63
Water and sewage treatment plant operators .....	64.7	1.75	67.7	68.9	70.6	1.69
Operatives .....	184.6	4.98	201.5	205.1	210.2	5.04
Ambulance drivers and ambulance attendants .....	11.1	.30	12.1	12.4	12.7	.30
Busdrivers, local and intercity .....	58.9	1.59	64.6	65.8	67.4	1.62
Truck drivers .....	55.5	1.50	60.9	62.0	63.5	1.52
Service workers .....	1,129.4	30.46	1,229.4	1,251.3	1,282.3	30.74
Building custodians .....	80.9	2.18	73.3	74.6	76.4	1.83
Licensed practical nurses .....	16.0	.43	17.6	17.9	18.4	.44
Nursing aides, orderlies, and attendants .....	55.5	1.50	58.0	59.0	60.5	1.45
Recreation facility attendants .....	28.3	.76	31.1	31.7	32.4	.78
Welfare service aides .....	21.7	.59	20.2	20.5	21.1	.50
Correction officials and jailers .....	43.3	1.17	73.3	74.6	76.4	1.83
Crossing guards, school .....	37.9	1.02	41.6	42.4	43.4	1.04
Fire fighters .....	188.6	5.09	199.6	203.1	208.2	4.99
Fire officers .....	46.3	1.25	50.8	51.7	53.0	1.27
Police detectives .....	35.8	.97	40.7	41.4	42.5	1.02
Police officers .....	77.3	2.08	84.8	86.3	88.5	2.12
Police patrolmen/women .....	321.5	8.67	344.3	350.4	359.1	8.61
Sheriffs and U.S. Marshalls .....	20.4	.55	16.3	16.6	17.0	.41
Supervisors, nonworking, service .....	18.6	.50	20.4	20.8	21.3	.51
Laborers, except farm .....	440.2	11.87	455.1	463.2	474.7	11.38
Highway maintenance workers .....	130.7	3.52	143.5	146.0	149.6	3.59
Garbage collectors .....	79.2	2.14	77.3	78.7	80.7	1.93
Gardeners and groundskeepers, except farm .....	57.7	1.56	63.4	64.5	66.1	1.58
Helpers, trades .....	25.4	.69	27.9	28.4	29.1	.70

<sup>1</sup> Industry includes SIC 421 and SIC 423.

NOTE: Detail may not add to totals or subtotals because of rounding and because subtotals may include occupations not shown separately.

Percents are based on unrounded numbers. Wage and salary workers only.

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