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Economic Projections to 1990

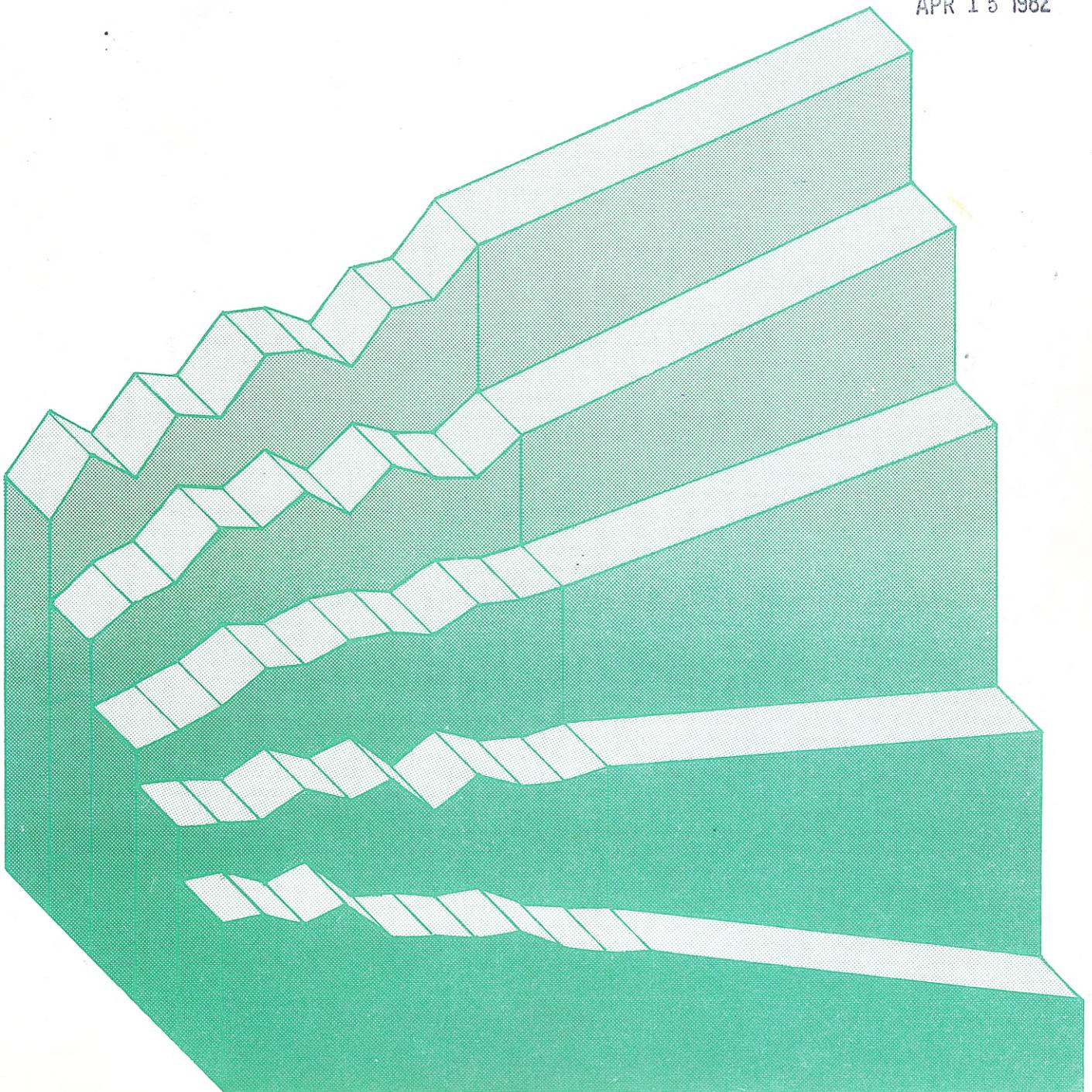


U.S. Department of Labor
Bureau of Labor Statistics
March 1982

Bulletin 2121

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Economic Projections to 1990



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Preface

This bulletin presents the latest Bureau of Labor Statistics projections of the U.S. economy to 1990. It consists of five articles from the *Monthly Labor Review* and supplementary tables containing additional data frequently requested.

These projections are part of the ongoing program of the Bureau of Labor Statistics for study of alternative patterns of economic growth. For the historical input-

output data upon which the projections are based, see *Time Series Data for Input-Output Industries*, Bulletin 2018 (1979). A bulletin on the methodology is scheduled for publication at a later date.

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New economic projections through 1990—an overview

BLS has updated its 1978–79 projections for the decade of the 1980's to reflect recent social, political, and economic developments; three scenarios, each based on a unique set of assumptions about the future, provide a range of possible growth paths

RONALD E. KUTSCHER

The economic and employment outlook described in the following articles was constructed as a regular part of the Bureau's medium-term projections program. This program includes a series of closely related projections encompassing the labor force by age, sex, and race;¹ gross national product projections, in total and by major demand and income components; industry output and employment; and occupational requirements, overall and by industry. Estimates are derived through the use of an integrated econometric framework, and are updated by BLS every 2 years.

The following articles are based on three alternative projections to 1990. These scenarios cover a number of alternative assumptions yielding a reasonably broad span of employment and GNP levels for 1990. It is likely, but of course not certain, that the actual course of economic and employment development will fall within such a wide band. Also, while alternative assumptions are used for a few of the more important variables, it was not possible to produce alternatives for all variables. This would quickly have multiplied the number of projections confronting the user, and rapidly expanded the workload entailed in their completion. The three alternatives do not conveniently fall into "high" "medium," or "low" categories. Therefore, users of the projections will find it necessary to review the

underlying assumptions to determine which of the three scenarios seems most appropriate for their purposes.

Brief summary of the projections

Labor force. The Bureau of Labor Statistics developed three labor force growth scenarios for the next decade: a high-growth projection, which assumes rapid growth in the labor force participation of women and the convergence of participation rates for black men and white men under age 65; a middle-growth scenario with the work force expansion attributable mostly to women; and a low-growth path with only moderate increases in the participation of women and with the continuing divergence in male participation between races.² (See table 1.)

Some salient elements of the labor force projections:

- Because of past decline in birth rates, the labor force will grow at decreasing rates throughout the next decade.
- Women's labor force participation is expected to continue to increase. Women should account for 2 of every 3 additions to the labor force over the next decade.
- While the overall birth rate for the United States has been declining since about 1960, this has not been true for blacks and other races. Therefore, representation of these groups in the labor force will increase over the next decade. During 1985–90, their rates of entry will be at least double that for whites, and

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Table 1. Actual and projected civilian labor force based on three different growth paths, selected years, 1965–1990

Growth path	Actual labor force (in millions)			Projected labor force (in millions)		Annual percent change				Participation rate				
	1965	1975	1979	1985	1990	1965 to 1975	1975 to 1979	1979 to 1985	1985 to 1990	Actual			Projected	
										1965	1975	1979	1985	1990
Total	74.5	92.6	102.9			2.2	2.7			58.9	61.2	63.7		
Middle growth				115.0	122.4			1.9	1.3				66.5	67.9
High growth				118.3	128.4			2.4	1.6				68.4	71.1
Low growth				117.7	117.4			1.4	1.0				64.6	65.2
Men	48.3	55.6	59.5			1.4	1.7			80.7	77.9	77.9		
Middle growth				63.6	65.9			1.1	.7				77.7	77.2
High growth				64.8	68.2			1.4	1.0				79.2	79.9
Low growth				62.5	63.9			.8	.4				76.3	74.9
Women	26.2	43.4	43.4			3.5	4.1			39.3	51.0	51.0		
Middle growth				51.4	56.5			2.9	1.9				56.5	59.6
High growth				53.4	59.9			3.5	2.3				58.7	63.2
Low growth				49.2	53.5			2.1	1.7				54.1	56.4

could be even higher under one of the alternative projections developed.

- The number of young people age 16 to 24 in the labor force will fall by at least 1.5 million over the decade, reflecting the past decline in birth rates.
- The number of people age 55 and over in the labor force will not increase as much as the 25 to 54 category, largely because of trends toward early retirement.

Economic projections. The three alternative projections for the economy as a whole used differing assumptions for five key variables: (1) fiscal policy, (2) labor force growth, (3) productivity growth, (4) the unemployment rate, and (5) price levels. Each of the alternative assumptions for these variables and the more significant factors considered in arriving at the alternatives are discussed in detail in the subsequent articles. Proper evaluation of the 1990 projections requires careful review of these assumptions.

Among the highlights:

- Use of alternative assumptions yields a GNP for 1990 of between \$1.9 and \$2.2 trillion (in 1972 dollars), a spread of over \$270 billion. The 1980–90 real GNP average growth is 2.5 percent per year at the low end of the alternatives and 3.9 percent at the high end.
- The low-path GNP growth projected for the 1980's is roughly consistent with the experience of the 1970's. The high alternative GNP growth rate is closer to the path of the 1960's.
- Among the assumptions used in developing these alternatives, productivity (output per person-hour) shows the widest variation. The lowest alternative assumes 1980–90 productivity growth of 1.4 percent per year. The highest alternative has assumed annual growth of 2.6 percent.
- Within GNP, the component of demand most sensitive to the alternative assumptions (particularly those related to tax policy) is that for producers' du-

table equipment. In the low-path alternative, this component increases by 4.7 percent annually over the next decade, while in the two high-path scenarios, growth exceeds 8 percent per year. Exports also show a large variation among the alternatives.

- The demand category showing the most change from recent trends is Federal defense purchases, which under each of the three alternatives are assumed to grow at annual rates appreciably greater than in recent years.
- The trend toward a smaller government share of final demand is expected to continue throughout the 1980's in the two high-trend alternatives. In the low-trend projections, the defense purchases component of government demand is expected to grow sharply in real terms during the early 1980's, and then slow slightly after 1985. Defense purchases are projected to stabilize at about 5 percent of GNP over the latter half of the decade.
- In the State and local sector, the largest change from prior trends is expected in the education field. As the baby-boom generation matures, the number of school enrollees should decline over most of the decade. Thus, growth of educational purchases is projected to dampen through 1985, with absolute declines thereafter.

Employment and output

Employment. Between 1955 and 1980, the total number of jobs³ in the economy increased from 68.7 million to 105.6 million, or by about 1.5 million a year; during 1973–80, annual job growth exceeded 2 million. Over the next decade, major changes in employment are assumed under each of the alternatives discussed in these articles. Total employment is expected to increase by an average of 1.6 percent—or 2.2 million jobs—each year between 1980 and 1985 in the low-growth and high-trend II versions. In the high-trend I version, a higher labor force projection, combined with an even more rapid decline in the unemployment rate, yields annual employment growth of 2.4 percent between 1980 and

Uses of projections

A wide range of persons and organizations use the BLS projections. Many are interested in only a particular element, while others use all or most of the projection components.

Labor force estimates. The U.S. Department of Labor, Congress, and the Congressional Budget Office use the labor force projections for analyses in which the future demographic composition of the work force is an important consideration. The Bureau of Economic Analysis and Bureau of the Census of the U.S. Department of Commerce use the detailed labor force estimates for their own projections and analyses. Other executive branch agencies use these data chiefly in EEO studies. In nearly all of the States, BLS labor force projections provide the framework for developing State labor force projections needed for planning purposes.

Private users include market researchers, corporate planners, and others who build macro-models or estimate recruitment needs. And international agencies are supplied the data for information and research.

Projections for the overall economy and by industry. These estimates and their underlying data bases are used by Federal agencies in preparing budget estimates or employment analyses, or as a framework for more detailed models of particular interest to their departments. The latter include projections of the energy situation; environmental developments; housing, transportation, or defense requirements; and capital availability. Also, the U.S. Department of Housing and Urban Development regularly uses the projections in *The Housing Report of the President*, as does the Labor Department's Employment and Training Administration in *The Employment and Training Report of the President*.

Among international users of the overall economic projections are international agencies which monitor the future prospects of the U.S. economy, those interested in research methods, and those specializing in unique historical aspects of the Nation's economic development, such as capital stock by industry, time series on output and employment by industry, or input-output data.

State and local governments, area planning councils, corporations, outside research organizations, and universities also use the BLS data for planning purposes, as input to more specific models by locality or industry, or as a means to evaluate projections developed by themselves or by others.

Occupational projections. This information is used in preparing the Bureau's *Occupational Outlook Handbook*, a tool for career guidance; education planning; policy and program analysis, evaluation, and development by government and private organizations; and research conducted by other organizations. The Survey of Career Information Systems in Secondary Schools, a National Institute of Education

study conducted by the Education Testing Service of Princeton, N.J., revealed the *Handbook* to be the most frequently chosen resource of counselors and secondary school students. The *Handbook* is used primarily in high schools, but is also of value to elementary schools, colleges, vocational schools, public employment offices, placement services for members of the Armed Forces returning to civilian life, organizations which help the economically disadvantaged, and vocational rehabilitation facilities.

National occupational employment data and projections are used at all levels of government, and by others, to formulate education plans. Included are such agencies as the National Science Foundation, and the Administration on Aging, which provide Federal funds for specialized education and training to ensure themselves of an adequate supply of qualified workers. At times such agencies have contracted with the Bureau to do special studies in these areas. Conversely, the Office of Management and Budget has relied on BLS occupational projections to evaluate the training plans of other agencies. And educational institutions and State agencies engaged in planning college-level programs also use the data.

The national data are an input to State and area projections. Such subnational estimates are being used by government bodies to plan vocational education and CETA training requirements. In fact, nearly all States currently develop their own occupational projections based on a national industry-occupation matrix.

BLS data are an integral part of other types of occupational research conducted by private organizations, non-profit organizations, universities, and government agencies. The industry-occupation matrix provides the needed occupational projections for industry scenarios developed by others. Organizations which prepare vocational guidance materials also rely upon BLS research underlying the *Occupational Outlook Handbook*.

Private employers use the Bureau's occupational projections for a variety of planning functions, including the construction of personnel policies which anticipate possible labor shortages. And, producers of machinery operated by workers in specific occupations may find the industry-occupation matrix a valuable tool for identifying potential product markets.

THE INDIVIDUAL ELEMENTS of the projections—labor force, GNP, industry output and employment, and occupational requirements—may also be integrated into a consistent analytical framework which makes possible use of the entire system. A set of analyses recently prepared for the National Science Foundation relied on this approach to determine the implications of increasing defense expenditures and synthetic energy production for the supply of and demand for scientists and engineers. (See *Science and Engineering Education for the 1980's and Beyond* (Washington, National Science Foundation and the U.S. Department of Education, 1980)).

1985, or slightly fewer than 2.7 million jobs a year.

In all alternatives, the rate of employment growth slows in the latter half of the decade, to 1.4, 1.9, and 1.5 percent, respectively, for the low, high-trend I, and high-trend II models. This reflects the projected slowdown in labor force growth after 1985.

Further important highlights:

- State and local government employment is expected to grow less rapidly than total employment, largely as a result of contraction in public education.
- As in the past, the "other services" sector is expected to experience the fastest employment growth. By 1990, "other service" industries will account for over 22 percent of all jobs in the economy in each of the three alternative scenarios. Leading the advance among service industries will be health care.
- The largest number of new jobs projected for any sector over the next decade will be in the trade sector, primarily because of its initial large size. Between 5 and 7.2 million new jobs are projected for wholesale and retail establishments between 1979 and 1990.
- Manufacturing jobs will grow by 0.8 percent a year during 1979-90 in the low-trend version and 1.6 percent in high-trend I, slower than the rates projected for total jobs but faster than recent growth in the sector. The turnaround in the rate of manufacturing job formation will be more pronounced for durable goods manufacturing than for nondurables, reflecting assumptions of strong demand for consumer durables, defense hardware, and for producers' durable equipment, especially in the high-trend versions.
- Five of the 10 industries with the greatest projected rates of employment loss are in the nondurable manufacturing sector, reflecting either falling demand or rapid productivity growth.

Output. Projections of final demand by industry were multiplied by an input-output table to yield projections of the domestic output needed for each industry to meet that final demand. This analysis indicates:

- Agricultural output will continue to decline in relative importance throughout the next decade, reflecting slow growth in food purchases. This slowdown will affect almost all of the food industries and indirectly, the agricultural industries.
- Although the nondurable goods manufacturing sector is expected to show only moderate overall growth, several of its component industries should experience faster-than-average output growth. These include the chemical products, drugs, apparel, and printing and publishing industries.
- Among specific industries in the durable manufac-

turing sector likely to enjoy substantial output growth are computers; optical equipment; construction, mining, and oilfield machinery; typewriters and other office machines; electronic components; material handling equipment; photographic equipment; and medical and dental instruments.

- Historically, the services sector has been increasing its share of total private output, but during the 1980's, its growth should approach that of the private economy as a whole, keeping its share constant.
- Output of the mining sector is expected to halt its historical decline as a share of the total private economy, as the expected rapid increase in coal production outweighs minimal output growth in crude oil production and absolute declines in copper mining and nonferrous ores mining.

Occupational data

The more important occupational trends:

- The shares of total employment accounted for by white-collar jobs and blue-collar jobs do not change substantially over the projected period under any of the alternative projections. The white-collar share increases from 49.8 percent in 1978 to between 50.6 and 50.9 percent by 1990, and the blue-collar share changes from 31.8 percent in 1978 to between 32 and 31.5 percent in 1990.
- Service occupations continue to be the fastest growing major occupational category and should account for almost 16 percent of all jobs in 1990.
- Job growth in blue-collar occupations is affected relatively more by differences among the three alternative scenarios than growth in other occupational categories. Blue-collar occupations are sensitive to high-trend I assumptions because they are concentrated in manufacturing industries, and the demand for manufactured goods is relatively greater in this version of the economy. Demand for manufactured goods is also greater in the high-trend II scenario, but the need for additional blue-collar workers is moderated by assumed higher productivity gains.
- Over the past two decades, the professional and technical category has been one of the fastest growing occupational groups. Although employment is projected to continue to increase faster than employment in all occupations in each of the alternative scenarios, the differential rate of growth is narrowed.
- Employment of managers and administrators is projected to grow somewhat more slowly than overall employment during 1978-90 in each scenario.
- Employment of clerical workers is projected to grow faster than the average rate of employment growth in each of the alternative versions. Only the number of service workers is expected to grow faster.

- Employment in the craft and kindred worker group increases at about the average rate for all occupations in each of the scenarios. Most of this growth is expected before 1985.

Impact of assumptions

A review of the sensitivity of the projections to changes in the assumptions revealed that changes, especially in tax policy, showed the largest impact on the producer durable demand component of GNP, the durable goods manufacturing industries, and a group of blue-collar occupations principally found in the durable manufacturing industries. The results here are very consistent throughout the durable goods sector. However, it would clearly not be warranted from these results to assume that the same sector, industries, and occupations would be heavily impacted by changes in other sets of assumptions. The expectation would be that these changes would be felt by differing combinations of industries and occupations.

Evaluation of past projections

A regular part of the BLS program is the evaluation of projections when the target year has been reached. These reviews provide the BLS projections staff with insights into the causes of differences between projected and actual values, such as unwarranted assumptions, errors in historical data, or methodological problems. They also give users an idea of the uncertainties attached to any projections. A brief discussion of the results of these evaluations follows:

Labor force. All of the projections made by BLS in the 1952–70 period underestimated the actual labor force (age 14 and over) in 1975.⁴ All projections also underestimated the actual 1970 labor force, although the 1956 and 1959 estimates were close. For the target years of 1960 and 1965, however, BLS was reasonably accurate, and the misses fell both below and above the true levels.

As in previous years, the labor force projections made in 1973 were based on the extrapolation of past trends in work force participation. The 1973 projection called for a civilian labor force (age 16 and over) of 99.8 million in 1980 and 110.6 million in 1990. By 1975, however, it was evident that underestimates could again be expected. The participation rate of women was projected to be 45.5 percent in 1990, but by 1975 the rate had already hit 46.3 percent, and in 1976 it reached 47.3 percent. The rate of men also was predicted to change very little. By 1980, it was expected to be 78.7 percent and in both 1985 and 1990, 79.1 percent. But by 1976, the male civilian labor force participation rate had already dropped to 77.5 percent.

BLS revised these projections in 1976. Although the

general principle of extrapolating long-term trends in work activity was retained, the methodology was modified to reduce the amount of tapering⁵ applied to the projected labor force rates. This had the effect of raising the projected rates for women and lowering those for men. The combined effect was an increase in the overall projection for 1980 of 2 million workers—2.6 million more women and 600,000 fewer men than computed in 1973.

Economic and industry trends. In the mid-1960's, the Bureau first published projections of gross national product, output by industry, and industry employment for the year 1970.⁶ The basic model assumed a full employment economy with only 4 percent unemployment. Other assumptions were that the Vietnam war would have ended and that a housing boom would be underway. Total GNP was calculated from estimates of labor force growth, hours of work, and labor productivity.

The projections of GNP and employment were within 4 percent of the actual levels for 1970. However, errors in the distribution of final demand, output for 81 industries, and employment for 74 industries fell within a broader range, with most of the larger discrepancies occurring in the smaller sectors. The absolute difference between actual and projected employment for each of 74 different industries averaged 76,800 jobs, or 10.3 percent, but the Bureau correctly anticipated the direction of change in 63 of the industries. And, when the errors were weighted by employment in each industry, the average absolute difference dropped to 8.1 percent.

The largest source of error in the industry employment data proved to be estimates of employment-output ratios or productivity by industry. Second in importance were inaccuracies in the projections of input-output coefficients, while final demand estimates contributed the least to industry employment errors.

For many of the variables used in the BLS methodology, it is difficult to draw a distinction between those "projected" and those "assumed." No well-specified model (except the Houthakker-Taylor model for the distribution of personal consumption expenditures) was used for the 1970 projections, and variables were in general projected from extrapolation of past trends modified to account for expected changes.

Events of 1970 negated the basic assumption of a full employment economy. The onset of recession brought the average unemployment rate to 5.1 percent, compared with less than 4 percent during the preceding 4 years. Moreover, military involvement in Vietnam had not ended, and the housing boom did not materialize until 1971–72. The 1970 downturn undoubtedly distorted the projections in the aggregate as well as at the industry level.

One of the conclusions drawn from the 1970

evaluation was that, because the BLS projections are for the medium term and do not take account of cyclical fluctuations, it might be more useful to specify ranges for future output and employment. This is particularly true for those industries most susceptible to fluctuations, such as some durable goods industries or construction.

Another recommendation arising from this review was to prepare more alternative scenarios, varying the assumptions for each case. Particularly, more accurate projections may result from broadening the range of values that key exogenous variables can assume. The benefits of the review of the 1970 economic and employment projections were such that the procedure became a regular part of the projections program.

Projections for the 1975 economy, prepared in 1971, were designed to reflect steady medium-term growth and could not anticipate the sharp deviation from the

path brought on by the 1974–75 recession.⁷ Thus, the high-productivity, full employment assumptions of the 1975 projections resulted in a large percentage error in “supply gross national product”—the projected level of economic resources. This error, in turn, biased the equations of the econometric model used for simulating levels of demand and passed high estimates of final demand through the projection process, ultimately distorting projected levels of industry employment.

The 1975 evaluation of the projection methodology also revealed weakness in the estimation of demand components of GNP.⁸ Equations used to derive the investment and import levels were found to be particularly poor, while those related to personal income, personal consumption expenditures, and government purchases performed well. The final demand industry distributions were quite inaccurate, due mainly to

Brief history of Bureau of Labor Statistics projections

In November 1979, BLS projection work, previously spread among three Bureau organizations, was brought together under the umbrella of the Office of Economic Growth and Employment Projections. While previous interoffice efforts had been coordinated, the organizational change made possible an even closer integration of the projections for various aspects of the economy. The projections in this issue are the first developed after this organizational change.

Labor force. Over the years, the Bureau has developed projections for each of the major subsets of the current projections. Labor force estimates were first produced in 1959. Since that time, seven sets of these projections have been published.

Industry output and employment projections. In 1963, the Bureau began construction of a medium-term economic projections model. Incorporating the input-output tables then being developed by the Bureau of Economic Analysis of the U.S. Department of Commerce, this model was designed to produce industry output and employment projections 5 to 15 years into the future. Since that time, the BLS Economic Growth Model has undergone several changes in response to the need for more accurate and detailed data. Various versions of this model have been used to develop a series of seven sets of projections.

The current version of the Economic Growth Model is a system of equations and identities linked at selected points by various economic, econometric, mathematical, and programming techniques to simulate the U.S. economy. Given an explicit set of assumed values for certain target variables, this model generates industry output and employment projections. A key feature is the interlinking of input-output analysis with other econometric techniques.

Occupational outlook. This facet of the program originated with a report of the Advisory Committee on Education

appointed by President Franklin D. Roosevelt. In 1938, the committee recommended the establishment of an occupational outlook service within the Bureau of Labor Statistics to conduct employment studies and provide career guidance information for individuals and for vocational counselors and planners. Accordingly, the Occupational Outlook Service was organized under a specific authorization of the Congress in 1941. Preliminary studies were begun that year, but it was not until after World War II that the staff was able to focus on the publication of reports for use in career guidance. In mid-1946, a manual of occupational outlook information was prepared for use in the Veterans Administration counseling and rehabilitation program.

The first edition of the *Occupational Outlook Handbook* was published in 1949 in response to a formal resolution by the National Vocational Guidance Association and the requests of other groups and individuals that Congress authorize the development of career guidance information for sale. The public response was favorable to this first *Handbook*, and in 1951, the Bureau decided to issue a revised and enlarged edition, with the backing of the Veterans Administration.

After the end of hostilities in Korea, there was heightened public recognition of the key role of vocational guidance in channeling workers into essential occupations and effectively using the Nation's labor resources. As a result, in 1955, Congress provided continuing authorization for regular publication of the *Occupational Outlook Handbook* and related materials. In 1957, the third edition of the *Handbook* was published and a companion piece, the *Occupational Outlook Quarterly*, was introduced to report on new occupations and describe changes in the employment situation in established career fields. The 1982–83 *Handbook*, currently in preparation, will be the 15th edition, and should be available in late spring of 1982. The projections discussed in this issue of the *Review* will form the basis for the new *Handbook*.

judgmental error. Projected industry outputs were distorted more by errors in the estimates of final demand than by inaccuracies in the input-output table employed in the projection process. However, industry productivity factors also were wide of the mark, offsetting the demand error in such a way that relative accuracy in the industry employment projections resulted.

Projections of the labor force and employment for 1975 fell within 4 percent of the realized levels. GNP was overestimated by 15.4 percent. Errors for detailed industry final demand, output, and employment fell within a broader range, but, for the most part, the larger percentage errors occurred among the smaller sectors.

Employment was overestimated for three-quarters of the industries studied, reflecting the severity of the 1975 recession. The largest percent errors were recorded for the durable manufacturing and mining industries, while the largest numerical errors occurred within the construction, trade, and service industries, the three largest economic sectors. The absolute difference between actual and projected employment for each of the 71 industries studied averaged 8 percent of total employment for these industries.

Total employment for 1975 was overprojected by about 3.5 percent, although discrepancies varied widely by industry. The overprojection of GNP led to an overestimate of industry outputs; together with the misprojection of labor productivity, this resulted in the overprojection of total employment.

At the industry level, the average absolute percentage error in employment for 71 industries was 14.8 percent; when weighted by industry employment shares, the average dropped to 8 percent. This again indicates that the larger percentage errors were in the smaller industries. Estimates for more than 40 percent of the industries, accounting for more than two-thirds of employment, were within 10 percent of the actual values. The largest single concentration of error was in the construction industry; personal and business services were a close second. The third largest source of error was the trade sector; although the discrepancy was small, it became important because of the large size of the sector.

The 1975 evaluation differed from the review of the 1970 projections, chiefly because the macro model was not used in the 1970 study. In addition, the 1970 study found productivity factors to be the most important in explaining errors in projected employment, while the 1975 study found macro controls to be the major source.

Occupational estimates. In 1967, the Division of Occupational Outlook completed an industry-occupation matrix which described the relationship of employment in 162 occupations and 124 industries during 1960 and

projected these relationships to 1975.⁹ The primary data sources for the project were the 1950 and 1960 censuses and, for industry employment, annual estimates from the BLS establishment surveys from 1947 onward.

A revision of the 1975 matrix based largely on additional industry data was completed in 1969. Although the revision was not published, it is a resource for the occupational outlook program, and provides more historical data for evaluating projections. Due to a major change in the occupational employment classification system beginning with the 1970 census, only 76 of the 162 detailed occupations were comparable over the 1960-75 period.

The unforeseen economic downturn of the mid-1970's reduced the accuracy of the occupational projections; although the errors were not as great as initially supposed, the target year turned out to be the trough of the recession, and the actual unemployment rate was 8.5 percent. Consequently, employment in cyclically sensitive occupations, such as craft and operative occupations, generally was overprojected. Employment in these two groups had been growing in line with projected trends through 1974, but turned down as economic conditions worsened in 1975. Interestingly, underprojections did occur in 3 of the 9 major occupational groups despite the recession, and these errors might have been somewhat higher if economic conditions in 1975 had been as favorable as originally assumed.

The difference between projected and actual employment for the major occupational groups ranged from a 6.7-percent underestimate for clerical workers to a 9.1-percent overestimate for operatives. The average of the absolute percentage difference was 6.1 percent. The projections for more detailed occupations were subject to much larger error, averaging 20.8-percent off 1975 employment levels. Again, differences between projected and actual employment tended to be smaller for the larger worker groups.

Several projection methods that would have been simpler than the matrix procedure were explored during the 1975 review. Among these, the most successful was linear extrapolation of employment trends for each occupation. These extrapolations averaged an absolute 26.2 percent off actual 1975 employment in the 76 detailed occupations, compared with the 20.8-percent error in the matrix projections.

The direction of employment change between 1960 and 1975 was correctly anticipated for all of the nine major occupational groups, although employment in five was overprojected. However, the evaluation of 1975 employment projections for detailed occupations was hampered by the previously mentioned change in the Census Bureau occupational classification system for the 1970 census. Beginning in late 1971, the revised system

was adopted for the Current Population Survey (CPS), the primary source of occupational employment data between decennial censuses. Largely as a result of this classification change, projections for only 76 of the 162 occupations in the matrix were comparable with 1975 employment data estimated from the CPS. Differences between projected and actual employment in the 76 detailed occupations ranged from a 43-percent understatement for personnel and labor relations workers to a 136-percent overestimate for plasterers. The absolute percentage errors for all 76 occupations averaged 20.8 percent. Two-thirds of the occupations, however, had errors lower than the average.

As indicated earlier, this evaluation found projection accuracy to be related to the size of employment in an occupation. When weighted by employment in each occupation, the average absolute error drops from 20.8 percent to 14 percent, indicating that projections for the largest occupations generally were more accurate. Relatively close estimates for the four occupational categories with more than 1 million workers each in 1975 contributed substantially to the final results. The following tabulation shows how projection accuracy improved with the size of the worker group:

<i>Number of workers in occupations</i>	<i>Number of occupations</i>	<i>Average absolute percent error</i>
Total	76	20.8
Less than 50,000	19	32.4
50,000 to 99,999	14	20.3
100,000 to 299,999	17	15.5
300,000 to 599,999	14	19.8
600,000 and more	12	11.2

A major objective of the evaluation of the 1975 occupational projections was to isolate the effects of errors in the matrix elements that determine occupational employment in the target year (projected employment by industry) on projected occupational staffing patterns for each industry (industry-occupation ratios).

Although the occupational projections were off the mark for many reasons, including the economic downturn, the 1975 review established that the ratio estimates were a far greater source of error in the occupational projections than the estimates of industry employment levels. In fact, a simulated matrix based on actual 1975 industry employment levels and the estimated ratios produced occupational totals that were no more accurate, on average, than the projections, suggesting that the quality of the ratios was so poor as to negate the effect of perfect industry employment projections.

The ratio estimates were based on scanty data for

trends in the occupational structure of industries. Although the projections were made in the late 1960's, the only comprehensive sources of historical data on ratios were the 1950 and 1960 decennial censuses. A long-recognized need for current, detailed data on industry staffing patterns prompted the initiation of the cooperative Federal-State program, Occupational Employment Statistics, in 1970.

Continuing analysis of the accuracy of projections is an important activity in improving their reliability. Thus, evaluation of previous projections has become a regular part of the BLS program. Complete employment data soon will be available for comparison with the 1980 industry and occupational projections, and an evaluation of the complete set of 1980 projections is currently planned.

The Bureau's policy of updating the medium-term scenarios every 2 years also contributes to accuracy. The three articles which follow reflect such an update of the 1990 GNP, industry output and employment, and occupational projections developed in 1978-79.

THE PREPARATION OF ECONOMIC PROJECTIONS is, to a degree, both a science and an art. Thus, misunderstandings may arise between the users, who feel the need for exact numbers, and producers, who recognize their inability to predict with such precision. Such conflicts are all the more likely because projections analysts generally employ a framework which develops numerical answers to specific questions, and users are inevitably tempted to attribute to those numbers an exactness they should not be accorded. The Bureau attempts to address this dilemma, in at least a small way, by making clear all of the important assumptions underlying its projections, by developing alternative versions which reflect at least some of the uncertainties about the future, by evaluating past projections to assist users in appreciating the unpredictable nature of certain future events, and by updating the projections on a regular 2-year cycle.

Even so, the Bureau is aware that many uses of the projections (see box) require quantitative estimates. It is incumbent on users to realize that differing assumptions can change the results, that underlying data and methods can cause errors, and that estimates should be carefully reviewed to take into account subsequent developments which could not be anticipated at the time the projections were prepared.

A final comment, from Edgar R. Fiedler, on projections, their uncertainties, and their uses: "give them a number or give them a date, but never both."¹⁰ □

¹ The labor force projections were published earlier. See Howard N Fullerton, Jr., "The 1995 labor force: a first look," *Monthly Labor Review*, December 1980, pp. 11-21.

² See Fullerton, "The 1995 labor force."

³ The employment total used in this and the subsequent articles consists of wage and salary workers, self-employed, and unpaid family workers.

⁴ See Paul M. Ryscavage, "BLS labor force projections: a review of methods and results," *Monthly Labor Review*, April 1979, pp. 15-22.

⁵ Tapering refers to the assumptions and formulations used to move from the most recent rate of change in labor force participation for a given age-sex group to a zero rate of change several decades in the future.

⁶ Valerie A. Personick and Robert A. Sylvester, "Evaluation of BLS 1970 economic and employment projections," *Monthly Labor Review*, August 1976, pp. 13-16.

⁷ *Projections of the Post-Vietnam Economy, 1975*, Bulletin 1733 (Bureau of Labor Statistics, 1972).

⁸ Paul T. Christy and Karen J. Horowitz, "An evaluation of BLS projections of 1975 output and employment," *Monthly Labor Review*, August 1979, pp. 8-19.

⁹ Evaluations of earlier occupational projections are described in Sol Swerdloff, "How good were manpower projections for the 1960's," *Monthly Labor Review*, November 1969, pp. 17-22. The article referenced here is Max L. Carey, "Evaluating the 1975 projections of occupational employment," *Monthly Labor Review*, June 1980, pp. 10-21.

The Bureau's occupational projections for 1975 were first published in *Occupational Employment Patterns for 1960 and 1975*, Bulletin 1599 (Bureau of Labor Statistics, 1968). The projections also were presented in a corollary report, *Tomorrow's Manpower Needs, Volume IV*, Bulletin 1606 (Bureau of Labor Statistics, 1969). The projections evaluated in this article were obtained from the latter publication. There are minor differences in estimates presented in the two publications.

¹⁰ Edgar R. Fiedler, "The Three R's of Economic Forecasting—Irrational, Irrelevant, and Irreverent," *Across the Board*, June 1977, pp. 62-63.

Translating projections into action

In some respects the appraisal of forecasts puts a greater burden on the policymaker than the original task of forecasting itself. The accuracy of current forecasts is, of course, yet to be determined. Evaluation of the methodology of various forecasts may require technical sophistication at least as great as, and perhaps greater than, that of the specialist in forecasting. Yet the policymaker is rarely a specialist in forecasting techniques, nor is he often an authority on the phenomena being projected. Moreover, for the frequent case in which numerous forecasts of the same trend are available, the selection of a "most likely" forecast is in itself an act of forecasting, since the policymaker chooses the forecast which reflects assumptions and methods that appear most reasonable to him. The policymaker thus tacitly chooses a set of assumptions about the future and methodology for projecting the essence of those assumptions.

—WILLIAM ASCHER
*Forecasting: An appraisal for
Policy-Makers and Planners*
(Baltimore, Md., The Johns Hopkins
University Press, 1978), pp. 1-2.

The U.S. economy through 1990—an update

Revised BLS projections of growth indicate a shift from government spending to private investment; the three alternative projections assume a broad range of values for productivity, inflation, and fiscal policy

NORMAN C. SAUNDERS

In what ways might the U.S. economy expand during the 1980's?

The Bureau of Labor Statistics has prepared three trend projections of growth for the 1980–90 period, updating the two prior scenarios published in 1978 and adding a projection of major change in Federal fiscal policies.¹ The low-trend projection is characterized by assumptions of continuing high inflation, low productivity growth, and moderate expansion in real production. Alternatively, the high-trend version-I projection assumes marked improvements in both inflation and productivity, greater labor force growth, and commensurately higher real production levels. Finally, the new high-trend, version-II alternative assumes labor force growth consistent with the low-trend, but greater productivity gains and less inflation than in the version-I high-trend. None of the alternatives represents an attempt to forecast possible cyclical fluctuations during the 1980's. The three projections are intended to provide a range within which economic growth will most likely occur; however, they should not be interpreted as being representative of all likelihoods. Hereafter, the three scenarios will be referred to as the low-trend, the high-I, and the high-II alternatives.

By 1990, real gross national product (GNP) is expected to range between \$1.9 and \$2.2 trillion, with civilian employment between 120 and 129 million jobs. In all three versions, annual rates of growth in employment begin to slow in the 1980's but are more than offset by assumed improvements in productivity. Following are projected growth rates for GNP, disposable income, and employment during 1980–85 and 1985–90:

	1980–85			1985–90		
	Low	High-I	High-II	Low	High-I	High-II
Gross national product . . .	2.2	3.8	3.7	2.8	4.0	4.1
Real disposable income . . .	1.9	3.8	3.7	2.5	4.3	4.6
Employment .	1.5	2.4	1.7	1.4	1.9	1.5

In terms of the real rate of growth, the low-trend projections are comparable to the 1973–80 period when real GNP increased at an average rate of 2.4 percent and real disposable income grew by 2.5 percent each year. Conversely, the two high-trend projections correspond more with the 1955–68 period, when GNP grew at an average annual rate of 3.7 percent, while real disposable income was up annually by 3.8 percent.

Major assumptions

Underlying the projections are five major groups of assumptions—fiscal, demographic, productivity, unemployment, and prices.² Other assumptions such as capital discard rates, short- and medium-term interest rates, and motor fuel usage are not discussed here. However, the impact of the latter is limited to relatively small segments of the projections. An exception is the energy area, but because of limitations in the current BLS model, neither energy prices nor the availability of imported oil play a direct role in the aggregate projections. At the industry level, the consumption of energy by type and source is generally consistent with the medium-price projections of the Department of Energy, which are discussed elsewhere in this issue.³

Fiscal. It is assumed that personal tax payments will be affected in 1981 by a Federal income tax cut ranging from \$12 billion in the low-trend projection to \$23 bil-

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lion in the high-I version. In addition, Federal taxes as a proportion of personal income are assumed to decline throughout the decade. During the 1973-80 period, personal taxes accounted for an average of 11.1 percent of personal income, reaching 12.0 percent in 1980. In 1990, the effective rate declines to 10.6 percent in the low-trend projection, and to 8.9 percent in the version I high-trend. After 1981, neither scenario anticipates tax cuts in specific years. Rather, tax revenues are affected smoothly over the entire period by assuming rate reductions in each year. In the high-II version, however, Federal personal effective tax rates are cut 5.0 percent in 1981, 10.0 percent each year in 1982 and 1983, and, finally, by 5.0 percent in 1984. This results in an effective rate of 8.8 percent in 1984. The rate is maintained at this level for the remainder of the decade.

The effective tax rate on corporate profits averaged approximately 35.0 percent during the 1970's. In the low-trend model, corporate tax policy has been set to lower this effective rate to 32.0 percent by 1990, with most of the decline occurring in the latter half of the decade. In contrast, both high-trend projections reach an effective rate of approximately 28.0 percent by 1990, with the largest declines occurring early in the decade. The declining share of profits allocated to taxes results from tax cuts as well as from an increase in investment tax credits and more rapid depreciation rates. The major difference between the high trends and the low trend lies more in the timing of the tax cuts than in the magnitude.

Indirect business taxes are maintained, in all three projections, at a relatively constant share of national income, moving primarily with the inflation rate.

Social insurance contributions are determined primarily by the taxable wage base and by the combined employer-employee tax rate. In the low-trend alternative, it is assumed that the provisions of the Social Security Act of 1977 will be maintained throughout the decade. This legislation increases the wage base for social security contributions from \$21,900 in 1979 to \$60,300 in 1990, accompanied by an increase in the OASDHI tax rate to 15.3 percent by 1990. Under these assumptions, social insurance contributions account for a constant proportion of national income throughout the decade.

Under the act, a 1.0-percentage-point increase in the combined employer-employee tax rate is mandated for 1990 over 1989. The resultant jump in social insurance contributions leads to a projected Federal Government surplus of \$76 billion. Had the tax rate increase not been specified for 1990, the surplus would have been about \$30 to \$35 billion in the low-growth alternative.

In the high-I alternative, it is assumed that, after 1981, the Social Security Act will be amended. The wage base in this alternative is assumed to reach

\$56,100 in 1990, with a combined tax rate of 14.3 percent. This leads to social insurance contributions accounting for 10.6 percent of national income over the first years of the decade. Thereafter, contributions decline in share terms, accounting for 10.1 percent of national income by 1990.

In the high-II model, the wage base reaches \$54,900 in 1990, with a combined tax rate of 13.4 percent (that is, no change in the rate is assumed over the entire decade). In this scenario, Federal social insurance contributions account for 9.4 percent of national income by 1990.

To summarize the tax assumptions, Federal receipts are expected to account for somewhat more than 21.0 percent of GNP during the first years of the 1980's in the low-trend projection and decline moderately to about 20.0 percent by 1990. The high-I alternative is characterized by revenues accounting for 19.5 percent of GNP in 1985 and 18.1 percent by 1990. Finally, in the high-II model, revenues drop to 18.5 and 17.9 percent of GNP in 1985 and 1990, respectively.

The assumed goal for Federal expenditures in the three alternatives is to lower expenditures as a proportion of GNP throughout the decade. In the low-trend version, Federal purchases of goods and services, excluding employee compensation, are assumed to grow at a real rate of 5.5 percent a year between 1980 and 1985 and at 2.5 percent between 1985 and 1990. In both high-trend versions, purchases less compensation increase at a real rate of approximately 5.0 percent in the first half of the decade, slowing to a 2.5-percent average growth during the 1985-90 period. In all alternatives, it has been assumed that real defense expenditures increase by 4.0 to 5.0 percent each year during 1980-85 and by 2.0 to 3.0 percent during 1985-90.

The three alternatives assume that military forces reach 2.129 million by 1985 and remain at that level for the remainder of the decade. This level is approximately 27,000 more than in 1980. (The implication is that all real increases in defense spending are aimed at providing more materiel, rather than more personnel.) Federal civilian employment is assumed to increase by approximately .7 percent, or 13,000 jobs, each year between 1980 and 1990 in the low-and high-I alternatives. In the high-II alternative, rather sharp cuts in Federal civilian employment are assumed for the early 1980's, leaving employment at 2.08 million employees in the 1985-90 period. This is a cut of approximately 100,000 jobs from 1980 levels.

Federal transfer payments are comprised of: (1) unemployment insurance benefits; (2) social security; (3) Federal civilian employee retirement; (4) military retirement; (5) hospital and supplementary medical insurance; (6) supplemental security income; and (7) all other Federal benefit programs. Projections for each category

are prepared using the expected rate of inflation, estimated changes in recipient population, and a discretionary change which represents real changes in offered benefits. Real average benefit payments decline by about .3 percent during 1980-90 in the low-trend scenario. In contrast, the high-I projection assumes virtually no real growth in average transfer payments in the early half of the decade but a relatively strong real growth of about 1.5 percent a year during 1985-90. This is based on the assumption that the stronger growth in real incomes in this alternative will renew interest in expansion of social welfare programs. The high-II version is characterized by sharp cuts in real average benefits of about 4.0 percent a year during the 1981-84 period, with very little real growth in average benefits after 1984.

Real grants-in-aid to State and local governments are assumed to decline over the decade in all projections. This assumption reflects declining expenditures of the highway trust fund and a phasing out of general revenue-sharing programs. From 1980 to 1990, real grants are assumed to decline by 1.9 percent a year in the low-trend alternative and by 0.9 percent in the two high-trend alternatives. Net interest payments and subsidies to government enterprises are essentially unchanged in real terms throughout the projection period. The effects of these assumptions on the national income accounts measures of Federal receipts and expenditures are shown in table 1.

Demographic assumptions. The primary determinants of the demographic data are the level and the age and sex distribution of the population. Three projected population series were developed by the Bureau of the Census, differing primarily in the assumed fertility rate. The Series-II population projections were used in the economic projections, as were the associated Series-B household projections.⁴ The BLS middle-growth labor force projection is used in the low-trend and high-II versions, and the high-growth labor force projection is used in the high-I projection.⁵

Unemployment and productivity. The unemployment rate is viewed as a policy objective. Projected unemploy-

ment rates represent possible recovery paths from the 1980 economic slowdown, and, then, long-run targets approaching full-employment. Following are the assumed unemployment rates, 1981-90:

	<i>Low</i>	<i>High-I</i>	<i>High-II</i>
1981	8.1	8.1	7.8
1982	7.7	7.6	7.2
1983	7.4	7.0	6.6
1984	7.2	6.3	6.4
1985	7.0	5.5	6.0
1986	6.8	5.1	5.6
1987	6.6	4.8	5.3
1988	6.4	4.5	5.0
1989	6.2	4.2	4.7
1990	6.0	4.0	4.5

Some of the post-1985 declines can be ascribed to the changing age structure of the labor force. However, continuing real declines are assumed for the entire 1981-90 period in the projections.

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 .7 percent during the 1973-80 period. The slowdown in productivity growth over the last years has been attributed to many factors, including the influx of new workers into the labor force; slowing in capital accumulation per worker; an emphasis on nonproductive types of investment, such as pollution control investment; and the remarkable increase in energy prices since 1973.

Quite different assumptions are made about possible paths of productivity growth in the alternatives. The low-trend projection assumes a continuation of slow growth in nonfarm productivity—.9 percent real growth each year between 1980 and 1985, and 1.8 percent between 1985 and 1990. In contrast, the high-I projection assumes productivity growth of 1.4 percent each year during 1980-85 and 2.5 percent for 1985-90. The most optimistic assumptions appear in the high-II version, with nonfarm output per hour increasing at a 2.2-percent rate each year between 1980-85 and at a 3.0-percent rate during the latter portion of the decade.

Some of the factors which contributed to the productivity slowdown in the 1970's are expected to improve in the coming decade. Members of the postwar baby boom will become more experienced and productive during the 1980's. The rapid rate of growth in expenditures for environmental and energy conservation equipment should slow somewhat during the first half of the decade, and a slower rate of growth in energy prices coupled with smaller increases in the demand for energy is expected to have an impact. Finally, policies which increase investment incentives should have an impact later in the decade. However, some argue that technological breakthrough cannot continue at the rate it did

Table 1. Federal Government receipts and expenditures, 1980, and projected to 1985, and 1990, on a National Income Accounts basis

[Current dollars in billions]

	Receipts	Percent of GNP	Expenditures	Percent of GNP	Surplus or deficit
1980	538.9	20.5	601.2	22.9	-62.3
1985 Low	978.8	21.1	982.7	21.2	-3.9
High-I	921.1	19.5	916.0	19.4	5.1
High-II	825.5	18.5	817.9	18.3	7.6
1990 Low	1,594.4	19.9	1,518.4	19.0	76.0
High-I	1,431.3	18.1	1,409.3	17.9	21.9
High-II	1,234.5	17.9	1,186.7	17.2	47.8

during the 1970's. Others argue that poor productivity performance will continue.⁶ Because these factors are difficult to quantify in terms of their impact on future productivity changes, the range of possible productivity growth has purposefully been kept broad.

Prices. The final major assumption deals with the inflation rate. The key item is the implicit deflator for private GNP. Long-term movements of this deflator, compared with movements in the Consumer Price Index for Urban Wage Earners and Clerical Workers, are as follows:

	<i>Private GNP deflator</i>	<i>CPI</i>
1955-68	2.1	2.0
1968-73	4.6	5.0
1973-80	7.8	9.2

A relatively pessimistic view of inflation possibilities is taken in the low-trend alternative. The private GNP deflator is assumed to increase at a 9.2-percent growth rate in the 1980-85 period and at an 8.3-percent rate during 1985-90. The high-I version assumes that inflation will moderate over the longer run. The 1980-85 rate of inflation is set at 7.9 percent; it drops to 6.4 percent over the latter half of the projection period. The greatest improvement in inflation is assumed to occur in the high-II projection as the rate of growth of the private GNP deflator drops to 7.0 percent in the 1980-85 period, followed by a further decline to a 4.7-percent rate between 1985 and 1990.

Prices do not directly affect the determination of real GNP in the BLS model, but they do enter into the projections in several important ways. First, wages and interest rates are greatly influenced by inflation. These, in turn, affect consumption expenditures and residential investment. Second, prices have an impact on the Federal budget. They enter implicitly into the determination of various expenditure levels and, on the revenue side, they affect personal income taxes because of the progressive tax structure. The future movement of prices is quite uncertain. The price assumptions used in these projections are a judgment as to the relative strengths of the various factors which affect price determination, as well as an attempt (as with the productivity assumption) to define a relatively broad band around probable future price change. The linkage of higher productivity growth and lower rates of inflation is, to some extent, an arbitrary decision in that other combinations of assumptions could logically be justified as well.

Aggregate demand

Gross national product consists of personal consumption expenditures, gross private domestic investment, net foreign trade, and government purchases of goods

and services. Total GNP and its various components are presented in table 2 in constant 1972 prices for selected years from 1955 to 1990. Between 1980 and 1985, low-trend GNP is projected to increase at an average rate of 2.2 percent each year, roughly the same rate prevalent in the 1973-80 period, but below the long-term rate of 3.3 percent between 1955 and 1980. In the high-I and high-II versions, GNP is projected to increase by 3.8 and 3.7 percent, respectively, during 1980-85, well above the long-term rate.

After 1985, the growth potential continues to improve as better productivity performance more than offsets slower labor force growth. Low-trend GNP growth increases to a 2.8-percent average rate and the high-trend versions to approximately a 4.0-percent rate over the last years of the decade.

Although all components of GNP are projected to grow more rapidly in the high-trend versions, the major difference between these two alternatives and the low-trend version is in investment. The timing of business tax incentives for investment in the low-trend model is such that little impact is noticed on plant and equipment investment before the middle of the decade. In the high-trend versions, plant and equipment expenditures are projected to grow strongly over the entire projection horizon. The other components of demand are also projected to exceed long-term trend rates of growth in the high-trend versions and to lag behind these historical patterns in the low-trend model.

Consumption. Personal consumption expenditures have traditionally accounted for the largest share of final production. In 1955, personal consumption made up about 60.0 percent of real GNP and has steadily increased its share to over 63.0 percent in 1980. This trend is projected to end, at least temporarily, in the three projections as the greater emphasis on capital formation becomes apparent. By 1990, total personal consumption expenditures are expected to account for 61.3 percent of GNP in the low-trend projection, 62.0 percent in the high-I version, and 62.8 percent in high-II.

The long-term trend toward relatively more expenditures on durables and services and relatively fewer purchases of nondurable goods is projected to continue in all three alternatives. In 1955, 13.0 percent of real personal consumption expenditures was accounted for by durable goods purchases, which include autos and parts, furniture and appliances, and recreational items, such as radios, televisions, and sporting goods; by 1980, durables accounted for just under 14.5 percent. Purchases of durable goods are projected to increase 3.4 percent a year between 1980 and 1985 in the low-trend projection and by about 6.3 percent a year in both high-trend versions. After 1985, such purchases will accelerate to 3.7 percent each year in the low-trend ver-

sion, and will slow to 5.4 and 5.7 percent, respectively, in high-I and high-II versions. Durables purchases in all projections are expected to rebound sharply from the 1980 slowdown, increasing their share of total consumption to about 16.0 percent in 1990 in the low-trend version, and to just under 17.0 percent in the high-trend alternatives.

As with durables, consumers have allocated an increasing proportion of their incomes to purchases of services over the post-World War II period. In 1955, services accounted for 40.0 percent of consumption, but by 1980 had reached 47.2 percent. This trend is expected to continue, as services purchases attain be-

tween 48.0 and 49.0 percent of personal consumption expenditures in 1990 in the three alternatives.

As families' real incomes increase, expenditures for necessities such as food, basic clothing, and shelter tend to reach saturation levels. Further real income growth yields greater amounts of discretionary income for purchasing luxuries. This is one of the reasons for the increases in durable and service purchases relative to nondurable expenditures. Nondurable purchases accounted for 47.0 percent of consumer spending in 1955, dipping to 38.3 percent by 1980.

Investment. Gross private domestic investment consists

Table 2. Gross national product by major component, 1955, 1968, 1973, 1980, and projected to 1985 and 1990

[1972 dollars in billions]

Component	Actual				Projected					
	1955	1968	1973	1980	1985			1980		
					Low	High-I	High-II	Low	High-I	High-II
Gross national product	657.5	1,058.1	1,255.0	1,480.7	1,653.3	1,784.7	1,775.1	1,902.4	2,172.6	2,171.8
Personal consumption expenditures	394.1	634.4	768.5	935.1	1,001.0	1,094.5	1,091.3	1,166.5	1,346.0	1,364.0
Gross private domestic investment	103.8	161.6	217.5	203.7	263.6	310.1	309.7	315.8	420.2	422.6
Nonresidential structures	25.4	42.8	47.4	48.4	46.4	49.3	49.2	55.5	62.4	62.8
Producers' durable equipment	35.9	66.8	90.7	110.0	135.3	163.5	164.8	172.6	240.9	243.5
Residential investment	34.8	43.1	62.3	48.2	67.6	78.5	77.0	70.9	92.1	91.6
Change in business inventories	7.7	9.0	17.2	-3.0	14.3	18.8	18.7	16.8	24.8	24.7
Net exports	7.3	1.9	15.5	52.0	60.8	55.6	49.0	73.4	62.2	37.7
Exports	30.7	61.2	97.3	161.1	202.0	209.7	203.4	246.2	270.3	249.1
Imports	23.4	59.3	81.8	109.1	141.2	154.1	154.4	172.8	208.1	211.4
Government purchases	152.3	260.2	253.5	290.0	327.9	324.7	324.9	346.9	344.4	347.6
Federal	88.2	128.1	95.9	108.2	128.9	126.6	125.9	140.3	135.3	137.5
Defense	(¹)	(¹)	68.3	70.9	93.4	91.6	93.7	103.3	98.8	104.1
Nondefense	(¹)	(¹)	27.6	37.2	35.5	35.0	32.2	37.0	36.5	33.4
State and local	64.1	132.1	157.6	181.9	199.0	198.1	199.0	206.6	209.1	210.1
Percent distribution										
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 expenditures	59.9	60.0	61.2	63.2	60.5	61.3	61.5	61.3	62.0	62.8
Gross private domestic investment	15.8	15.3	17.3	13.8	15.9	17.4	17.4	16.6	19.3	19.5
Nonresidential structures	3.9	4.0	3.8	3.3	2.8	2.8	2.8	2.9	2.9	2.9
Producers' durable equipment	5.5	6.3	7.2	7.4	8.2	9.2	9.3	9.1	11.1	11.2
Residential investment	5.3	4.1	5.0	3.3	4.1	4.4	4.3	3.7	4.2	4.2
Change in business inventories	1.2	.9	1.4	-.2	.9	1.1	1.1	.9	1.1	1.1
Net exports	1.1	.2	1.2	3.5	3.7	3.1	2.8	3.9	2.9	1.7
Exports	4.7	5.8	7.8	10.9	12.2	11.7	11.5	12.9	12.4	11.5
Imports	-3.6	-5.6	-6.5	-7.4	-8.5	-8.6	-8.7	-9.1	-9.6	-9.7
Government purchases	23.2	24.6	20.2	19.6	19.8	18.2	18.3	18.2	15.9	16.0
Federal	13.4	12.1	7.6	7.3	7.8	7.1	7.1	7.4	6.2	6.3
Defense	(¹)	(¹)	5.4	4.8	5.6	5.1	5.3	5.4	4.5	4.8
Nondefense	(¹)	(¹)	2.2	2.5	2.1	2.0	1.8	1.9	1.7	1.5
State and local	9.7	12.5	12.6	12.3	12.0	11.1	11.2	10.9	9.6	9.7
Average annual rate of change										
	1955-68	1968-73	1973-80	1980-85			1985-90			
Gross national product	3.7	3.5	2.4	2.2	3.8	3.7	2.8	4.0	4.1	
Personal consumption expenditures	3.7	3.9	2.8	1.4	3.2	3.1	3.1	4.2	4.6	
Gross private domestic investment	3.5	6.1	-.9	5.3	8.8	8.7	3.7	6.3	6.4	
Nonresidential structures	4.1	2.1	.3	-.8	.4	.3	3.6	4.8	5.0	
Producers' durable equipment	4.9	6.3	2.8	4.2	8.2	8.4	5.0	8.1	8.1	
Residential investment	1.7	7.6	-3.6	7.0	10.2	9.8	1.0	3.2	3.5	
Change in business inventories	1.2	13.8	(²)	(²)	(²)	(²)	3.3	5.7	5.7	
Net exports	-9.8	52.2	18.9	3.2	1.3	-1.2	3.8	2.3	-5.1	
Exports	5.5	9.7	7.5	4.6	5.4	4.8	4.0	5.2	4.1	
Imports	7.4	6.6	4.2	5.3	7.2	7.2	4.1	6.2	6.5	
Government purchases	4.2	-.5	1.9	2.5	2.3	2.3	1.1	1.2	1.4	
Federal	2.9	-5.6	1.7	3.6	3.2	3.1	1.7	1.3	1.8	
Defense	(¹)	(¹)	.5	5.7	5.3	5.7	2.0	1.5	2.1	
Nondefense	(¹)	(¹)	4.4	-.9	-1.2	-2.8	.8	.8	.7	
State and local	5.7	3.6	2.1	1.8	1.7	1.8	.8	1.1	1.1	

¹ Not available.

² Not computable.

NOTE: Gross national product data reflect the benchmark revisions released in December 1980 by the U.S. Department of Commerce.

of (1) purchases of residential structures; (2) investment in nonresidential structures; (3) purchases of producers' durable equipment; and (4) changes in inventories of businesses. Historically, gross domestic investment has accounted for 15.0 to 16.0 percent of GNP. At the same time, on a year-over-year basis, it is one of the most volatile elements of final output. This is because investment, more than any other component of GNP, represents the anticipations of business for future profits and potential growth and, thus, tends to fluctuate rather sharply as those expectations change.

For example, in 1975, domestic investment fell to \$155 billion in real terms (more than \$60 billion below the 1973 level), a 12.5-percent share of GNP (down from more than 17.0 percent in 1973). But, by 1980, investment had recovered and accounted for about 15.0 percent of GNP. Because of its anticipatory role, investment is an important key in determining the long-run growth potential of the economy. In essence, it represents current commitments to future growth and is an important source of productivity gains. In the three alternatives, gross investment is expected to grow far more rapidly than during the 1970's. Between 1973 and 1980, gross investment declined at an average annual rate of .9 percent. The low-trend model projects an average growth rate of 5.3 percent during 1980-90, while the expectations in the high-trend versions are for 8.8-percent annual growth.

The housing sector of the economy is one of the more volatile segments of fixed investment expenditures. The demand for new housing has been expanding steadily throughout the postwar period. The number of households increased by more than 30 million during 1955-80, an average annual increase of 2.1 percent, or 1.3 million new households every year. The rate of new household formation has also accelerated, from 2.0 percent in 1955 to 2.7 percent in 1980, not only because of the baby-boom bulge, but also because of an increasing tendency toward single-person households.

At the same time, the ability of the housing sector to meet the demand for new housing is greatly dependent on financial considerations, especially the availability of credit. Because interest rates and credit availability are closely tied to the business cycle, swings in real output can have a substantial impact on housing. For example, during the 1975 recession, total private housing starts dropped more than 43.0 percent from the peak of 2.4 million in 1972. Real expenditures for residential investment fell by 34.0 percent during the same period.

When the supply and demand considerations are combined, it is reasonable to assume that the recessions of 1970, 1975, and 1980 have created much pent-up demand for new housing. However, demand for housing has been changing. Many families are giving up the "American dream" of a single-family home because of

increasing costs and also because of greater interest in leisure-time pursuits. The shift toward more energy-efficient, less costly multifamily homes is expected to continue throughout the 1980's. The rate is difficult to predict, however, and is the major difference between the low- and high-trend versions.

A final demographic factor affecting the projection of residential investment is the prediction that new household formation will slow dramatically in coming years, declining from 2.7 percent in 1980 to 1.9 percent in 1985 and to 1.6 percent in 1990. Although the slowdown is apparent over the entire decade, the effects are not expected to be seen until the latter half because of the pent-up demand left over from the recessions of the 1970's.

In the low-trend projection, a moderate recovery from the 1980 slowdown is expected as real residential investment increases at a rate of 7.0 percent between 1980 and 1985, reaching \$67.6 billion in 1985. In both high-trend alternatives, a sharp comeback from the 1980 recession is expected. In the high-I projection, the expected rate of growth is 10.2 percent, attaining a level of \$78.5 billion. The high-II version attains a growth rate of 9.8 percent over the five-year period. In all three cases, housing starts are expected to rebound to the 2.0-million unit level by 1984 or 1985. The primary reason for less growth in the low-trend alternative is that continued high inflation is expected to hasten the shift from single-family to multifamily dwellings. Because multifamily units usually cost somewhat less than single-family homes, increases in total real expenditures will be lower. In all alternatives, real residential investment expenditures account for between 4.1 and 4.3 percent of GNP in 1985, approximately the share attained at the prior peak in the 1977-78 period.

After 1985, the demographic effects become apparent as growth in high-trend residential investment falls to an annual rate of 3.2 and 3.5 percent between 1985 and 1990 in versions high-I and high-II. In the low-trend model, virtually no growth is anticipated during the latter half of the decade. Annual housing starts are expected to decline from about 2.0 million units in 1985 to between 1.7 and 1.9 million units by 1990.

Between 1955 and 1968, business fixed investment grew by 4.6 percent a year. Between 1968 and 1973, growth remained virtually the same at 4.7 percent a year. During the remainder of the 1970's, however, growth of real business expenditures for plant and equipment slowed sharply to a rate of 2.0 percent growth in the 1973-80 period. In the low-trend version, 2.8-percent growth per year is projected for the 1980-85 period. In other words, the rate of change in business investment apparent in the 1970's will continue for the first half of the 1980's after an initial upsurge in 1981. After 1985, the more representative long-term growth

rates (4.7 percent) will return, as a result of the impact of corporate tax assumptions and increasing corporate revenues.

In the high-trend versions, quite different assumptions are made regarding both the timing and intensity of fiscal incentives for business investment. Investment in plant and equipment is expected to increase by 6.2 percent a year during 1980–85, then accelerate to 7.3 percent growth, topping \$300 billion in 1990. This component accounts for 14.0 percent of GNP in 1990 in both high-trend projections, up from an average of about 11.0 percent in the 1970's. The tax assumptions and the resulting impact on business investment are based on the growing realization that long-term improvements in productivity growth will depend on new plant and equipment purchases. The impact of fixed business investment on the stock of private nonfarm capital⁷ is shown in the following growth rates:

	<i>Actual</i>		
1955–68		3.7	
1968–73		4.4	
1973–80		3.7	
	<i>Projected</i>		
	Low	High-I	High-II
1980–85	3.4	4.1	4.1
1985–90	4.2	5.4	5.5

The slowing growth of the capital stock in the 1973–80 period will continue through 1985 in the low-trend version, before improving slightly during 1985–90. The assumptions underlying the high-trend versions lead to expectations of a strong recovery over the entire 1980 decade.

The ratio of capital to hours paid in the nonfarm sector is a general measure of how much plant and equipment is available to workers for producing output. The ratio is considered an important determinant of labor productivity growth. Between 1955 and 1975, this ratio expanded at an annual rate of 2.7 percent in real terms, increasing from \$7,000 of capital available per worker-hour in 1955 to \$12,000 in 1975. Between 1975 and 1980, however, the ratio rose by only .6 percent each year, to \$12,400.

Only slight recoveries are projected for this ratio during the first half of the 1980's in the low- and high-I projections. In the low-trend version, this is a result of continuing slow growth in investment. In the high-I case, the much higher investment rates are offset by the higher assumed labor force growth rates (and consequent increases in total hours paid). In the high-II version, the high investment rates combined with lower employment levels lead to the fairly strong annual growth of 2.2 percent over the 1980–85 period. After 1985, all three projections attain strong growth in the capital-hours ratio, ranging from 2.9 percent in the low-

trend version to 4.0 percent average growth in the high-II case. The stock of business inventories is expected, in all projections, to expand slowly relative to GNP, reflecting historical trends.

Foreign trade. Both imports and exports have accounted for an increasing share of GNP, and this trend is expected to continue throughout the 1980–90 period. In current dollars, the balance on the current and long-term capital account is assumed to be a policy variable with the long-term value of zero. Such a policy would maintain the current-dollar balance on goods and services at a relatively low positive level. In the past, because import and export prices tended to move together in terms of both levels and rates, a zero current-dollar balance implied a zero constant-dollar balance. During the 1970's, average import prices grew at a much faster rate did average export prices. The disparity was primarily due to much higher petroleum prices, although world inflation generally was higher than in the United States. It is assumed that foreign prices will once again move at roughly the same pace as export prices during the projection period, but it is also expected that the difference in level will never be made up. Therefore, as the United States strives to maintain a current-dollar balance of trade, the impact on constant dollar trade will be a generally more rapid rate of growth in exports relative to imports, thereby improving the real balance of trade over time.

Government. The government portion of GNP comprises purchases of goods and services and compensation of employees. All other expenditures are excluded by definition. Real purchases by Federal, State, and local governments accounted for almost 25.0 percent of GNP in 1968; since then, the share of GNP accounted for by purchases of goods and services has declined, reaching the 19.6-percent level by 1980. This drop was due almost entirely to the cessation of U.S. military involvement in Vietnam.

Real Federal purchases fell at an average rate of 1.4 percent during the 1968–80 period because of large declines in defense spending. Federal purchases as a share of GNP fell sharply, from 12.1 percent in 1968 to 7.3 percent in 1980. State and local government purchases also declined as a proportion of GNP during 1968–70.

The trend toward a smaller share of production accounted for by government purchases is expected to continue throughout the 1980's in the two high-trend versions. In all projections, Federal defense purchases grow sharply in real terms during the early 1980's, and slow slightly after 1985. Defense purchases are projected to stabilize at about 5.0 percent of GNP over the latter half of the decade. As noted earlier, virtually no change in military force levels is assumed during the 1980's. Therefore, the increases in real defense expendi-

tures are expected to be replacing obsolete materiel and performing research and development for more sophisticated weapons systems.

Nondefense purchases, in contrast, are expected to decline at a 1.0 to 3.0 percent annual rate between 1980 and 1985, and to grow by less than 1.0 percent each year after 1985 in all projections. This reflects the assumption that many programs will experience relatively slower growth or be scaled back in the 1980's, while the primary emphasis shifts to defense preparedness. The net effect is to drop Federal purchases of goods and services from 7.3 percent of GNP in 1980 to about 6.5 percent by 1990 in the high-trend versions. In the low-trend projection, Federal purchases will continue to account for roughly the same proportion of GNP throughout the decade.

In the State and local sector, the largest change from prior trends is expected in the education sector. As the baby-boom generation matures, the number of school enrollees should decline smoothly over the entire decade. A sharp slowdown in the growth of educational purchases is projected to 1985, with absolute declines subsequently. The children of the baby-boom generation are expected to increase educational demand beginning around 1985, but the effect will be mild and relatively short-lived.

Purchases of goods less compensation for public safety are projected to decline sharply in the early 1980's as the rapidly increasing cost of fuel affects the purchases of new equipment for police and firefighters. The remaining categories of State and local purchases are expected to grow much less rapidly over the coming decade. The net effect of these considerations is to lower State and local purchases from 12.3 percent of GNP in 1980 to the 10.0- to 11.0-percent range in 1990.

It should be emphasized that government's declining share of GNP during the 1980's does not mean that government purchases are expected to decline in absolute terms. Rather, the expected growth rate—1.8 percent between 1980 and 1990—is somewhat lower than the overall GNP growth rate.

In summary, three scenarios have been set for economic growth in the 1980's: the first reflecting moderate increases and the others showing a return to the strong growth of the 1950's and 1960's. With the assumptions underlying the projections, the most notable occurrence in the 1980's is the shift in spending from the public sector to the private sector, especially for investment. However, the change depends on the fiscal assumptions discussed earlier; with other assumptions, the results could be different.

Employment and hours

The number of jobs, the average number of hours paid per job, and the level of real output per hour are key determinants of potential output in the economy.

These factors are detailed in table 3. During the 25 years between 1955 and 1980, the number of jobs increased from 68.7 million to 105.6 million, or about 1.5 million jobs a year. During this period, many important shifts occurred. Military force levels declined from 3 million in 1955 to 2.1 million in 1980. Agricultural employment also declined, from 6.4 million to 2.8 million jobs, because of increases in farm productivity. Civilian government employment, in contrast, grew from 9.4 percent of total employment in 1955 to 14.6 percent in 1980, an increase of 8.9 million. Most of this growth—8.3 million jobs—occurred in State and local government. Private nonfarm employment increased by 33 million jobs, a growth of more than 1.3 million each year, increasing its share of employment from 76.8 percent in 1955 to 80.8 percent in 1980.

Several major changes in employment are expected to occur in the alternatives. Total employment is expected to increase at an average rate of 1.6 percent each year between 1980 and 1985 in the low-growth and high-II versions. This amounts to 2.2 million jobs a year, a more rapid increase than that projected for the total labor force—1.7 percent each year, or 1.9 million new labor force entrants. The higher employment growth reflects the relatively rapid decline in the unemployment rate following the 1980 slowdown. In the high-I version, a higher labor force projection, combined with an even more rapid decline in the unemployment rate, yields total annual employment growth of 2.4 percent between 1980 and 1985, or slightly fewer than 2.7 million jobs a year.

In all alternatives, the rate of employment growth begins to slow in the latter half of the decade, to 1.4, 1.9, and 1.5 percent, respectively, for the low-, high-I, and high-II models. This reflects the projected slowdown in labor force growth after 1985.

The share of jobs between the public and private sectors is an important determinant of the level of real supply GNP, because productivity in the public sector is assumed to be nearly constant.⁸ Therefore, if public employment accounted for larger shares of total employment, the associated growth in real GNP would be reduced. Federal employment is expected to expand during the 1980-90 period, but the rate of growth (.1 percent annually) is considerably less than the total employment growth expected in all three alternatives. The military force level is projected to virtually stabilize at the current level of 2.1 million persons for all alternatives. State and local government employment is also expected to grow less rapidly than total employment. In the latter half of the 1950's and during all of the 1960's, the growth in State and local employment was due, in large part, to very rapid growth in public education. School enrollment, however, moderated during the latter 1970's. The echo effect from the baby-boom generation will begin to be seen around 1985, but will be

Table 3. Labor force, employment, productivity, and gross national product, 1955, 1968, 1973, and 1980, and projected to 1985 and 1990

[Employment data in thousands]

Category	Actual				Projected					
	1955	1968	1973	1980	1985			1990		
					Low	High-I	High-II	Low	High-I	High-II
Total labor force (including military)	68,072	82,272	91,040	106,821	117,114	120,381	117,114	124,504	130,252	124,504
Unemployed	2,853	2,817	4,305	7,448	8,049	6,504	6,899	7,342	5,125	5,507
Employed (persons concept)	65,219	79,455	86,735	99,373	109,065	113,877	110,215	117,162	125,127	118,997
Adjustment factor (persons to jobs)	3,438	4,409	4,557	6,188	4,697	5,090	4,705	4,796	5,524	4,947
Employment (jobs concept)	68,657	83,864	91,292	105,561	113,762	118,967	114,920	121,958	130,651	123,944
General government	9,520	14,521	15,185	17,481	17,587	17,587	17,441	18,106	18,106	17,886
Federal	4,779	5,670	4,354	4,402	4,355	4,355	4,209	4,429	4,429	4,209
Military	3,049	3,535	2,326	2,102	2,129	2,129	2,129	2,129	2,129	2,129
Civilian	1,730	2,135	2,028	2,300	2,226	2,226	2,080	2,300	2,300	2,080
State and local	4,741	8,851	10,831	13,079	13,232	13,232	13,232	13,677	13,677	13,677
Private	59,137	69,343	76,107	88,080	96,175	101,380	97,479	103,852	112,545	106,058
Agriculture	6,424	3,663	3,206	2,823	2,622	2,922	2,922	2,334	2,634	2,634
Nonagriculture	52,713	65,680	72,901	85,257	93,553	98,458	94,557	101,518	109,911	103,424
Private average annual hours per job	2,126	2,001	1,961	1,884	1,856	1,865	1,862	1,819	1,825	1,824
Agriculture	2,473	2,354	2,290	2,311	2,301	2,301	2,301	2,246	2,246	2,246
Nonagriculture	2,083	1,981	1,943	1,870	1,844	1,852	1,848	1,809	1,815	1,814
Private GNP per hour (1972 dollars)	4.56	6.67	7.48	7.99	8.35	8.58	8.89	9.17	9.75	10.36
Agriculture	1.84	3.36	4.30	6.21	6.05	6.25	6.26	7.18	7.95	8.00
Nonagriculture	4.95	6.89	7.65	8.06	8.43	8.66	8.99	9.23	9.80	10.43
Total GNP (billions of 1972 dollars)	657.5	1,058.1	1,255.0	1,480.7	1,653.3	1,784.7	1,775.1	1,902.4	2,172.6	2,171.8
General government	84.6	132.4	139.1	155.2	163.0	163.0	161.4	169.7	169.7	167.1
Private	572.9	925.7	1,115.9	1,325.5	1,490.3	1,621.7	1,613.7	1,732.7	2,002.9	2,004.7
Agriculture	29.3	29.0	31.6	40.5	36.5	42.0	42.1	37.6	47.0	47.3
Nonagriculture	543.6	896.7	1,084.3	1,285.0	1,453.8	1,579.7	1,571.6	1,695.1	1,955.9	1,957.4
Average annual rate of change										
	1955-68	1968-73	1973-80	1980-85			1985-90			
Total labor force (including military)	1.5	2.0	2.3	1.9	2.4	1.9	1.2	1.6	1.2	
Unemployed	-1	8.9	8.1	1.6	-2.7	-1.5	-1.8	-4.7	-4.4	
Employed (persons concept)	1.5	1.8	2.0	1.9	2.8	2.1	1.4	1.9	1.5	
Adjustment factor (persons to jobs)	1.9	.7	4.5	-5.4	-3.8	-5.3	.4	1.6	1.0	
Employment (jobs concept)	1.5	1.7	2.1	1.5	2.4	1.7	1.4	1.9	1.5	
General government	3.3	.9	2.0	.1	.1	(¹)	.6	.6	.5	
Federal	1.3	-5.1	.2	-2	-2	-9	.3	.3	(¹)	
Military	1.1	-8.0	-1.4	.3	.3	.3	(¹)	(¹)	(¹)	
Civilian	1.6	-1.0	1.8	-7	-7	-2.0	.7	.7	(¹)	
State and local	4.9	4.1	2.7	.2	.2	.2	.7	.7	.7	
Private	1.2	1.9	2.1	1.8	2.9	2.0	1.5	2.1	1.7	
Agriculture	-4.2	-2.6	-1.8	-1.5	.7	.7	-2.3	-2.1	-2.1	
Nonagriculture	1.7	2.1	2.3	1.9	2.9	2.1	1.6	2.2	1.8	
Private average annual hours per job	-5	-4	-6	-3	-2	-2	-4	-4	-4	
Agriculture	-4	-6	.1	-1	-1	-1	-5	-5	-5	
Nonagriculture	-4	-4	-5	-3	-2	-2	-4	-4	-4	
Private GNP per hour (1972 dollars)	3.0	2.3	.9	.9	1.4	2.2	1.9	2.6	3.1	
Agriculture	4.7	5.1	5.4	-5	.1	.2	3.5	4.9	5.0	
Nonagriculture	2.6	2.1	.7	.9	1.4	2.2	1.8	2.5	3.0	
Total GNP (billions of 1972 dollars)	3.7	3.5	2.4	2.2	3.8	3.7	2.8	4.0	4.1	
General government	3.5	1.0	1.6	1.0	1.0	.8	.8	.8	.7	
Private	3.8	3.8	2.5	2.4	4.1	4.0	3.1	4.3	4.4	
Agriculture	-1	1.7	3.6	-2.1	.7	.8	.6	2.3	2.4	
Nonagriculture	3.9	3.9	2.5	2.5	4.2	4.1	3.1	4.4	4.5	

¹ Less than 0.05 percent

relatively insignificant until after 1990. The result is an annual growth in the number of education-related employees of .3 percent during the 1980-85 period, and annual declines of .5 percent during 1985-90. The declines, however, will be somewhat offset by continued growth in other programs and the administrative employment associated with these programs, although at a less rapid rate than in the past. As a result, private employment is expected to expand more rapidly than total employment over the entire projection period in all alternatives. Following are the proportion of private and

government employment for 1980, 1985, and 1990:

	1980	1985			1990		
		Low	High-I	High-II	Low	High-I	High-II
Private	83.4	84.5	85.2	84.8	85.2	86.1	85.6
Farm	2.7	2.3	2.5	2.5	1.9	2.0	2.1
Nonfarm	80.8	82.2	82.8	82.3	83.2	84.1	83.4
Government	16.6	15.5	14.8	15.2	14.8	13.9	14.4
Federal	4.2	3.8	3.7	3.7	3.6	3.4	3.4
State and local	12.4	11.6	11.1	11.5	11.2	10.5	11.0
Education	6.5	5.9	5.6	5.8	5.3	5.0	5.2
Other	5.9	5.8	5.5	5.8	5.9	5.5	5.8

The declining share of government employment reflects the impact of demographic shifts, as well as the apparent public preference for a smaller government role in the civilian sector of the economy.

Hours. Average weekly hours paid are projected to continue to decline at approximately the long-term historical rate. In the private nonfarm sector, the long-term decrease in weekly hours has been influenced by the trend toward more service employees, which lowers average hours because many work short weeks or on a part-time basis, and by the increase in female labor force participation, which began in the mid-1960's. Many of these women took part-time positions. This contributed to the service sector effect which is projected to continue and will cut average weekly hours. Female labor force participation rates are also projected to grow at a rather strong pace during the 1980's. However, it is assumed that the disparity between part-time jobholding rates of men and women will diminish during the 1980's; thus, the growth of female labor force participation will no longer have an appreciable impact

on the average workweek. Women are expected to be increasingly employed in all sectors of the economy.

THE ALTERNATIVE PATHS of growth encompass reasonable possibilities for expansion of the economy during the 1980's. The low-trend projection examines the implications of a moderately expanding labor force, continued low growth in productivity, and high inflation. The high-trend projections study the effects of a more rapidly expanding labor force (high-I) coupled with more optimistic assumptions regarding both productivity and inflation. The projected range of real GNP growth averages between 2.5 and 3.9 percent annually over the 1980-90 period, yielding a difference among the alternative scenarios of \$270 billion by 1990. The projections hinge on the underlying assumptions and could be significantly affected by even small changes in the latter. These are medium-term projections of the U.S. economy, and no attempt has been made to forecast cyclical fluctuations. The projections should not be construed as a forecast of a likely growth path but as the probable range of economic growth during the 1980's. □

—FOOTNOTES—

¹ The projections are part of a BLS program of studies aimed at analyzing long-run economic growth. The primary objective is to develop projections of employment and occupational requirements under alternative assumptions. Other articles in the series discuss industry projections of output and employment and future trends in occupational demand. As part of a continuing program to assess the validity of BLS projections, future articles will evaluate the projections of the U.S. economy for 1980. For previous articles, see Norman C. Saunders, "The U.S. economy to 1990: two projections for growth," *Monthly Labor Review*, December 1978, pp. 36-46; Arthur Andreassen, "Changing patterns of demand: BLS projections to 1990," *Monthly Labor Review*, December 1978, pp. 47-55; Valerie A. Personick, "Industry output and employment: BLS projections to 1990," *Monthly Labor Review*, April 1979, pp. 3-14; Thomas Nardone, "The Job Outlook in Brief, Based on the Occupational Outlook Handbook, 1980-81 Edition," *Occupational Outlook Quarterly*, Spring 1980, pp. 2-21; Paul T. Christy and Karen J. Horowitz, "Evaluation of BLS projections of 1975 output and employment," *Monthly Labor Review*, August 1979, pp. 8-19; and Max L. Carey, "Evaluating the 1975 occupational employment projections," *Monthly Labor Review*, June 1980, pp. 10-21.

² See Lester C. Thurow, "A Fiscal Policy Model of the United States," *Survey of Current Business*, June 1969, pp. 45-64. The BLS economic growth model is a software system comprised of a modified version of the Thurow macroeconomic model, several demand submodels, and an input-output and industry level employment model. A detailed methodological description of the current model is being prepared for publication, as is a description of the operating system.

³ The Department of Energy projections are taken from the energy forecasts developed for the Energy Information Agency's *Annual Report to Congress*, 1979 (June 1980), a medium international oil price version. They assume an average landed crude oil price of \$37 per barrel by 1990, in 1979 dollars.

⁴ Projections of the Population of the United States: 1977 to 2050, *Current Population Reports* (Bureau of the Census, Series P-25, No. 704, 1977) and Projections of the Number of Households in the United States: 1979 to 2000, *Current Population Reports* (Bureau of the Census, Series P-25, No. 805, 1979).

⁵ Howard N. Fullerton, Jr., "The 1995 labor force: a first look," *Monthly Labor Review*, December 1980, pp. 11-21.

⁶ A tremendous amount of material has been written on the reasons behind the slowdown in productivity growth. Major studies include R. Kutscher, G. Mark, and J. R. Norsworthy, "The productivity slowdown and the outlook to 1985," *Monthly Labor Review*, May 1977, pp. 3-8; J. R. Norsworthy, M. Harper, and J. Kunze, "The Slowdown in Productivity Growth: an Analysis of Some Contributing Factors," *Brookings Papers on Economic Activity*, Vol. 2, 1979; P. Clark, "Capital Formation and the Recent Productivity Slowdown," *Journal of Finance*, June 1978, pp. 967-75; D. Hudson and E. Jorgenson, "Energy Prices and the U.S. Economy, 1972-1976," *Data Resources Review*, September 1976, pp. 1.24-1.37; J. Beebe, "A Note on Intersectoral Shifts and Aggregate Productivity Change," *Annals of Economic and Social Measurement*, Summer 1975, pp. 389-95; and E. Denison, *Accounting for Slower Economic Growth* (Washington, D.C. Brookings Institution, 1979).

⁷ The estimates of capital stock developed in the projections are consistent with the gross stocks series presented in *Fixed Non-residential Business and Residential Capital in the United States, 1925-75* (U.S. Department of Commerce, Bureau of Economic Analysis, 1976).

⁸ By national income accounting conventions, there is no change over time in government productivity. Rather, it is assumed that real output for a government employee is equal to that person's compensation in the dollar base year (1972 in this case). Apparent changes in average real compensation reflect shifts in the grade structure of government employees over time.

The outlook for industry output and employment through 1990

The future looks bright for service, durable goods, and high-technology industries; projections assume lower unemployment and taxes, higher investment and productivity, and continued oil scarcity

VALERIE A. PERSONICK

The structure of employment in the United States has undergone considerable change in recent decades. Although employment is growing in virtually all sectors of the economy, growth has been much more rapid in service-producing industries than in goods-producing industries. This trend is projected to continue under the economic conditions assumed by the Bureau of Labor Statistics in its revised projections for the next decade, although at a different pace.

Three alternative scenarios for industry output and employment growth were prepared. The low-trend version assumes a decline in the rate of expansion of the labor force, continued high inflation, moderate productivity gains, and modest increases in real output and employment. In high-trend version I, the economy is buoyed by larger labor force growth, much lower unemployment rates, higher production, dampening of price increases, and greater improvements in productivity. The third alternative, high-trend II, is characterized by the rapid output growth of high-trend I but assumes the same labor force as the low-trend version. Productivity gains are quite substantial in this alternative.

Summary of employment trends

Between 1959 and 1969, total employment in the United States rose by 2.0 percent a year. The most rapid increase was posted by the government sector, which grew at an average annual rate of 4.0 percent. Expan-

sion of public sector employment during the 1960's reflected strong demand for teachers and other educational personnel as the baby-boom generation entered school, effects of the Vietnam war buildup, and increases in government services resulting from "Great Society" and other programs. Job growth in miscellaneous service industries was also stronger than for the economy as a whole, while manufacturing, the largest sector in 1959, had a growth rate just about equal to the all-industries average.

During the 1970's, job growth accelerated in the sectors defined as service-producing but slowed in manufacturing and government. Between 1969 and 1979, employment rose 4.0 percent annually in other (or miscellaneous) services, 3.6 percent in finance, insurance, and real estate, and 3.0 percent in trade, but only 0.5 percent in manufacturing and 1.1 percent in government. By the end of the decade, wholesale and retail trade had replaced manufacturing as the largest employment sector. The fast-growing miscellaneous services sector ranked third, having overtaken government. Thus, while almost 1 out of every 4 jobs was in a manufacturing industry in 1959, by 1979 this sector accounted for only 1 out of every 5 jobs. In contrast, jobs in other services represented less than 1 of 7 in 1959, but by 1979 had expanded to almost 1 of 5.

During the 1980's, these trends are expected to continue under the conditions assumed by BLS for the 1990 economy. Other services is projected to continue to be the fastest-growing sector, accounting for more jobs than manufacturing by 1985. The employment shares of trade, mining, and finance, insurance, and real estate are

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also expected to rise over the next decade, while manufacturing, agriculture, transportation, communications, and public utilities, although posting gains during the 1980's, are projected to represent smaller portions of all jobs.

Under the low-trend assumptions, total employment will rise from 104.1 million in 1979 to 122.0 million by 1990, a net increase of 17.9 million jobs. In the high-trend high-employment model (version I), 26.5 million new jobs will be added to the 1979 level, for total employment of 130.7 million in 1990. In the high-trend low-employment model (version II), employment would reach 124.0 million by 1990.

The rates of job increase between 1979 and 1990 in the low-trend and high-trend II versions (1.4 and 1.6 percent a year, respectively) represent a slowdown over the previous two decades, while the high-trend I rate of 2.1 percent represents a somewhat faster pace.

Characteristics of the 1990 economy

Labor force. The civilian labor force is expected to grow 1.6 percent a year between 1979 and 1990 in the low-trend and high-trend II models, and 2.0 percent a year in the high-trend I model. Both rates are considerably smaller than the 2.7 percent average annual rate of expansion posted during 1975-79. The slowdown should occur as the last of the baby-boom generation enter the labor force.

Under both labor force scenarios, two-thirds of the growth is provided by women. The first assumes that the proportion of women age 20 to 44 in the labor force will rise at an increasing rate until 1983; participation rates of men in most age groups are expected to decline, although not as fast as they did during the 1970's. The second scenario assumes even faster growth for women's participation rates, and a reversal of the decline in men's rates:

	Projected					
	Actual		Low labor force scenario		High labor force scenario	
	1975	1979	1985	1990	1985	1990
Labor force						
(in millions)	92.6	102.9	115.0	122.4	118.3	128.1
Men	55.6	59.5	63.6	65.9	64.8	68.2
Women	37.0	43.4	51.4	56.5	53.4	59.9
Participation rate . .	61.2	63.7	66.5	67.9	68.4	71.1
Men	77.9	77.9	77.7	77.2	79.2	79.9
Women	46.3	51.0	56.5	59.6	58.7	63.2

Unemployment rate. Somewhat offsetting the effects of slower labor force growth on job creation are assumptions about unemployment. The unemployment rate is assumed to decline following the 1980 recession and then level off within a range of possible full employment levels. In the low-trend forecast, the rate is assumed to

fall from 7.1 percent in 1980 to 7.0 percent by 1985 and 6.0 percent by 1990. The more optimistic high-trend assumptions are for a 5.5-percent unemployment rate in 1985 and 4.0 percent in 1990 in version I, and 6.0 percent in 1985 and 4.5 percent in 1990 in version II.

Gross national product. Gross national product (GNP) is projected to expand 2.4 percent annually between 1979 and 1990 in the low-trend version, and 3.8 percent in the high-trend versions. The low-trend estimate roughly corresponds to the experience of the 1973-79 period, when real GNP increased at an average rate of 2.8 percent a year. Assumptions underlying the high-trend projections more closely resemble the growth path of an earlier period, 1955-68, during which the economy was expanding at a 3.7-percent annual pace.

Taxes. In all cases, reductions in both personal income taxes and the effective corporate tax rate are assumed to take place throughout the decade. The high-growth alternatives, in particular, incorporate an assumption of a vigorously pursued policy of investment incentives.

Productivity. The productivity slowdown which characterized the 1970's is assumed to at least stabilize during the 1980's, as some of the contributory factors are minimized or even reversed. The rate of productivity growth in the private sector declined from 3.0 percent a year during 1955-68 to 2.3 percent between 1968 and 1973 and 0.9 percent between 1973 and 1980. Among the reasons cited for this drop are an influx of inexperienced labor force entrants, energy price shocks, investment in environmental protection and energy conservation rather than in production, and less per-employee capital accumulation in general. In the coming decade, however, the baby-boom generation will be in the prime working age groups, creating a proportionately more experienced labor force. Investment in capital goods is projected to be stimulated by specific government policies, and businesses are expected to become more adept at responding to changes in energy resources. As a result, annual labor productivity growth in the private sector is projected to be 0.9 percent during 1980-85 and 1.9 percent during 1985-90 in the low-trend forecast, 1.4 percent and 2.6 percent in the high-trend I version, and 2.2 percent and 3.1 percent in the high-trend II model.

Energy assumptions

Higher prices and uncertain supply for oil and natural gas, both domestic and foreign, have begun to force both conservation and a shift to other energy sources. During the 1980's, these trends are projected to intensify. Domestic production of crude oil and natural gas and refined petroleum products is expected to remain virtually unchanged or decline slightly throughout the

decade, while oil imports are assumed to be cut back drastically. In 1977, imports of crude oil accounted for almost one-third of total U.S. supply. That ratio has begun to turn down somewhat, and is expected to continue to decline to 21.5 percent by 1990 in the low-trend version, or to between 24.2 and 24.5 percent in the high-trend models.

To the degree possible, the energy assumptions are based on the "1979 Annual Report to the Congress" of the U.S. Department of Energy.¹ (See table 1.) The mid-price case of the department was chosen as the basis for the BLS projections. This case assumes that crude oil nominal prices will rise from \$31.37 a barrel in 1979 to \$51.14 in 1985, and to \$81.33 in 1990. The department's projected rates of growth for domestic output and imports under these price conditions were applied to BLS data to derive the 1985 and 1990 levels of domestic production of various types of energy and the level of oil imports.

Coal output is projected to boom as electric utilities and other industrial users substitute it for scarcer, more expensive oil in their production processes. This return to coal as an important energy source has already had an impact on the industry—coal production increased 20.3 percent in 1979 and 8.3 percent in 1980; employment jumped 25.6 percent in 1979 to a 25-year high of 265,000 jobs and held close to that level in 1980. Coal output in the low-trend projection is estimated to sustain an 8.1 percent yearly growth, at least through 1985, after which the rate is expected to taper to 3.6 percent annually during 1985–90. In the high-trend versions, coal production will increase 9.1 to 9.4 percent a year during 1979–85, and 4.5 to 4.7 percent annually thereafter.

The vigorous rates of growth projected for coal production result not only from the assumption of strong domestic demand, but from substantial foreign demand as well. Exports of coal are expected to expand 5.7 percent annually between 1977 and 1990 in the low-trend

version, and 9.9 to 10.8 percent a year in the high-trend versions.

Consumption of electricity will rise during the 1980's as an alternative energy source for both home heating and industrial production. Output is projected to grow 3.3 percent a year between 1979 and 1990 in the low-trend version, and 4.4 percent a year in both high-trend scenarios. Coal is expected to be an increasingly important input in the production of electricity, while nuclear power sources are assumed to expand only slightly over the next decade and account for a very small fraction of total electricity production.

Final demand trends

Personal consumption dominant. Personal consumption expenditures accounted for nearly two-thirds of total gross national product in 1979, and while these outlays are projected to grow somewhat more slowly than total GNP over the next decade, they will still be by far its largest component.

Among consumption categories, expenditures for nondurable items, such as food and household supplies, are expected to continue to grow more slowly than outlays for durable goods and services. This long-term trend reflects the tendency of consumers to spend less of their budget on necessary staples and shift more discretionary income to higher-priced durable goods or to recreation and other services as disposable incomes rise.

Food and tobacco, which together accounted for almost 29 percent of the personal consumption budget in 1955, are projected to represent only 17 to 19 percent in 1990. Tobacco expenditures, in particular, are expected to have the second-fastest rate of decline of all personal consumption categories. (The most rapid drop is projected for gasoline and oil purchases.)

One of the fastest-growing components of personal expenditures projected is medical care services. This item accounted for 8.3 percent of personal consumption expenditures in 1972 and 8.7 percent in 1979, but is expected to represent more than 10 percent of such consumption in 1990. One of the main causes for rapid projected growth of real medical care expenditures will be an aging population. In 1979, the number of persons age 65 or older was 24.7 million, or 11.2 percent of the total population. In 1990, 29.8 million people, or 12.2 percent of the total, will be in this age group.²

Other categories of personal consumption expenditures projected to rise rapidly include amusements and recreation services, and airline transportation. Expenditures for recreation have been steadily growing as a share of all personal consumption expenditures, from about 5.7 percent in 1955 to 6.3 percent in 1968 and 7.9 percent in 1979. In 1990, they are projected to account for between 8.7 and 9.7 percent of all personal consumption expenditures. Airline transportation is

Table 1. U.S. energy supply by source, actual and projected, selected years, 1965–90

Item	Actual				Projected	
	1965	1973	1978	1979	1985	1990
Total domestic energy supply:						
Quadrillion BTU per year	53.7	75.0	78.4	79.3	81.6	89.1
Coal:						
Quadrillion BTU per year	13.4	14.4	15.0	17.4	25.0	29.3
Percent of total supply	25.0	19.2	19.1	21.9	30.6	32.9
Domestic oil and gas:						
Quadrillion BTU per year	34.2	44.3	40.2	39.6	36.9	38.3
Percent of total supply	63.7	59.1	51.3	49.9	45.2	43.0
Net oil and gas imports:						
Quadrillion BTU per year	5.4	14.0	17.6	17.7	12.9	12.5
Percent of total supply	10.1	18.7	22.4	22.3	15.8	14.0
Nuclear:						
Quadrillion BTU per year	...	.9	3.0	2.8	5.6	8.2
Percent of total supply	...	1.2	3.8	3.5	6.9	9.2

SOURCE: U.S. Department of Energy, Energy Information Administration.

expected to be the second-fastest growing component.

Outlays for consumer durables are projected to increase as a percentage of total personal consumption expenditures, particularly for household furnishings; home electronic equipment such as radios, televisions, video recorders, and personal computers; and motor vehicles. Under the low-trend version, most of the gains will occur in the second half of the decade, while the high-trend models assume the recovery from the 1980 recession will be swifter and purchases of consumer durables will rise rapidly throughout the decade.

Investment growth the strongest. Investment, currently about 15 percent of final demand, is projected to show significantly more growth than the 0.6-percent annual rate posted between 1973 and 1979, especially in the second half of the next decade. The largest category of investment, producers' durable equipment, rises 5.0 percent annually in the low-trend version during the latter years of the 1980's, in line with the long-term historical rate of growth; the high-trend versions predict an 8.1-percent annual expansion over the same period. The rapid gain in the high-trend models reflects the better business conditions and strong tax incentive programs assumed in these versions.

A list of the specific types of equipment for which demand is projected to be greatest reflects the full fruition of the "age of electronics." Leading the advance will be purchases of computers and peripheral equipment. Rapidly growing investment demand is also expected for optical equipment, typewriters and other office equipment, radio and communication equipment, and scientific and controlling instruments. These products are all characterized by or contribute to rapid advances in technology. As older machines or production processes become less efficient or even obsolete, businesses are expected to buy more of these high-technology items in relation to other capital goods to remain competitive.

Equipment for which slow growth in investment demand is expected includes special industry machinery; engines, turbines, and generators; and office furniture.

Business investment in new plants is projected to recover more slowly from the 1980 recession than investment in equipment, due to the longer lead-times required. After 1985, construction of new plants and other business structures is expected to rebound at a rate of growth in line with the long-term, pre-recession rate of 4.7 percent.

Projections of residential investment show a very different pattern than those for other types of investment. This sector was the most severely hit by the 1975 and 1980 recessions—new housing starts plummeted from a decade-high 2.4 million in 1972 to 1.3 million in 1980; expenditures for residential investment declined by 0.9 percent a year during 1973–79. Over the same period,

however, the rate of new household formation was accelerating, reflecting both the maturing of the baby-boom generation and a trend toward more single-person households. The demand for homeownership that was pent up during the recession years is projected to spur residential investment expenditures during the first half of the 1980's; growth is estimated at 2.2 percent a year between 1979 and 1985 in the low-trend model and 4.5 to 4.8 percent in the high-trend models. After 1985, however, the rate of new household formation is expected to decline, and residential investment growth drops to 1.0 percent annually in the low-trend version and 3.2 to 3.5 percent in the high-trend scenarios.

Foreign trade will grow rapidly. Exports and imports have been rising over time as a share of GNP, reflecting the growing economic interdependence of the United States and the rest of the world. This trend is projected to continue into the next decade in all scenarios. In 1955, exports accounted for 4.7 percent of final demand; by 1979 that share had risen to 9.9 percent, and is expected to climb to between 11.5 and 12.9 percent in 1990. Imports represented 3.6 percent of GNP in 1955, 7.4 percent in 1979, and are projected to account for 9.1 to 9.7 percent in 1990.

A wide variety of products is exported from the United States each year. Chief among them in the past have been food and feed grains, and other agricultural products; motor vehicles and parts; aircraft; chemicals; and construction, mining, and oilfield machinery. These goods are projected to continue to account for a sizable share of exports in the coming years, but they are expected to be joined by computers, electronic components, and coal as important export goods. Plastic products exports are expected to grow much faster than the average for all exports, but not as rapidly as in the past.

As the import share of GNP rises, raw materials purchases are becoming less significant compared to imports of finished capital and consumer goods, and this trend is expected to continue. Imports of crude petroleum are assumed to decline drastically, from 31 percent of the total supply of oil and natural gas in 1977 to between 21.5 and 24.5 percent by 1990.

The largest share of imported merchandise is accounted for by motor vehicles and parts—13.5 percent in 1977. As a percentage of the total value of output of all cars, trucks, buses, vans, and spare parts purchased in the United States, imports grew from less than 2 percent in 1963 to 12.5 percent by 1977 and to 13.8 percent in 1979. Further gains for imported motor vehicles are projected as the domestic auto industry struggles to recover from the devastating 1980 recession. The value of the import share is projected to top 15 percent in 1985 in all three scenarios. After that point, however, it declines somewhat to about 14.4 per-

cent by 1990. The downturn is expected to occur as American cars begin to compete effectively with gas-economizing imports, and more foreign automakers set up factories in the United States.

Motorcycle and bicycle manufacturing is the industry with the largest proportion of imports; it is expected to rank first during the next decade as well, with imports holding an almost steady 65-percent share. Radio and television imports are projected to continue to dominate the output of that industry, rising from 39 percent of total output in 1977 to about 49 percent in 1990 in the low-trend forecast, and to about 46 percent in the high-trend models. Among other industries with large volumes of imports, rising import shares are projected for steel and primary nonferrous metals; steady or declining shares are expected for imports of apparel, leather products (including footwear), electronic components, and paper products.

Government share dipping. Government purchases³ as a whole are projected to grow somewhat more slowly than total GNP in the coming decade, but wide variation is assumed for different functions within the public sector. For example, emphasis at the Federal level is expected to swing back to national defense. In past years, defense purchases have been declining in real terms as a proportion of GNP. Real outlays for defense dropped 7.3 percent annually between 1968 and 1973 as the Vietnam war drew to a close, and then contracted further, by an average of 0.3 percent each year through 1979. Sharp increases in defense spending are expected for the 1980's, particularly during the first half. Purchases are projected to grow 5.3 to 5.7 percent a year between 1979 and 1985, rising 1.5 to 2.1 percent annually thereafter.

All of the extra real defense expenditures are assumed to be for materiel; the size of the armed forces is projected to remain unchanged at 2.1 million. Among the industries particularly affected by the projected defense buildup are ordnance (which includes tanks), guided missiles, aircraft, ship and boat building and repair, and radio and other communication equipment.

In contrast, the nondefense portion of Federal purchases of goods and services is expected to show no growth over the next decade. As a share of total final demand, Federal nondefense purchases decline from 2.3 percent of GNP in 1979 to 1.9 percent by 1990 in the low-trend version, 1.7 percent in high-trend version I, and 1.5 percent in high-trend version II.

Expenditures for goods and services by State and local governments, which accounted for 12.1 percent of GNP in 1979, will show only minimal growth during the 1980's. Education expenditures are actually projected to decline between 1985 and 1990, as the school- and college-age population shrinks. In the latter year, there will be only about 45.3 million children age 5 to 17 and

25.1 million young adults between 18 and 24, compared with 46.9 million and 29.3 million in 1979.⁴

The only area of State and local spending expected to show any increase is the health field. It is assumed that purchases of goods and services for public health will just about keep pace with the rate of growth of the economy as a whole.

Industry output

The projections of final demand by industry were multiplied by an input-output table to yield projections of the domestic output required by each industry to meet that final demand. The table was based on the 1972 input-output matrix published by the Department of Commerce,⁵ with several of the original coefficients modified to reflect 1977 Commerce Department data or other information on recent trends. Among the industries for which special studies or assumptions were made are the metals sectors, textiles, motor vehicles, the service sectors, and the energy industries.

Food production slows. As real incomes rise, purchases of food for home consumption tend to level off. Food purchases are projected to grow only slightly faster than the population, and considerably more slowly than purchases of other commodities. This slowdown will affect almost all of the food industries, and indirectly, the agricultural industries. The only food industries expected to post output gains at least equal to total GNP growth are those producing alcoholic beverages and soft drinks. Domestic output of alcoholic beverages, including beer and wine, is assumed to keep pace with rising incomes, while growth in the soft drink industry will arise from higher levels of exports.

Little growth in other nondurable goods industries. Several other nondurable manufacturing industries, such as tobacco manufacturing, paper products, cleaning preparations, and leather products, are also expected to exhibit only moderate output growth over the next decade. The output of the refined petroleum products industry is assumed to actually decline as demand shrinks dramatically. Partly as a result of the petroleum cutback, output of the nondurable goods sector will decline steadily as a share of total output. (See table 2.)

Although the output of the nondurable goods manufacturing sector is projected to show only moderate overall growth, several component industries are expected to post faster-than-average gains. These include the chemical products, drugs, apparel, and printing and publishing industries.

Growth strong for durable goods. The durable goods portion of manufacturing, unlike nondurables, is projected to grow faster than the all-industries average. Between 1979 and 1990, production is expected to expand

Table 2. Gross product originating¹ by major sector, actual and projected, selected years, 1959-90

Industry sector	Billions of 1972 dollars								
	Actual			Projected					
	1959	1969	1979	1985			1990		
				Low-trend	High-trend I	High-trend II	Low-trend	High-trend I	High-trend II
Total private	629.5	951.9	1,329.1	1,490.3	1,621.7	1,613.7	1,732.7	2,002.9	2,004.7
Agriculture	27.8	29.5	34.9	36.5	42.0	42.1	37.6	47.0	47.3
Nonagriculture	601.7	922.4	1,294.2	1,453.8	1,579.7	1,571.6	1,695.1	1,955.9	1,957.4
Mining	13.3	18.2	21.0	25.2	26.9	26.6	27.1	30.1	29.7
Construction	45.5	55.8	58.3	70.8	75.5	75.5	78.3	87.1	88.0
Manufacturing	171.2	277.2	368.0	411.6	448.4	444.2	474.6	554.3	550.9
Durable goods	100.9	170.3	223.5	251.7	277.9	274.7	294.6	354.7	350.6
Nondurable goods	70.3	106.8	144.5	159.9	170.5	169.5	180.0	199.6	200.3
Transportation, communications, and public utilities	55.4	92.6	141.1	175.7	187.3	186.3	218.7	244.8	244.0
Transportation	29.9	43.4	55.9	63.3	67.9	67.5	73.7	83.8	83.3
Communications	11.5	23.8	50.3	73.0	77.6	77.2	99.5	110.4	109.8
Public utilities	14.0	25.3	34.8	39.4	41.8	41.6	45.5	50.6	50.9
Wholesale and retail trade	115.4	173.6	248.1	271.8	296.1	294.4	316.0	365.0	366.6
Wholesale	42.0	70.6	103.4	114.4	124.2	123.5	132.6	154.8	154.6
Retail	73.4	103.0	144.8	157.4	171.9	170.9	183.4	210.2	212.0
Finance, insurance, and real estate	98.5	152.9	227.5	245.8	266.9	266.9	284.9	324.7	329.4
Other services ²	83.6	127.2	183.3	205.2	220.1	218.9	239.0	276.9	278.1
Government enterprises	11.8	16.8	21.0	25.1	26.7	26.6	28.5	31.9	32.1
Rest of world and statistical discrepancy	7.9	8.1	25.9	22.6	31.8	32.2	30.0	41.1	38.6
	Average annual rate of change								
	Actual		Projected						
	1959-69	1969-79	1979-85			1985-90			
			Low-trend	High-trend I	High-trend II	Low-trend	High-trend I	High-trend II	
Total private	4.2	3.4	1.9	3.4	3.3	3.1	4.3	4.4	
Agriculture	.6	1.7	.7	3.1	3.2	.6	2.3	2.4	
Nonagriculture	4.4	3.4	2.0	3.4	3.3	3.1	4.4	4.5	
Mining	3.2	1.4	3.1	4.2	4.0	1.5	2.3	2.2	
Construction	2.1	.4	3.3	4.4	4.4	1.5	2.9	3.1	
Manufacturing	4.9	2.9	1.9	3.3	3.2	2.9	4.3	4.4	
Durable goods	5.4	2.8	2.0	3.7	3.5	3.2	5.0	5.0	
Nondurable goods	4.3	3.1	1.7	2.8	2.7	2.4	3.2	3.4	
Transportation, communications, and public utilities	5.3	4.3	3.7	4.8	4.7	4.5	5.5	5.5	
Transportation	3.8	2.6	2.1	3.3	3.2	3.1	4.3	4.3	
Communications	7.5	7.8	6.4	7.5	7.4	6.4	7.3	7.3	
Public utilities	6.1	3.2	2.1	3.1	3.0	2.9	3.9	4.1	
Wholesale and retail trade	4.2	3.6	1.5	3.0	2.9	3.1	4.3	4.5	
Wholesale	5.3	3.9	1.7	3.1	3.0	3.0	4.5	4.6	
Retail	3.4	3.5	1.4	2.9	2.8	3.1	4.1	4.4	
Finance, insurance, and real estate	4.5	4.1	1.3	2.7	2.7	3.0	4.0	4.3	
Other services ²	4.3	3.7	1.9	3.1	3.0	3.1	4.7	4.9	
Government enterprises	3.6	2.3	3.0	4.1	4.0	2.6	3.6	3.8	
Rest of world and statistical discrepancy	.3	12.3	-2.2	3.5	3.7	4.8	5.3	3.7	

¹ Gross product originating represents the value added by an industry after costs of materials and secondary products made in other industries have been subtracted from total output.

² Includes private households.

2.5 percent a year in the low-trend version, compared to 2.4 percent for total private-sector output. Corresponding figures for the high-trend version are 4.2 to 4.3 percent for durable goods versus 3.8 percent for the total. Spurring the rapid increase in durable goods output are the investment, defense, and personal consumption assumptions discussed previously.

Among specific industries in the durable manufacturing sector projected to enjoy substantial output growth are computers; optical equipment; construction, mining, and oilfield machinery; typewriters and other office machines; electronic components; material handling equipment; photographic equipment; and medical and dental instruments.

The computer industry, in fact, is expected to lead all industries studied in terms of output increase. As is well known, output of computer equipment has burgeoned

in the past few decades; its 11.6-percent annual rate of increase between 1958 and 1979 surpassed that of all other industries studied. Growth came in response to greater demand for information processing as well as from expanding applications of computer technology to such fields as biotechnology and industrial robots. New uses and markets for computer technology will continue to spur output in the coming decade, at projected rates of increase ranging from 7.6 to 10.1 percent a year.

Services output growth in line with rest of economy. In 1959, service industries accounted for 13.3 percent of total private output; in 1979 the share was 13.8 percent. Service industries are expected to hold this steady share of output throughout the 1980's in all three scenarios.

Within the service sector, the most rapid output growth is projected for the amusement and recreation

industry and the medical industries. Amusement and recreation services expanded by about 4.1 percent annually between 1958 and 1979. The same pace is expected for the 1979–90 period in the low-trend version, while the high-trend models project average annual growth of 5.4 to 5.6 percent. For the medical industries, an increase in output of doctors' and dentists' services is expected to average 3.3 to 4.7 percent a year between 1979 and 1990; output of hospitals is projected to expand by 3.6 to 5.1 percent; and annual output growth of other medical services is projected to be in the 3.0- to 5.0-percent range. These average rates are all higher than the 2.4- to 3.8-percent range forecast for output of the total private economy during 1979–90.

Construction pattern mixed. In all scenarios, the construction sector grows faster than the all-industries average between 1979 and 1985, but more slowly between 1985 and 1990. In the first half of the decade, rising residential construction is projected to stimulate this industry, but in the second half, a dropoff in new home construction is expected to more than offset the beginnings of a rebound in business construction of factories, offices, and public utilities. Shrinking government outlays for school and road construction are also expected to dampen the output growth of this sector.

Variations expected in other industry sectors. Trade, which represented 18.7 percent of total private-sector output in 1979, is projected to hold about the same share in 1990. Both the wholesale and retail portions will grow at about the same pace, although within retail trade, output of eating and drinking establishments is

expected to expand more rapidly than that of other retail businesses.

Output of the mining sector is projected to keep pace with total private output after decades of slower-than-average growth. The rapid increase projected for coal production is expected to outweigh the minimal growth assumed for crude oil production and the absolute declines anticipated in copper mining and nonferrous ores mining. In addition to coal, above-average domestic output gains are also projected for iron ores and chemical mining.

Table 3 summarizes the low-path industry output forecast, showing the most- and least-rapidly growing or declining industries for 1979–90. In the high-trend versions (which assume more purchases of durable equipment), transportation services, amusement and recreation services, electronic components, and chemical mining drop off the list of the 10 fastest-growing industries (but remain within the top 20), and are replaced by those manufacturing radios and televisions, typewriters and other office equipment, material handling equipment, and telephone and telegraph apparatus.

Industry employment

Employment projections at the industry level are derived from the projections of output by industry, but the two are far from strictly parallel. The differences stem from the varying estimates of labor productivity by industry and of expected changes in the average workweek. Thus, although output in the low-trend version is projected to decline in only 4 of the 150 industries studied, employment drops are expected for 33 industries as a result of expected productivity growth in the private economy. In high-trend version I, only two industries experience output declines, but 24 show employment reductions. For the high-trend II case, output drops in two industries but employment falls in 30. (See table 4.)

The projected upturn in productivity is somewhat offset by a continued decline in the average workweek. Average weekly hours in the private sector dropped from 39.9 in 1959 to 38.3 in 1969, and further, to 36.6, in 1979. By 1990, hours paid are projected to average 35.0 a week in the low-trend model and 35.1 in the high-trend models.

While employment is expected to grow more slowly than in the recent past, at least in the low-trend version and high-trend II (which are based on a smaller labor force than high-trend I), the distribution of employment among major industry sectors in all versions will continue to change largely in line with past trends. (See tables 5 and 6.)

Services continue to pace growth. The fastest-growing employment sector is projected to be services, as it has

Table 3. Low-trend projected output changes for selected industries, 1979–90

Industry	Average annual rate of output change (In percent)
All private industries	2.4
Fastest-growing:	
Computers and peripheral equipment	7.6
Communications, except radio and television	6.4
Coal mining	6.0
Radio and television broadcasting	5.7
Transportation services	4.3
Optical and ophthalmic equipment	4.2
Amusement and recreation services	4.0
Electronic components	3.9
Chemical and fertilizer mineral mining	3.8
Construction, mining, and oilfield machinery	3.8
Slowest-growing or declining:	
Petroleum refining and related products	-1.6
Copper ore mining	-3
Private households	-3
Nonferrous metal ores mining	-3
Logging	0
Barber and beauty shops	0
Railroad equipment .....	.1
Gas utilities .....	.5
Tobacco manufacturing .....	.5

Table 4. Employment by industry, actual and projected, selected years, 1959-90

[In thousands]

Industry	Actual			Projected					
	1959	1969	1979	Low-trend		High-trend I		High-trend II	
				1990	Average annual rate of change, 1979-90	1990	Average annual rate of change, 1979-90	1990	Average annual rate of change, 1979-90
Agriculture:									
Dairy and poultry products	1,551	814	511	354	-3.3	395	-2.3	411	-2.0
Meat and livestock products	979	756	528	452	-1.4	506	-4	524	-1
Cotton	565	178	142	121	-1.4	136	-3	135	-5
Food and feed grains	960	635	639	591	-7	674	.5	661	.3
Other agricultural products	1,436	1,111	995	813	-1.8	920	-7	903	-9
Mining:									
Iron and ferroalloy ores mining	33	30	30	34	1.3	38	2.2	33	1.0
Copper ore mining	23	34	33	34	.4	37	1.2	36	.8
Nonferrous metal ores mining, except copper	31	25	39	40	.3	42	.8	40	.3
Coal mining	201	138	265	411	4.1	472	5.4	412	4.1
Crude petroleum and natural gas	200	157	211	311	3.6	325	4.0	307	3.5
Stone and clay mining and quarrying	105	99	103	103	.1	109	.5	100	-.3
Chemical and fertilizer mineral mining	19	18	25	31	2.1	33	2.8	32	2.1
Construction:									
Maintenance and repair construction	662	792	1,292	1,423	.9	1,532	1.6	1,460	1.1
New construction	3,163	3,594	4,605	5,497	1.6	5,977	2.4	5,643	1.9
Manufacturing:									
Durable goods:									
Ordnance	50	175	75	102	2.8	111	3.7	98	2.5
Complete guided missiles and space vehicles	94	107	81	70	-1.3	72	-9	77	-5
Logging	143	138	148	113	-2.4	120	-1.8	108	-2.8
Sawmills and planing mills	305	230	237	222	-6	231	-2	215	-9
Other millwork, plywood, and wood products	261	310	386	344	-1.0	370	-4	374	-3
Wooden containers	43	36	25	20	-1.6	22	-1.0	22	-1.3
Household furniture	259	316	331	379	1.2	408	1.9	390	1.5
Furniture and fixtures, except household	124	153	176	180	.2	214	1.8	194	.9
Glass	153	188	205	239	1.4	252	1.9	242	1.5
Cement and concrete products	209	228	254	253	-0	267	.5	261	.2
Structural clay products	78	64	52	44	-1.5	45	-1.2	43	-1.7
Pottery and related products	49	45	51	57	1.1	60	1.5	55	.7
Other stone and clay products	125	140	164	171	.4	186	1.2	181	.9
Blast furnaces and basic steel products	588	644	569	583	.2	586	.3	583	.2
Iron and steel foundries and forgings	269	312	324	375	1.4	387	1.6	377	1.4
Primary copper and copper products	137	160	159	163	.3	170	.7	165	.3
Primary aluminum and aluminum products	111	153	169	173	.3	181	.6	170	.0
Primary nonferrous metals and metal products	78	93	90	111	2.0	114	2.2	108	1.7
Metal containers	75	87	81	91	1.1	99	1.9	95	1.4
Heating apparatus and plumbing fixtures	71	76	76	100	2.6	105	3.0	103	2.8
Fabricated structural metal products	344	440	538	583	.7	640	1.6	601	1.0
Screw machine products	88	114	117	140	1.6	151	2.4	143	1.9
Metal stampings	189	255	243	266	.8	290	1.6	277	1.2
Cutlery, handtools, and general hardware	135	165	186	226	1.8	240	2.4	227	1.8
Other fabricated metal products	231	315	378	443	1.5	472	2.0	461	1.8
Engines, turbines, and generators	90	112	145	149	.3	175	1.7	160	.9
Farm machinery	128	141	183	217	1.6	239	2.5	224	1.9
Construction, mining, and oilfield machinery	162	202	282	369	2.4	474	4.8	369	2.4
Material handling equipment	65	95	113	148	2.5	183	4.5	150	2.6
Metalworking machinery	251	347	379	411	.7	547	3.4	424	1.0
Special industry machinery	164	206	205	227	1.0	234	1.2	231	1.1
General industrial machinery	221	291	329	393	1.6	430	2.5	390	1.6
Other nonelectrical machinery	166	246	309	344	1.0	381	1.9	373	1.7
Computers and peripheral equipment	111	224	350	552	4.2	614	5.2	555	4.3
Typewriters and other office equipment	28	52	48	77	4.5	89	5.8	73	3.8
Service industry machines	97	147	188	199	.6	226	1.7	208	.9
Electric transmission equipment	157	207	219	236	.7	277	2.2	247	1.1
Electrical industrial apparatus	176	223	251	307	1.9	355	3.2	315	2.1
Household appliances	157	187	180	192	.6	198	.9	190	.5
Electric lighting and wiring	134	205	226	309	2.9	335	3.7	324	3.3
Radio and television receiving sets	114	156	115	98	-1.4	120	.5	116	.0
Telephone and telegraph apparatus	105	146	169	201	1.6	231	2.9	229	2.8
Radio and communication equipment	252	409	357	424	1.6	433	1.8	418	1.5
Electronic components	213	394	525	666	2.2	669	2.2	669	2.2
Other electrical machinery and equipment	111	125	180	174	-.3	211	1.5	176	-.2
Motor vehicles	696	912	996	921	-7	1,049	.5	940	-.5
Aircraft	722	805	632	768	1.8	839	2.6	779	1.9
Ship and boat building and repair	151	193	228	271	1.6	305	2.7	279	1.9
Railroad equipment	41	51	74	65	-1.0	81	.8	81	.8
Motorcycles, bicycles, and parts	9	14	20	24	1.8	30	4.0	32	4.4
Other transportation equipment	23	89	105	120	1.2	147	3.1	121	1.3

Table 4. Continued—Employment by industry, actual and projected, selected years, 1959–90

[In thousands]

Industry	Actual			Projected					
	1959	1969	1979	Low-trend		High-trend I		High-trend II	
				1990	Average annual rate of change, 1979–90	1990	Average annual rate of change, 1979–90	1990	Average annual rate of change, 1979–90
Scientific and controlling instruments	166	195	218	252	1.4	296	2.8	246	1.1
Medical and dental instruments	45	82	141	189	2.7	224	4.3	183	2.4
Optical and ophthalmic equipment	85	75	82	92	1.1	102	2.0	97	1.5
Photographic equipment and supplies	69	111	134	144	.7	165	1.9	152	1.2
Watches, clocks, and clock-operated devices	30	35	28	25	-.7	28	.3	25	-.9
Jewelry and silverware	67	78	93	91	-.2	92	-.1	91	-.2
Musical instruments and sporting goods	116	149	145	164	1.2	175	1.8	175	1.7
Other manufactured products	229	233	244	263	.7	269	.9	262	.6
Nondurable goods:									
Meat products	324	344	364	379	.4	403	.9	372	.2
Dairy products	326	260	189	158	-1.6	168	-1.0	147	-2.2
Canned and frozen foods	249	291	306	289	-.5	307	.0	323	.5
Grain mill products	139	137	146	154	.5	165	1.2	151	.3
Bakery products	313	286	240	204	-1.5	217	-.9	209	-1.2
Sugar	38	36	30	33	1.1	34	1.4	33	1.0
Confectionery products	79	87	79	70	-1.0	75	-.5	73	-.7
Alcoholic beverages	107	97	88	62	-3.1	64	-2.7	65	-2.7
Soft drinks and flavorings	111	142	151	156	.3	166	.9	152	.1
Other food products	144	151	163	147	-.9	157	-.3	156	-.4
Tobacco manufactures	95	83	70	64	-.7	67	-.3	67	-.4
Fabric, yarn, and thread mills	619	616	532	534	.0	545	.2	529	-.1
Floor covering mills	39	58	60	62	.3	68	1.3	64	.6
Other textile mill products	74	82	70	74	.6	82	1.5	73	.4
Hosiery and knit goods	221	251	229	238	.4	261	1.2	232	.1
Apparel	1,100	1,244	1,132	1,190	.5	1,319	1.4	1,205	.6
Other fabricated textile products	143	182	200	233	1.4	251	2.1	236	1.5
Paper products	415	483	493	546	.9	548	1.0	545	.9
Paperboard containers and boxes	175	231	215	221	.3	233	.8	230	.6
Newspaper printing and publishing	328	376	435	506	1.4	549	2.1	526	1.7
Periodical and book printing and publishing	156	210	230	303	2.5	329	3.3	305	2.6
Other printing and publishing	446	550	641	664	.3	717	1.0	693	.7
Industrial inorganic and organic chemicals	260	296	323	417	2.4	426	2.6	425	2.5
Agricultural chemicals	54	65	70	73	.5	75	.7	71	.1
Other chemical products	82	124	100	113	1.2	118	1.5	122	1.8
Plastic materials and synthetic rubber	81	108	101	97	-.3	107	.6	106	.5
Synthetic fibers	79	132	118	93	-2.1	101	-1.4	102	-1.3
Drugs	106	143	194	228	1.5	247	2.2	232	1.6
Cleaning and toilet preparations	89	123	140	145	.4	162	1.3	152	.8
Paints and allied products	62	72	69	71	.3	74	.7	69	.1
Petroleum refining and related products	217	182	210	184	-1.2	201	-.4	184	-1.2
Tires and inner tubes	105	119	122	126	.3	129	.5	126	.3
Miscellaneous rubber and plastics products	178	162	167	179	.7	181	.8	183	.8
Other plastics products	94	320	493	658	2.7	669	2.8	645	2.5
Leather tanning and industrial leather	36	29	20	14	-2.7	15	-2.2	15	-2.6
Leather products including footwear	341	316	234	212	-.9	226	-.3	214	-.8
Transportation:									
Railroad transportation	930	651	561	462	-1.7	493	-1.2	468	-1.6
Local transit and intercity buses	311	315	303	304	1.4	364	1.7	339	1.0
Truck transportation	1,001	1,214	1,558	1,922	1.9	2,052	2.5	1,906	1.8
Water transportation	239	234	223	196	-1.1	204	-.8	183	-1.8
Air transportation	184	357	442	493	1.0	525	1.6	497	1.1
Pipeline transportation	24	18	20	22	1.1	22	1.2	22	.7
Transportation services	70	111	192	240	2.1	262	2.9	246	2.3
Communications:									
Radio and television broadcasting	90	131	193	266	3.0	277	3.4	267	3.0
Communications except radio and television	749	919	1,121	1,280	1.2	1,454	2.4	1,300	1.4
Public utilities:									
Electric utilities, public and private	430	460	606	650	.6	758	2.1	654	.7
Gas utilities, excluding public	215	220	223	242	.8	274	1.9	235	.5
Water and sanitary services, excluding public	61	88	93	108	1.4	128	2.9	114	1.8
Trade:									
Wholesale trade	3,349	4,163	5,501	6,366	1.3	6,964	2.2	6,412	1.4
Eating and drinking places	1,960	2,812	4,924	6,836	3.0	7,179	3.5	6,843	3.0
Retail trade, except eating and drinking places	7,936	9,729	11,952	13,830	1.3	15,088	2.1	14,180	1.6
Finance, insurance, and real estate:									
Banking	644	987	1,492	1,981	2.6	2,013	2.8	1,957	2.5
Credit agencies and financial brokers	389	652	898	1,174	2.5	1,329	3.6	1,303	3.4
Insurance	1,137	1,370	1,753	2,120	1.7	2,193	2.1	2,133	1.8
Real estate	753	855	1,371	1,732	2.1	1,926	3.1	1,716	2.1

Table 4. Continued—Employment by industry, actual and projected, selected years, 1959–90

[In thousands]

Industry	Actual			Projected					
	1959	1969	1979	Low-trend		High-trend I		High-trend II	
				1990	Average annual rate of change, 1979–90	1990	Average annual rate of change, 1979–90	1990	Average annual rate of change, 1979–90
Services:									
Hotels and lodging places	868	1,065	1,543	1,887	1.8	2,126	3.0	2,035	2.5
Personal and repair services	1,157	1,232	1,278	1,281	.0	1,555	1.8	1,424	1.0
Barber and beauty shops	538	634	613	649	.5	770	2.1	733	1.6
Miscellaneous business services	814	1,691	3,144	4,314	2.9	4,757	3.8	4,509	3.3
Advertising	121	134	166	192	1.3	213	2.3	198	1.6
Miscellaneous professional services	746	1,046	1,720	2,179	2.2	2,413	3.1	2,292	2.6
Automobile repair	422	569	837	1,168	3.1	1,208	3.4	1,148	2.9
Motion pictures	228	248	308	315	.2	329	.6	306	-.1
Amusement and recreation services	372	497	761	1,029	2.8	1,042	2.9	1,019	2.7
Doctors' and dentists' services	605	806	1,317	1,896	3.4	1,982	3.8	1,875	3.3
Hospitals	974	1,776	2,621	3,967	3.8	4,206	4.4	3,954	3.8
Other medical services	283	652	1,403	2,312	4.6	2,553	5.6	2,403	5.0
Educational services (private)	839	1,229	1,683	2,098	2.0	2,149	2.2	2,075	1.9
Nonprofit organizations	1,331	1,764	2,244	2,638	1.5	2,839	2.2	2,722	1.8
Forestry and fishery products	47	41	76	78	.3	82	.8	76	.1
Agricultural, forestry, and fishery services	261	296	447	542	1.8	593	2.6	543	1.8
Private households	2,574	2,322	1,723	1,576	-.8	1,593	-.7	1,587	-.7
Government enterprises:									
Post Office	574	732	661	675	.2	700	.5	680	.3
Other Federal enterprises	104	152	153	202	2.6	236	4.0	207	2.8
Local government passenger transit	71	87	130	185	3.3	200	4.0	190	3.5
Other state and local government enterprises	225	351	492	695	3.2	774	4.2	701	3.3

been in the past. In 1959, service industries accounted for 13.6 percent of total employment; by 1979, that share had risen to 19.4 percent. It is expected that in 1990, service industries will account for about 22 percent of all jobs in the economy.

Leading the advance among service industries will be health care. Employment in doctors' and dentists' offices and in hospitals is expected to grow faster than the all-industries average, but the most rapid gains are projected for other related medical care services, such as nursing homes, medical laboratories, therapists' offices, and nurses' services. Between 1958 and 1979, employment in these establishments expanded by 8.8 percent a year, the fastest growth rate for any industry in the economy. During the 1980's, other medical services employment will again post the fastest rate of growth under all scenarios: 4.6 percent a year in the low-trend model, 5.6 percent in high-trend I, and 5.0 percent in high-trend II.

Trade will offer most new jobs. The trade sector is expected to continue to increase its share of all jobs, but within the sector the pattern of job growth varies. Wholesale trade is projected to show only modest gains, while eating and drinking establishments in the retail portion enjoy more rapid growth. Although the anticipated rate of job increase for eating and drinking places is higher than for many other industries in the economy, it is still below the historical rate, due to an assumption of more rapid productivity gains. Other retail trade establishments are projected to average job

growth at about the same pace as the total private economy.

The greatest increase in employment opportunities over the next 11 years is expected to be in the trade sector, primarily because of its initial large size. Between 4.7 and 6.9 million new jobs are projected to appear in wholesale and retail trade establishments between 1979 and 1990.

Manufacturing growth to pick up. Manufacturing jobs will grow by 0.8 percent a year during 1979–90 in the low-trend version, 1.6 percent in high-trend I, and 1.0 percent in high-trend II, slower than the rates projected for total jobs but faster than manufacturing sector growth in recent years. Between 1969 and 1979, manufacturing employment rose by only 0.5 percent a year, and its share of total jobs dropped from 23.7 percent to 20.6 percent. Manufacturing will account for between 19.2 and 19.5 percent of all jobs in 1990.

The projected turnaround in the rate of manufacturing job growth is more pronounced for durable goods manufacturing than for nondurables, reflecting assumptions of strong demand for consumer durables and for producers' durable equipment, especially in the high-trend versions. Employment in durable manufacturing industries will expand by 1.0 percent a year during 1979–90 in the low-trend model, 1.9 percent in high-trend I, and 1.2 percent in high-trend II. Annual growth averaged only 0.7 percent in the 1969–79 period.

Within the durable goods sector, rapid job gains are projected for industries manufacturing typewriters and

other office equipment; computers; electric lighting and wiring equipment; and medical and dental instruments. Employment in guided missiles and space vehicles is projected to decline between 1979 and 1990, despite output growth related to defense demand, because of productivity advances.

In the motor vehicles industry, the high-trend assumption is for employment to rebound from the layoffs of 1980, but under low-trend assumptions, the recovery will not be as complete. In 1977, 1978, and 1979, em-

ployment in the industry hovered around the 1 million mark. In 1980, however, it plunged to 776,000. In the high-trend I case, these lost jobs are expected to be recouped and employment is projected to be 1.049 million in 1990. In the low-trend case, 1990 motor vehicle employment will be about 921,000.

The number of jobs in basic steel declined steadily during the 1970's, but is projected to stabilize over the next 10 years. Employment is expected to rise slightly from the 1979 level of 569,000 to between 583,000 and

Table 5. Employment by major sector, actual and projected, selected years, 1959-90

Industry sector	Thousands of jobs								
	Actual			Projected					
	1959	1969	1979	1985			1990		
				Low-trend	High-trend I	High-trend II	Low-trend	High-trend I	High-trend II
Total employment	70,512	86,278	104,120	113,775	118,981	114,935	121,971	130,665	123,958
General government ¹	9,973	14,818	16,523	17,587	17,587	17,441	18,106	18,106	17,886
Federal	4,289	5,614	4,223	4,355	4,355	4,209	4,429	4,429	4,209
Military	2,552	3,506	2,103	2,129	2,129	2,129	2,129	2,129	2,129
Civilian	1,737	2,108	2,120	2,226	2,226	2,080	2,300	2,300	2,080
State and local	5,684	9,204	12,300	13,232	13,232	13,232	13,677	13,677	13,677
Education	2,687	5,036	6,642	6,679	6,679	6,679	6,513	6,513	6,513
Noneducation	2,997	4,168	5,658	6,553	6,553	6,553	7,164	7,164	7,164
Total private	60,539	71,460	87,597	96,188	101,394	97,494	103,865	112,559	106,072
Agriculture	5,491	3,494	2,815	2,621	2,921	2,922	2,333	2,633	2,634
Nonagriculture	55,048	67,966	84,782	93,566	98,472	94,572	101,531	109,925	103,438
Mining	612	501	706	898	946	896	967	1,059	959
Construction	3,825	4,386	5,897	6,747	7,080	6,810	6,920	7,509	7,104
Manufacturing	16,985	20,469	21,433	22,609	23,855	22,895	23,476	25,520	23,905
Durable goods	9,560	12,081	13,009	13,833	14,644	14,036	14,560	16,045	14,872
Nondurable goods	7,425	8,388	8,424	8,775	9,210	8,859	8,916	9,475	9,033
Transportation, communications, and public utilities	4,304	4,718	5,535	5,903	6,213	5,898	6,239	6,815	6,241
Transportation	2,759	2,900	3,299	3,488	3,627	3,468	3,693	3,924	3,671
Communications	839	1,050	1,314	1,447	1,535	1,459	1,546	1,731	1,567
Public utilities	706	768	922	968	1,051	971	1,000	1,160	1,003
Wholesale and retail trade	13,245	16,704	22,377	24,868	26,150	24,961	27,032	29,231	27,445
Finance, insurance, and real estate	2,923	3,864	5,514	6,096	6,427	6,252	7,008	7,464	7,108
Other services	9,606	13,680	20,161	23,249	24,497	23,642	26,553	28,824	27,313
Government enterprises	974	1,322	1,436	1,606	1,681	1,625	1,758	1,911	1,778
Private households	2,574	2,322	1,723	1,586	1,618	1,592	1,576	1,593	1,587
	Percent distribution								
	Actual			Projected					
	1959	1969	1979	1985			1990		
				Low-trend	High-trend I	High-trend II	Low-trend	High-trend I	High-trend II
Total employment	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
General government ¹	14.1	17.2	15.9	15.5	14.8	15.2	14.8	13.9	14.4
Federal	6.1	6.5	4.1	3.8	3.7	3.7	3.6	3.4	3.4
Military	3.6	4.1	2.0	1.9	1.8	1.9	1.7	1.6	1.7
Civilian	2.5	2.4	2.0	2.0	1.9	1.8	1.9	1.8	1.7
State and local	8.1	10.7	11.8	11.6	11.1	11.5	11.2	10.5	11.0
Education	3.8	5.8	6.4	5.9	5.6	5.8	5.3	5.0	5.3
Noneducation	4.3	4.8	5.4	5.8	5.5	5.7	5.9	5.5	5.8
Total private	85.9	82.8	84.1	84.5	85.2	84.8	85.2	86.1	85.6
Agriculture	7.8	4.0	2.7	2.3	2.5	2.5	1.9	2.0	2.1
Nonagriculture	78.1	78.8	81.4	82.2	82.8	82.3	83.2	84.1	83.4
Mining	.9	.6	.7	.8	.8	.8	.8	.8	.8
Construction	5.4	5.1	5.8	5.9	6.0	5.9	5.7	5.7	5.7
Manufacturing	24.1	23.7	20.6	19.9	20.0	19.9	20.2	19.5	19.3
Durable goods	13.6	14.0	12.5	12.2	12.3	12.2	11.9	12.3	12.0
Nondurable goods	10.5	9.7	8.1	7.7	7.7	7.7	7.3	7.3	7.3
Transportation, communications, and public utilities	6.1	5.5	5.3	5.2	5.2	5.1	5.1	5.2	5.0
Transportation	3.9	3.4	3.2	3.1	3.0	3.0	3.0	3.0	3.0
Communications	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Public utilities	1.0	.9	.9	.9	.9	.8	.8	.9	.9
Wholesale and retail trade	18.8	19.4	21.5	21.9	22.0	21.7	22.2	22.4	22.1
Finance, insurance, and real estate	4.1	4.5	5.3	5.4	5.4	5.4	5.7	5.7	5.7
Other services	13.6	15.9	19.4	20.4	20.6	20.6	21.8	22.1	22.0
Government enterprises	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4
Private households	3.7	2.7	1.7	1.4	1.4	1.4	1.3	1.2	1.3

¹ National Income Accounts basis.

Table 6. Average annual percent change in employment by major sector, actual and projected, selected years, 1959-90

Industry sector	Actual		Projected					
	1959-69	1969-79	1979-85			1985-90		
			Low-trend	High-trend I	High-trend II	Low-trend	High-trend I	High-trend II
Total employment	2.0	1.9	1.5	2.3	1.7	1.4	1.9	1.5
General government ¹	4.0	1.1	1.0	1.0	.9	.6	.6	.5
Federal	2.7	-2.8	.5	.5	.0	.3	.3	.0
Military	3.2	-5.0	.2	.2	.2	.0	.0	.0
Civilian	2.0	.1	.8	.8	-.3	.7	.7	.0
State and local	4.9	2.9	1.2	1.2	1.2	.7	.7	.7
Education	6.5	2.8	.1	.1	.1	-.5	-.5	-.5
Noneducation	3.4	3.1	2.5	2.5	2.5	1.8	1.8	1.8
Total private	1.7	2.1	1.6	2.5	1.8	1.5	2.1	1.7
Agriculture	-4.4	-2.1	-1.2	.6	.6	-2.3	-2.1	-2.1
Nonagriculture	2.1	2.3	1.7	2.5	1.8	1.6	2.2	1.8
Mining	-2.0	3.5	4.1	5.0	4.0	1.5	2.3	1.4
Construction	1.4	3.0	2.3	3.1	2.4	.5	1.2	.8
Manufacturing	1.9	.5	.9	1.8	1.1	.8	1.4	.9
Durable goods	2.4	.7	1.0	2.0	1.3	1.0	1.8	1.2
Nondurable goods	1.2	.0	.7	1.5	.8	.3	.6	.4
Transportation, communications, and public utilities	.9	1.6	1.1	1.9	1.1	1.1	1.9	1.1
Transportation	.5	1.3	.9	1.6	.8	1.1	1.6	1.1
Communications	2.3	2.3	1.6	2.6	1.8	1.3	2.4	1.4
Public utilities	.8	1.8	.8	2.2	.9	.7	2.0	.6
Wholesale and retail trade	2.3	3.0	1.8	2.6	1.8	1.7	2.3	1.9
Finance, insurance, and real estate	2.8	3.6	1.7	2.6	2.1	2.8	3.0	2.6
Other services	3.6	4.0	2.4	3.3	2.7	2.7	3.3	2.9
Government enterprises	3.1	.8	1.9	2.7	2.1	1.8	2.6	1.8
Private households	-1.0	-2.9	-1.4	-1.0	-1.3	-.1	-.3	-.1

¹ National Income Accounts basis.

586,00 by 1990. An increase in steel jobs is projected despite an assumption that imports will account for a larger share of total steel output, because demand for basic steel products is expected to be strong in the next decade as the result of rapid investment growth.

The projected increase in nondurable goods employment, although positive compared to the zero growth posted during 1969-79, is much slower than the all-industries average. Nondurable goods industries accounted for 8.1 percent of all jobs in 1979, but are expected to represent only 7.3 percent in 1990.

In fact, 5 of the 10 industries with the greatest rate of projected job loss are in the nondurable goods sector. (See table 7.) The five industries have already experienced job declines either because of falling demand or rapid productivity growth, and these trends are expected to continue. Sluggish demand for leather tanning services and processed foods (especially dairy and bakery products) is expected to cause employment to fall; for alcoholic beverages and synthetic fibers, productivity gains are assumed to more than offset rapidly rising demand.

Employment in textiles will remain essentially unchanged from the 1979 level of 892,000 in the low-trend and high-trend II versions, and rise by about 65,000 jobs in high-trend I. Demand for textile products is projected to expand in all models, but imports are expected to hold a 6.7- to 7.5-percent market share 1990, somewhat larger than at present.

Jobs in apparel are projected to rise from 1.1 million to between 1.2 and 1.3 million between 1979 and 1990. Demand will increase with disposable incomes, out-

weighing the assumption that the import share of total apparel output will rise to between 14 and 16 percent.

Public sector growth will halt. Although most major economic sectors are expected to follow past trends in terms of shares of total jobs, State and local governments are an exception. Their employment share rose from 8.1 percent of the total in 1959 to 11.8 percent in 1979, but by 1990, it will account for 11.2 percent of all jobs in the low-trend version and 10.5 percent in high-trend I. The slow growth is expected to result primarily from reductions in school enrollment, which will more than offset gains expected in the public health and hospitals field.

Federal employment is assumed to change only slightly from the 1979 level, and in one case (high-trend II) is projected to decline. Government employment in high-trend I, the model with the largest labor force, is the same as in the low-trend model because of assumptions that investment and tax policies will allow the private sector to completely absorb the larger labor force.

Other sectors show mixed patterns. Finance, insurance, and real estate employment is projected to continue to rise as a share of total jobs during the 1980's, despite slower than average output growth. Demand for credit and banking services, in particular, is expected to stimulate employment growth in this area despite sluggish demand for real estate services.

The rate of employment increase in construction is projected to parallel the output trends discussed earlier, accelerating in the first half of the decade in response to

Table 7. Low-trend projected employment changes for selected industries, 1979-90

Fastest growing	Average annual rate of job growth
Other medical services	4.6
Typewriters and other office equipment	4.5
Computers and peripheral equipment	4.2
Coal mining	4.1
Hospitals	3.8
Crude petroleum and natural gas	3.6
Doctors' and dentists' services	3.4
Local government passenger transit	3.3
Other state and local government enterprises	3.2
Automobile repair	3.1
Most rapidly declining	Average annual rate of job decline
Dairy and poultry products	-3.3
Alcoholic beverages	-3.1
Leather tanning and industrial leather	-2.7
Logging	-2.4
Synthetic fibers	-2.1
Other agricultural products	-1.8
Railroad transportation	-1.7
Wooden containers	-1.6
Dairy products (processed)	-1.6
Bakery products	-1.5
Largest job gains	Employment gain (in thousands)
Eating and drinking places	1,912
Retail trade, except eating and drinking places	1,878
Hospitals	1,347
Miscellaneous business services	1,171
Other medical services	909
New construction	892
Wholesale trade	866
Doctors' and dentists' services	580
Banking	490
Educational services (private)	416

the shifting energy picture. Coal mining is projected to be one of the fastest growing of all industries during the next decade. Over the past 30 years, employment in the coal industry has experienced major cycles. Following severe job cutbacks between 1950 and 1965, employment stabilized during 1965-69, then expanded steadily over the next 10 years. Although a shift from underground mines to more capital-intensive surface mines will cause output per worker-hour to grow faster in the coal industry than in the private nonfarm economy as a whole, employment is expected to continue to rise rapidly in response to increased demand for coal. Annual growth of 4.1 to 5.4 percent is projected for 1979-90. In the crude petroleum and natural gas drilling industry, employment is expected to rise faster than domestic output, as exploration for new oil creates demand for more workers but yields a decreasing rate of return.

Previous projections for 1990

In April 1979, BLS published its first look at industry output and employment for the year 1990, in the form of a base case and a high-employment alternative. The first case, intended as a base-line projection, incorporated a moderately expanding labor force, a relatively slow decline in inflation and unemployment, and moderate government expenditures. The high-employment alternative assumed a much larger labor force, and a heavy emphasis on job creation which would lower the unemployment rate. What are the differences between

strong housing demand, then slowing somewhat during the second half as demand for residential construction tapers. Between 1.0 million (low-trend) and 1.6 million (high-trend I) new jobs will be added in the construction industry between 1979 and 1990.

Farm employment is expected to continue to decline through the next decade, but the drop is not expected to be as rapid as in the last few decades; in the high-trend versions there is even a small gain between 1979 and 1985. Past productivity advances in agriculture have been very great: Between 1959 and 1979, output per hour of all persons in the farm sector rose by almost 5 percent annually, compared with about 2 or 3 percent for the private nonfarm economy before 1973 and less than 1 percent a year thereafter. These advances have already begun to slow, however, and the continued tapering of increases in farm productivity during the 1980's is expected to moderate the rate of decline in farm jobs.

Mining job growth above average. The largest industries within the mining sector in terms of jobs—coal mining and crude petroleum and natural gas extraction—are expected to experience employment changes in line with

Table 8. Comparison of previous and current employment projections for 1990

Industry sector	[In thousands]			
	Previous Base case	Low-trend	High-trend I	High-trend II
Total employment	121,204	121,971	130,665	123,958
General government ¹	18,066	18,106	18,106	17,886
Federal	4,389	4,429	4,429	4,209
Military	2,089	2,129	2,129	2,129
Civilian	2,300	2,300	2,300	2,080
State and local	13,677	13,677	13,677	13,677
Education	6,513	6,513	6,513	6,513
Noneducation	7,164	7,164	7,164	7,164
Total private	103,138	103,865	112,559	106,072
Agriculture	2,634	2,333	2,633	2,634
Nonagriculture	100,504	101,531	109,925	103,438
Mining	787	967	1,059	959
Construction	6,033	6,920	7,509	7,104
Manufacturing	23,882	23,476	25,520	23,905
Durable goods	14,692	14,560	16,045	14,872
Nondurable goods	9,189	8,916	9,475	9,033
Transportation, communications, and public utilities	5,658	6,239	6,815	6,241
Transportation	3,332	3,693	3,924	3,671
Communications	1,473	1,546	1,731	1,567
Public utilities	1,104	1,000	1,160	1,003
Wholesale and retail trade	27,370	27,032	29,231	27,445
Finance, insurance, and real estate	6,695	7,008	7,464	7,108
Other services	26,742	26,553	28,824	27,313
Government enterprises	1,779	1,758	1,911	1,778
Private households	1,307	1,576	1,593	1,587

¹ National Income Accounts basis.

those initial 1990 forecasts and the present ones?

One important change has been the development of a range of possible values for 1990 rather than a single base-line case plus an alternate. The new low-trend and high-trend I versions are intended to present a band within which a "base case" might fall.

In addition, estimates of the 1990 civilian labor force have been revised upward in all of the new scenarios. (For both 1990 employment projections, BLS prepared three alternative labor force projections—a low growth path, a middle growth path, and a high growth path. The old base case and the new low-trend and high-trend II models were based on the BLS middle labor force growth path. The old high-employment alternative and the new high-trend I model were based on the high labor force growth path.) Between 1977, the last year for which data were available for the first projections, and 1979, the last year for which data were available for the new ones, labor force participation rates of women have risen faster than expected. Consequently, the new 1990 labor force projections are higher than the old ones for all three labor force scenarios:

	Old projection (000's)	New projection (000's)
Low growth path . . .	113,521	117,394
Middle growth path . .	119,366	122,375
High growth path . . .	125,603	128,123

Somewhat offsetting a larger labor force are new assumptions about the unemployment rate in light of the recent recession; except in the case of the 1990 high-trend I version, the new rates are higher than in the old projections:

	1985	1990
Old projections: Base case	4.7	4.5
High-employment alternative	4.0	4.0
New projections: Low-trend	7.0	6.0
High-trend I	5.5	4.0
High-trend II	6.0	4.5

Military force levels are virtually unchanged in the new scenarios from those previously assumed. The result is a projection of total employment for 1990 that is

higher than the old base case in all new scenarios:

	1985 (000's)	1990 (000's)
Old projections: Base case	114,440	121,204
High-employment alternative	119,627	128,400
New projections: Low-trend	113,775	121,971
High-trend I	118,981	130,665
High-trend II	114,935	123,958

At the industry level, the new assumptions raise the employment projections for most sectors, although the 1978-79 experience has altered the original outlook for many individual industries. For example, the synthetic fibers industry was projected to be one of the top 10 job gainers (in terms of rate of growth) in the first set of projections, but this time ranks among the top 10 losers. Rising prices which curbed demand, and gains in productivity contributed to this reversal.

The distribution of final demand also changed between the old and new scenarios, affecting both industry output and employment projections. Defense procurement was originally assumed to experience a slowdown during the 1980's but is now projected to increase its share of GNP; personal consumption expenditures are not expected to grow as rapidly as initially forecast; and levels of exports and imports are both higher in the new versions. These revisions contribute to a change in the 1990 distribution of output and jobs at the industry level. (See table 8.)

The earlier forecasts assumed a shift in energy resources from oil and gas to coal, as do the new forecasts, but oil price shocks have been even more severe than originally anticipated, leading to a more pronounced shift in the new projections.

And finally, the previous forecasts used Department of Commerce input-output tables for 1963 and 1967 and a BLS-estimated table for 1973. Subsequently, a 1972 input-output table was published by the Department of Commerce. Use of this table in the new projections resulted in widespread data revisions in many historical series and provided more current information on technological trends. □

— FOOTNOTES —

¹ *Annual Report to Congress, 1979, Volume 3*, (Energy Information Administration, U.S. Department of Energy, 1980).

² *Projections of the Population of the United States: 1977 to 2050, Current Population Reports*. Series P-25, No. 704 (Census Bureau 1977).

³ Government purchases are outlays for goods and services, while

government expenditures include not only purchases but also grants, transfers, and net interest payments.

⁴ *Projections of the Population of the United States: 1977 to 2050*.

⁵ *The Detailed Input-Output Structure of the U.S. Economy: 1972*, (U.S. Department of Commerce, Bureau of Economic Analysis, 1979).

Occupational employment growth through 1990

Three alternative sets of occupational employment projections for the 1978-90 period all show high growth for white-collar and service categories, but slow growth for blue-collar workers and decreases among farmworkers

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The Bureau of Labor Statistics has developed three sets of occupational employment projections for 1978 to 1990 based on varying outlooks of the future economy.¹ Although the assumptions that differentiate these scenarios result in various rates of growth for most jobs, changes in the occupational composition of total employment during these years are similar for all versions and generally correspond to past trends. Employment continues to expand more rapidly in service occupations than it does in other categories, and the number of farmworkers still declines. White-collar jobs increase faster than total employment in each scenario, and the number of blue-collar jobs grows slower than the total. However, growth rates are expected to vary greatly within these broad categories, because demographic changes, technological developments, and shifts in the demand for products and services affect major occupational categories differently. For example, anticipated decreases in the teenage population and increases in the number of elderly persons in the 1980's will reduce the need for secondary schoolteachers while increasing it for nurses.

Although the occupational structure of total employment in 1990 is similar in each version of the economy,

some occupations are more sensitive than others to the differences in underlying assumptions. Generally, jobs which are concentrated in manufacturing industries that produce durable goods are most affected, as projected increases in the demand for these goods vary greatly among the scenarios. In contrast, occupations which are concentrated in government are relatively unaffected, because projections of its total employment change very little from one version to another. None of the scenarios attempts to forecast cyclical employment fluctuations.

This article summarizes projections from the first national industry-occupation matrix to be developed on the basis of staffing patterns from the Occupational Employment Statistics Surveys. Previous matrices were based on the decennial census.²

The matrix is a major input to the Bureau's occupational outlook program which conducts research on future occupational requirements and resources for use in planning education and training programs and for career guidance and counseling. The results of the research are published in the *Occupational Outlook Handbook* and the *Occupational Outlook Quarterly*, which also contain information on the nature of work in different occupations, educational and training needs, earnings and working conditions, and other subjects of interest to people who are planning careers. The projections described in this article will be used in the 1982-83 edition of the *Handbook*, scheduled for release in spring 1982.

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Alternative scenarios

Three projections of economic growth for the 1980's have been developed by BLS. Referred to as the low-trend, high-trend I, and high-trend II scenarios, they are based on different assumptions concerning growth of the labor force, output, productivity, and other factors. The low-trend alternative assumes a decline in the rate of labor force expansion, continued high inflation, and modest increases in production and productivity. The two high-trend alternatives are more optimistic; both being based on large increases in the gross national product. Whereas scenario I assumes higher labor force growth, scenario II assumes greater productivity.

In all three alternatives, reductions in both personal income taxes and the effective corporate tax rate are expected to stimulate investment, and it is anticipated that expenditures for new equipment by the private sector will grow somewhat faster than other types of investment. Sharp increases in defense spending for materials and supplies are expected in the 1980's, but the nondefense portion of Federal purchases is foreseen to show no growth. Drastic cutbacks in imports of crude oil are assumed in each scenario. However, oil imports, as well as domestic output of crude oil and other fuels, are greater in the high-trend alternatives, reflecting the high overall levels of industrial production anticipated in these versions of the economy. More details about the assumptions and economic projections are given in other articles in this issue of the *Review*.

Total employment in the low-trend scenario increases by 22.5 percent between 1978 and 1990, from 97.6 to 119.6 million.³ In high-trend I, employment is expected to rise by 31 percent during the same period, to 127.9 million in 1990; in high-trend II, it is projected at 121.4 million, or 24.4 percent above the 1978 level. The rate of employment growth in high-trend I is somewhat faster than during the previous two decades, while the rates for the other two scenarios are slower.

Employment in white-collar occupations is expected to expand faster than total employment in each version of the economy. In the low-trend scenario, white-collar jobs rise from 48.6 million in 1978 to 60.7 million in 1990. The 1990 high-trend projections range from 61.6 to 64.7 million. Employment in blue-collar occupations is projected to grow slower than total employment in each version. Blue-collar jobs increase from 31.8 million in 1978 to 37.7 million in 1990 in the low-trend projection, while high-trend projections for 1990 range from 38.3 to 40.7 million.

Despite the difference in these estimates among the alternatives, the proportions of total employment accounted for by white-collar and blue-collar jobs do not change substantially. The former increases from 49.8 percent in 1978 to between 50.6 and 50.9 percent in

1990, while the latter declines from 32.6 percent in 1978 to between 31.8 and 31.5 percent in 1990.

Service workers continue to be the fastest growing major occupational category. The number of service jobs rises from 14.4 million in 1978 to 18.9 million in 1990 in the low-trend version, while the high-trend projections range from 19.2 to 20.1 million. The share of total jobs accounted for by service occupations increases from 14.8 percent in 1978 to between 15.7 and 15.8 percent in 1990. On the other hand, the number of farmworkers, is expected to continue declining. Their share of total jobs is projected to decrease from 2.8 percent in 1978 to between 1.9 and 1.8 percent in 1990.

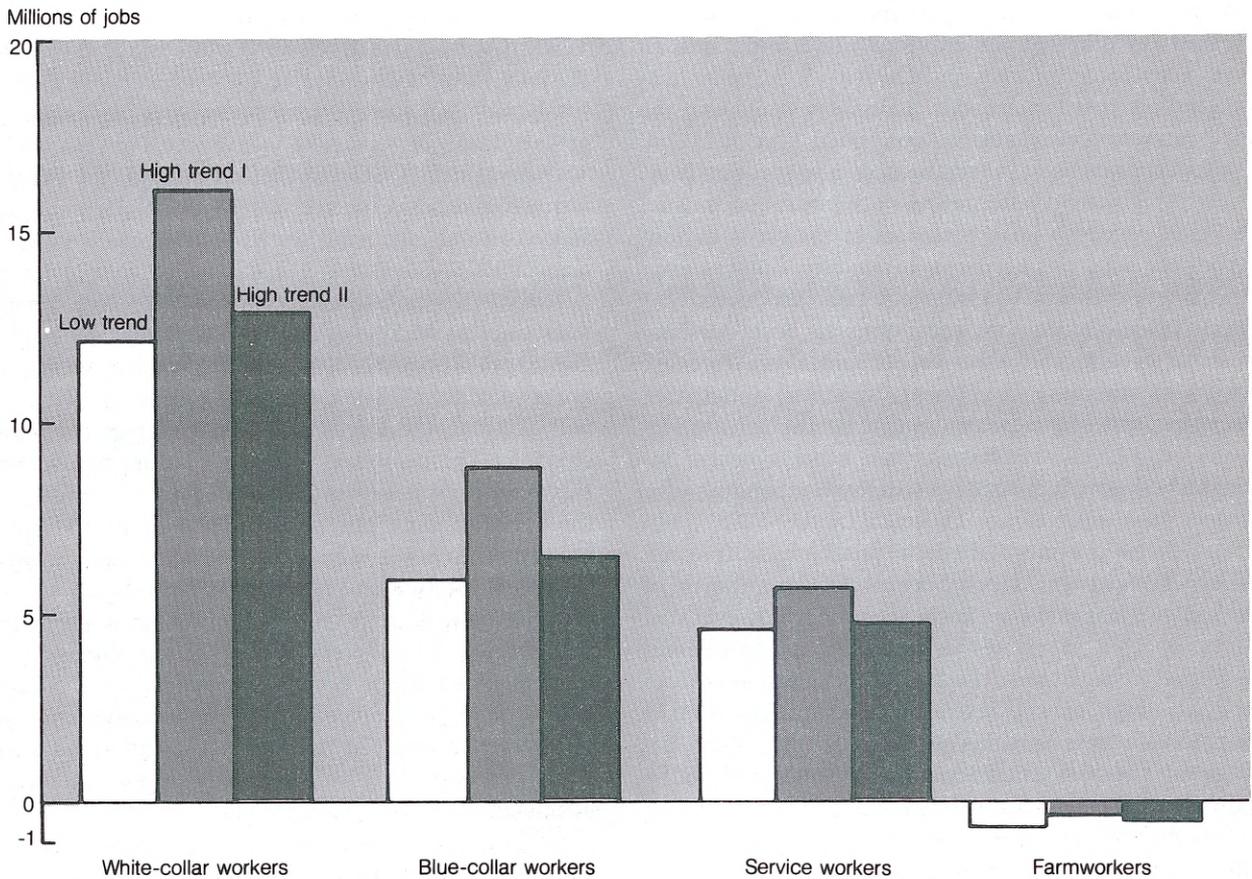
Although service occupations, with projected employment increases ranging between 31.4 and 39.3 percent, are expected to be the fastest growing occupational group during 1978-90, the largest number of new jobs will occur in the white- and blue-collar categories. (See chart 1.) The projected increase in white-collar jobs for this period ranges from about 12.1 to 16.1 million, and the corresponding range for blue-collar jobs is approximately 5.9 to 8.9 million. The number of new service jobs is expected to run between 4.5 and 5.7 million.

Job growth in blue-collar occupations is affected relatively more by differences among the three scenarios than in other major occupational categories. The number of new jobs projected for all occupations during 1978-90 is almost 22 million in the low-trend version, compared with 30.3 million in high-trend alternative I, a difference of 37.8 percent. However, the difference is 50.1 percent for blue-collar occupations alone. These occupations are sensitive to high-trend I because they are concentrated in manufacturing industries, and the demand for manufactured goods is relatively greater in this version of the economy. Demand for manufactured goods also is greater in the high-trend II scenario, but the need for additional blue-collar workers is moderated by the higher productivity gains assumed in this version. For all occupations, about 8.5 percent more new jobs are projected in high-trend II than in the low-trend scenario. The difference for blue-collar jobs is 10.3 percent. Job growth in the white-collar and service categories generally is less affected by differences in the scenarios than blue-collar job growth. However, among the major occupational groups and detailed occupations within these large categories, the sensitivity to these differences varies.

Growth among white-collar groups

Professional and technical workers. Employment in professional and technical jobs was 15.6 million in 1978—about 15.9 percent of the national total. Although this group includes a wide variety of occupations, generally requiring postsecondary education, approximately two-thirds of the jobs were accounted for by teachers, medi-

Chart 1. Job growth for major occupational categories under alternative economic projections, 1978-90



cal professionals, health technologists and technicians, engineers, and engineering and science technicians.

Over the past two decades, the professional and technical group has been one of the fastest growing occupational categories. For example, between 1966 and 1978 employment in this group increased almost twice as fast as it did in all occupations. Between 1978 and 1990, employment is projected to continue to rise faster than employment in all occupations in each of the alternative scenarios, but the difference is anticipated to be less than in the past. In the low-trend version of the economy, employment of professional and technical workers is projected to increase by 28.7 percent over the same period. The growth in the high-trend I version is 35.7 percent and that for high-trend II is 30.4 percent. (See table 1.)

While employment in professional and technical jobs as a whole is expected to increase faster than the average rate for all occupations, there will be significant

differences among individual fields. For example, employment in most medical and health occupations is projected to expand very rapidly, while in many teaching occupations it is expected to decline. Rising incomes and greater health consciousness will boost demand for health care, as will population growth—especially the substantial increase in the number of older people, who have more need for health services. During the 1980's, the number of persons age 75 and over is expected to advance from 9.4 to 12.0 million. As a result of these factors, opportunities for professional and technical workers in hospitals, clinics, laboratories, nursing homes, and other settings are likely to increase rapidly. Demand may be very high in rural areas and inner cities, as job openings in less desirable locations have traditionally been difficult to fill. In contrast to the rapid employment growth projected in the health field, jobs for secondary, college, and university teachers are expected to decrease somewhat as a result of the decline

in births that occurred in the 1960's and 1970's. Demand for secondary schoolteachers could fall precipitously in the Northeast and North Central States, where the Bureau of the Census projects a drop of close to 25 percent in the number of 15- to 19-year-olds between 1980 and 1990. A growing number of adults have entered college in recent years, but their enrollment is not expected to completely offset the decline in traditional-age college students. In contrast, a small increase in the demand for preschool, kindergarten, and elementary teachers is anticipated, reflecting recent increases in births, as a growing number of women enter the prime childbearing ages. More opportunities for adult education teachers are also foreseen.

The demand for professional and technical workers as a group is less sensitive to differences among the scenarios than the demand for workers in all occupations. However, within the professional and technical group, sensitivity varies. The demand for teachers is not affected significantly by differences in the scenarios. But alternative versions of the economy do have an impact on the projections for engineers and engineering and science technicians because these occupations are concentrated in manufacturing industries. Because the high-trend alternatives assume lower corporate tax rates and other incentives designed to stimulate business investment in new equipment, employment requirements in manufacturing industries which produce this equipment are higher. For example, in high-trend I, engineering employment is expected to rise by 553,000 between 1978 and 1990, compared with an increase of only 433,000 in the low-trend projection, which would mean about 27.7 percent more new jobs for engineers during the period.

Managers and administrators. The 8.8 million workers in this broad group in 1978 included managers and administrators at all levels of business and government, from corporate executives and government officials to managers of small businesses such as restaurants and repair shops. A relatively large proportion of managers—nearly 1 of 5—were self-employed.

Employment in this group is projected to grow more slowly than the average during 1978–90 in each scenario. Projected increases range from 19.1 percent in the low-trend version to between 21.3 and 27.9 percent in the high-trend alternatives. The demand for managers is more sensitive to the differences in the three scenarios than that for all occupations.

Despite an overall increase in the managerial group, the number of self-employed managers has been declining, and this trend is expected to continue in the low-trend and high-trend II scenarios. However, in high-trend I a small increase in self-employed managers is projected.

Salesworkers. Employment in sales occupations totaled approximately 6.4 million in 1978, or about 6.6 percent of employment in all occupations. Nearly half of these workers were concentrated in retail trade, and most of the remainder worked in manufacturing and in service industries such as finance, insurance, and real estate. Employment in sales jobs is projected to grow faster than the average for all occupations during 1978–90 in each version of the economy.

Employment of salesworkers rises from 6.4 to 8.0 million between 1978 and 1990 in the low-trend version, or 24.4 percent. Projected increases range from 25.8 to 34.5 percent in the high-trend versions. The demand for

Table 1. Employment by major occupational group, actual 1978, and alternative projections for 1990

[Numbers in thousands]

Occupational group	1978		1990						Percentage change in employment, 1978-90		
			Low-trend		High-trend I		High-trend II		Low-trend	High-trend I	High-trend II
	Number	Percent	Number	Percent	Number	Percent	Number	Percent			
Total	97,610	100.0	119,590	100.0	127,907	100.0	121,447	100.0	22.5	31.0	24.4
White-collar workers	48,608	49.8	60,730	50.9	64,712	50.6	61,570	50.7	24.9	33.1	26.7
Professional and technical workers	15,568	15.9	20,038	16.8	21,119	16.5	20,295	16.7	28.7	35.7	30.4
Managers and administrators	8,802	9.0	10,484	8.8	11,257	8.8	10,677	8.8	19.1	27.9	21.3
Salesworkers	6,420	6.6	7,989	6.7	8,632	6.8	8,079	6.7	24.4	34.5	25.8
Clerical workers	17,818	18.3	22,219	18.6	23,705	18.5	22,519	18.5	24.7	33.0	26.4
Blue-collar workers	31,812	32.6	37,720	31.5	40,694	31.8	38,330	31.6	18.6	27.9	20.5
Craft and kindred workers	11,705	12.0	14,366	12.0	15,555	12.2	14,668	12.1	22.7	32.9	25.3
Operatives	14,205	14.6	16,399	13.7	17,697	13.8	16,584	13.7	15.4	24.6	16.8
Nonfarm laborers	5,902	6.0	6,955	5.8	7,441	5.8	7,078	5.8	17.8	26.1	19.9
Service workers	14,414	14.8	18,946	15.8	20,074	15.7	19,220	15.8	31.4	39.3	33.3
Private household workers	1,160	1.2	982	0.8	993	0.8	988	0.8	-15.4	-14.4	-14.9
Other service workers	13,254	13.6	17,965	15.0	19,081	14.9	18,232	15.0	35.5	44.0	37.6
Farmworkers	2,775	2.8	2,193	1.8	2,426	1.9	2,327	1.9	-21.0	-12.6	-16.3

NOTE: Due to rounding, sums of individual items may not equal totals.

salespersons is slightly more sensitive to the differences in the low-trend and high-trend I scenarios than it is for workers in all occupations. However, differences between the low-trend and high-trend II scenarios have relatively little effect on the demand for salesworkers.

Clerical workers. Clerical occupations account for more jobs than any other occupational group. About 17.8 million persons or 18.3 percent of all workers, were in clerical occupations in 1978; nearly 1 of 5 clericals was either a secretary or a typist. Some other large occupations within this group were general office clerks, cashiers, bookkeepers, and stock clerks.

Employment of clerical workers is projected to grow faster than the average rate of employment growth in each version of the economy. Although office automation will enable clerical personnel to do more work in less time and change skill requirements for some jobs, continued increases in the demand for new workers are anticipated in most occupations. Demand should be particularly strong in the private sector, in industries such as retail trade, finance, insurance, real estate, legal services, and health services. At the same time, little increase in government employment of clericals is projected.

Employment in clerical occupations increased 24.7 percent between 1978 and 1990 in the low-trend version of the economy. In high-trend I, the projected increase is 33 percent, and in high-trend II, 26.4 percent. For clerical workers, demand is slightly less sensitive to the differences in the low-trend and high-trend I scenarios than it is for workers in all occupations. For example, the number of new clerical jobs in high-trend I is 33.8 percent greater than that projected in the low-trend version, compared with a difference of 37.8 percent for all occupations.

Growth among blue-collar groups

Craft and kindred workers. The 11.7 million craftworkers employed in 1978 represented about 12 percent of total employment. Construction trade workers and mechanics, the two largest occupational categories in the craft group, accounted for more than half of the group's employment. Other blue-collar categories are supervisors, metalworking craftworkers, and printing trades workers. Employment in the craft group is projected to increase slightly faster than the average rate for all occupations in each of the scenarios.

In the low-trend version of the economy, employment in the construction crafts grows from almost 3 million in 1978 to about 3.7 million in 1990, an increase of 27 percent. However, most of this growth is expected before 1985. Demand for homeownership that was thwarted during the recession years of 1975 and 1980 should

spur residential investment expenditures in the first half of the 1980's. However, after 1985 it is anticipated that the rate of new household formation will decline, reflecting the decrease in births that began in the 1960's. Business investment in construction of new plants and buildings is expected to offset some of the slack in residential construction during the late 1980's.

Employment of mechanics in the low-trend version is projected to rise from almost 3.8 to 4.8 million between 1978 and 1990, or 26.8 percent. However, rates of change vary considerably among the individual occupations. For example, the number of data processing machine mechanics is projected to increase 147.6 percent, while that of railroad car repairers is expected to decline. The number of workers in the metalworking crafts expands almost as fast as the average rate for all occupations in the low-trend version, but printing trades workers are projected to increase much more slowly than average. Improvements in printing technology have increased productivity and this trend should continue.

The demand for craftworkers is more sensitive to differences in the alternative scenarios than the demand for workers in all occupations. The projected number of new jobs for craftworkers in the high-trend alternatives is 11.3 to 44.7 percent higher than in the low-trend version. In comparison, the projected number of new jobs in all occupations in the high-trend alternatives ranged from 8.5 to 37.8 percent greater than those in the low-trend version of the economy.

Craft occupations that are concentrated in manufacturing industries, such as the metalworking crafts and printing trades, are particularly sensitive to differences in the scenarios. For example, employment in metalworking crafts increases by 283,000 in the high-trend I projection, which is 65 percent greater than the projected increase of 172,000 in the low-trend version. A large proportion of metalworking craft employment is found in factories that produce equipment for business and industrial use. Because growth in investment for equipment is much faster in high-trend I, employment requirements will be greater in most industries that manufacture fabricated metal products, machinery, electrical equipment, and transportation equipment. In some industries, the number of new metalworking craft jobs in high-trend I is more than twice the number in the low-trend version.

Operatives. Included in this group are many of the blue-collar workers associated with manufacturing and transportation operations. About 14.2 million operatives were employed in 1978. More than 80 percent worked at manufacturing jobs such as assembler, machine tool operator, welder, and inspector. Outside of manufactur-

ing, operatives were concentrated in transportation and trade. Many were transport equipment operators, such as truck or bus drivers.

Employment of operatives is projected to grow slower than the average for all occupations in the 1978-90 period. More efficient production as a result of greater investment in new plants and equipment should limit increases in the demand for operatives in factories. However, growth rates for individual occupations will vary, depending on the particular industries in which they are employed. Generally, occupations that are concentrated in the durable goods sector are projected to grow faster than those in industries that make nondurable goods. As family incomes rise, consumers are expected to spend an increasing proportion of income on automobiles, furniture, and other durable goods, and a decreasing proportion on nondurables, such as food and basic clothing.

High-trend alternative I affects the growth of operatives more than that of any other occupational group. In the low-trend version, operative employment is projected at 6.4 million in 1990, an increase of 2.2 million over the 1978 level. The anticipated operative growth in high-trend I is 3.5 million, or 59.2 percent greater than the low-trend number. By comparison, the gain in growth for all occupations is only 37.8 percent. On the other hand, high-trend alternative II results in only an 8.3-percent greater number of new jobs than the low-trend version, which is about the same as the percentage gain for all occupations under this alternative.

Manufacturing output is much greater in high-trend I than in the low-trend scenario, which results in a higher demand for operatives, although the difference in the employment projections is moderated by the assumption that productivity will also be greater. In contrast, the dissimilarity in the two high-trend employment projections for operatives is largely a result of different projected increases in manufacturing productivity. Between 1978 and 1990, productivity in manufacturing industries rises 33.7 percent in alternative II compared with 26.3 percent in alternative I. A slightly higher rate of increase in manufacturing output in alternative I also contributes to the difference in the employment projections.

Service workers

Service workers, except private household. Numbering 13.2 million in 1978, these service jobs accounted for about 13.6 percent of total employment. Employment in this group is expected to increase faster than in any other occupational group through the 1980's in each scenario of the economy. Projected 1978-90 increases range from 35.5 percent in the low-trend version to 44 percent in high-trend I. Employment growth is expected to be particularly rapid in food service occupations,

to be such as waiters' assistants and in health service occupations, such as nurses' aides and medical assistants. The greater health care needs of a growing elderly population will spur demand for service workers in hospitals and nursing homes. The demand for food service workers should also grow as incomes rise and more families have both husbands and wives working. Employment of police officers, firefighters, and most other protective service workers is projected to grow slower than the average for service occupations, but faster than that for all occupations. Projected growth rates are mixed among personal service occupations. For example, rapid increases in the demand for childcare workers and welfare service aides are anticipated, but only moderate increases in employment are expected for barbers and cosmetologists.

Demand for this group of service workers is less sensitive to differences in the three scenarios than for most other occupational groups. For example, employment in the high-growth projection I is only 23.7-percent greater than employment in the low-growth projection, compared with the 37.8-percent difference for all occupations. It is assumed that the additional increases in personal income in the high-trend versions will be spent primarily on goods rather than on services.

Private household workers. In contrast to the rapid employment gain anticipated for other service workers, the number of private household workers is projected to decrease from almost 1.2 million in 1978 to between 993,000 and 982,000 in 1990. A continued decline is expected, despite an increase in job opportunities for private household workers. The demand for maids and other private household workers should rise as more women work outside the home and personal incomes rise, but fewer people will seek employment in private households because of low wages, lack of advancement opportunities, and low social status associated with these jobs.

Farmworkers

More than half of the almost 2.8 million farmworkers employed in 1978 were farmers, including both owners and tenant farmers; most of the remainder were farm laborers. A small proportion were managers and supervisors. Employment of farmworkers has declined for decades as farm productivity has risen as a result of larger, more efficient farms, improvements in mechanized equipment, and technological innovations in seed, feed, and fertilizer. Continued drops in the number of farmworkers are expected through the 1980's. In the low-trend version, employment falls, from almost 2.8 million in 1978 to 2.2 million in 1990, a decrease of 21 percent. The projected declines are more moderate in

the high-trend versions, 12.6 percent in I and 16.3 percent in II. The number of farmers is projected to fall less rapidly than the number of farm laborers in each alternative.

Detailed occupations

Table 2 presents 1978–90 employment projections for all detailed occupations in the industry-occupation matrix with employment of 25,000 or more in 1978.⁴ Approximately 340 occupations were in this category, and they accounted for about three-fourths of total employment in 1978. Projected rates of employment change for these selected occupations cover broad ranges in the three scenarios. For example, low-trend projections run from a 25.4-percent decline for farm laborers to a 147.6-percent increase for data processing machine mechanics. Rankings of occupations by projected growth rates are very similar for the three scenarios. The following list presents the 20 most rapidly growing detailed occupations among the low-trend projections:

<i>Occupation</i>	<i>Percent growth in employment, 1978–90</i>
Data processing machine mechanics	147.6
Paralegal personnel	132.4
Computer systems analysts	107.8
Computer operators	87.9
Office machine and cash register servicers	80.8
Computer programmers	73.6
Aero-astronautic engineers	70.4
Food preparation and service workers, fast food restaurants	68.8
Employment interviewers	66.6
Tax preparers	64.5
Correction officials and jailers	60.3
Architects	60.2
Dental hygienists	57.9
Physical therapists	57.6
Dental assistants	57.5
Peripheral EDP equipment operators	57.3
Child-care attendants	56.3
Veterinarians	56.1
Travel agents and accommodations appraisers	55.6
Nurses' aides and orderlies	54.6

In high-trend alternative I, correction officials and jailers, dental hygienists, and dental assistants drop off the list of the 20 fastest growing occupations, and are replaced by real estate sales agents and representatives, dental lab technicians, and security sales agents and representatives. In high-trend II, dental assistants and travel agents drop off the list and are replaced by real estate sales agents and representatives, and economists. However, in both high-trend alternatives the displaced occupations remain among the 30 fastest growing.

The rank of occupations by growth in numbers of jobs also changes little from one scenario to another. The 20 occupations with the largest numbers of new

jobs in the low-trend version are presented in the list which follows. In both high-trend alternatives, licensed practical nurses drop from this list (but remain in the top 25), and are replaced by carpenters:

<i>Occupation</i>	<i>Growth in employment (in thousands), 1978–90</i>
Janitors and sextons	671.2
Nurses' aides and orderlies	594.0
Sales clerks	590.7
Cashiers	545.5
Waiters/waitresses	531.9
General clerks, office	529.8
Professional nurses	515.8
Food preparation and service workers, fast food restaurants	491.9
Secretaries	487.8
Truckdrivers	437.6
Kitchen helpers	300.6
Elementary schoolteachers	272.8
Typists	262.1
Accountants and auditors	254.2
Helpers, trades	232.5
Blue-collar worker supervisors	221.1
Bookkeepers, hand	219.7
Licensed practical nurses	215.6
Guards and doorkeepers	209.9
Automotive mechanics	205.3

The low-trend version projects employment declines for 22 of the detailed occupations and high-trend II projects drops for 21; the rankings by rates of decline are similar for both scenarios. The number of occupations with projected employment decreases falls to 18 in high-trend I. However, the reversals in the direction of change are not dramatic, and usually make relatively little difference in the projected employment levels.

New data base

The method used by BLS to develop occupational projections requires two basic inputs—projected employment by industry at a detailed industry level and projected occupational staffing patterns at the same industry detail. The occupational projections prepared by BLS are obtained by applying the projected occupational staffing patterns to the related industry employment projections and summing across the detailed industries.⁵ The Bureau has used this procedure to develop national occupational projections since the mid-1960's.⁶

During the 1960's and 1970's, decennial census data were the primary data source for developing occupational staffing patterns of industries. These patterns were based largely on trends in the census data from decade to decade. However, because census data are collected only every 10 years, they were considered inadequate for analyzing trends in industry staffing patterns. In the 1970's, the Bureau initiated the Occupa-

Table 2. Civilian employment in occupations with 25,000 workers or more, actual 1978 and projected 1990

Occupation	Employment (in thousands)				Percent change, 1978-90		
	1978	1990 Low-trend	1990 High-trend I	1990 High-trend II	Low-trend	High-trend I	High-trend II
Total, all occupations	97,610	119,590	127,907	121,447	22.52	31.04	24.42
Professional, technical, and related workers	15,570	20,038	21,119	20,295	28.70	35.64	30.34
Engineers	1,071	1,504	1,624	1,531	40.41	51.61	42.92
Aero-astronautic engineers	57	98	104	100	70.35	80.86	74.81
Chemical engineers	53	68	73	70	28.92	37.70	31.80
Civil engineers	149	208	218	211	39.38	45.59	40.97
Electrical engineers	291	441	479	448	51.18	64.41	53.90
Industrial engineers	109	146	159	148	34.03	46.49	36.37
Mechanical engineers	199	274	300	279	37.56	50.67	40.18
Life and physical scientists	236	299	316	304	26.44	33.63	28.70
Biological scientists	42	51	54	53	21.82	28.86	24.98
Chemists	90	113	120	115	24.95	32.19	27.23
Geologists	33	50	53	51	52.08	61.36	52.69
Engineering and science technicians	1,160	1,577	1,700	1,609	35.97	46.54	38.73
Drafters	293	412	446	419	40.59	52.25	43.20
Electrical and electronic technicians	319	464	512	478	45.42	60.24	49.79
Industrial engineering technicians	31	40	44	41	30.37	41.33	32.09
Mechanical engineering technicians	45	61	67	62	35.96	49.67	38.75
Surveyors	54	73	78	76	35.19	44.73	39.91
Medical workers, except technicians	2,026	2,928	3,094	2,954	44.55	52.77	45.83
Dentists	149	208	223	212	39.59	49.24	42.37
Dietitians	41	61	65	62	49.69	58.61	53.43
Nurses, professional	1,026	1,542	1,618	1,551	50.28	57.69	51.20
Optometrists	25	33	36	33	29.66	40.65	31.20
Pharmacists	140	159	171	157	13.36	22.36	12.10
Physicians, medical and osteopathic	447	626	665	631	39.98	48.70	41.23
Therapists	139	210	220	213	51.51	58.67	53.19
Physical therapists	31	49	52	50	57.63	66.46	59.73
Speech and hearing clinicians	34	52	53	52	54.50	58.29	55.33
Veterinarians	30	47	51	50	56.13	70.27	66.11
Health technologists and technicians	1,246	1,811	1,906	1,820	45.34	52.93	46.03
Dental assistants	123	193	198	191	57.48	60.95	55.91
Dental hygienists	53	84	86	84	57.92	61.42	56.38
Health records technologists	30	44	46	44	47.10	53.57	47.26
Licensed practical nurses	491	707	752	717	43.89	52.98	45.96
Medical technicians	82	119	127	119	46.04	55.31	46.36
Medical lab technologists	98	141	149	141	43.90	52.70	44.32
Surgical technicians	30	44	46	44	48.13	54.63	48.00
X-ray technicians	86	126	133	126	47.44	54.71	47.21
Technicians, excluding health, science, and engineering	271	343	362	347	26.82	33.78	28.11
Airplane pilots	74	94	101	96	27.00	35.47	28.81
Air traffic controllers	28	34	34	34	21.67	24.18	21.93
Technical assistants, library	34	48	49	48	42.07	42.78	41.71
Computer specialists	389	738	793	754	89.83	104.05	93.94
Computer programmers	204	354	381	361	73.57	86.90	77.22
Computer systems analysts	185	384	412	392	107.75	122.97	112.38
Social scientists	176	243	256	248	38.12	45.51	41.26
Economists	27	41	43	42	54.17	62.93	56.30
Psychologists	78	107	111	109	36.79	42.69	39.31
Teachers	3,877	4,079	4,113	4,074	5.22	6.09	5.08
Adult education teachers	105	123	126	124	18.02	20.75	18.31
College and university teachers	618	557	560	556	-9.78	-9.30	-9.97
Teachers, vocational education and training	26	33	34	33	26.49	30.29	26.85
Teachers, college	454	409	410	408	-10.06	-9.72	-10.28
Graduate assistants	131	110	110	109	-16.45	-16.13	-16.65
Elementary schoolteachers	1,277	1,550	1,556	1,546	21.37	21.82	21.08
Preschool and kindergarten teachers	455	574	579	572	26.16	27.31	25.75
Secondary schoolteachers	1,229	1,071	1,075	1,068	-12.87	-12.54	-13.08
Selected writers, artists, and entertainers	888	1,117	1,198	1,134	25.78	34.93	27.75
Commercial artists	100	122	134	126	22.25	33.97	26.58
Designers	169	194	212	190	15.22	25.49	12.87
Musicians, instrumental	126	160	166	166	27.15	31.73	31.67
Photographers	77	104	113	104	35.95	47.21	35.30
Public relations specialists	81	102	109	104	26.06	34.81	29.15
Radio and TV announcers	46	66	68	66	43.02	48.74	43.35
Reporters and correspondents	54	68	74	70	27.59	37.44	31.25
Sports instructors	34	41	43	41	20.16	26.64	20.56
Writers and editors	109	142	155	146	30.33	41.59	34.03
Other professional and technical workers	4,183	5,338	5,692	5,457	27.61	36.07	30.46
Accountants and auditors	777	1,031	1,107	1,055	32.72	42.50	35.83
Appraisers, real estate	32	47	50	48	46.38	56.88	49.79
Architects	66	106	112	109	60.20	70.18	64.53
Assessors	30	38	38	38	28.03	30.27	28.26
Buyers, retail and wholesale trade	238	296	320	298	24.37	34.15	25.13
Caseworkers	236	338	350	346	43.32	48.42	46.57
Clergy	287	292	313	301	1.67	9.19	5.12
Community organization workers	49	71	74	73	46.74	51.38	49.76
Cost estimators	80	105	112	108	31.60	40.84	34.94
Directors, religious education and activities	36	37	40	38	3.29	11.13	6.96
Employment interviews	51	86	95	88	66.59	85.55	72.02

Table 2. Continued—Civilian employment in occupations with 25,000 workers or more, actual 1978 and projected 1990

Occupation	Employment (in thousands)				Percent change, 1978-90		
	1978	1990 Low-trend	1990 High-trend I	1990 High-trend II	Low-trend	High-trend I	High-trend II
Foresters	26	32	34	33	22.15	27.33	25.25
Law clerks	30	43	48	44	44.04	62.47	49.85
Lawyers	380	524	580	543	37.85	52.71	43.05
Paralegal personnel	28	66	75	69	132.35	165.68	142.99
Librarians	130	139	142	140	6.78	8.76	7.12
Personnel and labor relations specialists	169	205	217	208	21.06	28.21	22.86
Purchasing agents and buyers	164	200	214	202	21.96	30.69	23.69
Recreation workers, group	121	152	160	157	26.41	32.63	29.99
Tax examiners, collectors, and revenue agents	50	60	61	60	19.39	21.65	19.61
Tax preparers	29	47	54	51	64.52	87.75	77.93
Travel agents and accommodations appraisers	45	70	74	70	55.64	65.46	56.06
Underwriters	70	90	93	90	28.40	33.86	28.98
Vocational and educational counselors	202	212	215	213	4.66	6.29	5.27
Managers, officials, and proprietors	8,802	10,484	11,257	10,677	19.10	27.89	21.31
Auto parts department managers	48	54	59	59	13.20	23.01	23.28
Auto service department managers	60	69	75	75	15.02	24.97	25.46
Construction inspectors, public administration	44	61	62	61	37.37	39.81	37.62
Inspectors, excluding construction, public administration	104	125	128	125	20.58	22.88	20.82
Postmasters and mail superintendents	28	29	30	29	4.07	7.92	4.84
Railroad conductors	33	31	34	32	-6.63	2.93	-5.52
Restaurant, cafe, and bar managers	499	642	680	650	28.65	36.25	30.27
Sales managers, retail trade	261	323	351	323	24.14	34.83	23.93
Store managers	926	1,102	1,183	1,107	18.95	27.76	19.52
Wholesalers	234	279	307	284	19.60	31.35	21.42
Salesworkers	6,443	7,989	8,632	8,079	23.99	33.97	25.40
Real estate brokers	34	48	52	49	42.34	55.92	44.47
Sales agents and representatives, real estate	255	394	430	400	54.09	68.42	56.74
Sales agents and representatives, insurance	310	399	420	405	28.61	35.66	30.81
Sales agents and representatives, security	55	80	92	88	45.79	66.81	60.70
Sales clerks	2,771	3,362	3,601	3,362	21.32	29.96	21.32
Clerical workers	17,820	22,219	23,705	22,519	24.69	33.03	26.37
Adjustment clerks	37	45	48	46	23.89	29.83	24.57
Bank tellers	440	601	619	606	36.40	40.61	37.51
New accounts tellers	48	65	67	66	34.65	39.23	36.57
Tellers	392	536	552	540	36.62	40.78	37.62
Bookkeepers and accounting clerks	1,628	1,982	2,131	2,014	21.79	30.95	23.72
Accounting clerks	700	835	895	845	19.27	27.82	20.74
Bookkeepers, hand	927	1,147	1,236	1,168	23.69	33.32	25.96
Cashiers	1,501	2,046	2,165	2,070	36.35	44.27	37.96
Claims adjusters	65	95	98	95	46.63	51.65	47.21
Claims clerks	63	92	96	93	47.26	52.78	48.06
Claims examiners, insurance	38	58	59	58	51.53	54.74	52.29
Clerical supervisors	402	518	552	526	29.01	37.45	30.81
Collectors, bill and account	85	108	119	113	26.52	39.53	32.26
Credit clerks, banking and insurance	47	62	68	66	31.00	43.91	39.79
Desk clerks, except bowling floor	75	97	109	98	29.27	46.09	30.91
Dispatchers, police, fire, and ambulance	46	60	61	60	28.22	30.47	28.45
Dispatchers, vehicle service or work	89	108	116	107	21.58	29.62	20.55
Eligibility workers, welfare	30	38	39	39	29.67	32.16	30.28
File clerks	251	328	349	332	30.77	39.31	32.42
General clerks, office	2,269	2,799	3,002	2,839	23.35	32.28	25.11
Insurance clerks, medical	63	93	97	92	46.69	53.95	45.77
Library assistants	117	128	129	128	8.77	9.98	8.74
Mail carriers, postal service	237	260	270	262	9.77	13.83	10.58
Mail clerks	75	94	99	96	25.19	31.61	27.50
Marking clerks, trade	44	54	57	55	21.24	27.88	23.46
Messengers	47	60	64	61	28.24	37.38	31.97
Meter readers, utilities	28	32	38	32	14.64	33.57	15.04
Office machine operators	842	1,133	1,211	1,147	34.52	43.85	36.21
Bookkeeping and billing operators	218	283	301	283	29.84	37.92	29.41
Bookkeeping, billing machine operators	166	212	228	212	27.72	37.57	27.63
Proof machine operators	44	60	61	59	37.07	39.56	35.56
Computer, peripheral equipment operators	215	389	415	397	81.32	93.19	84.73
Computer operators	169	317	338	323	87.90	100.74	91.71
Peripheral EDP equipment operators	46	72	76	73	57.26	65.55	59.15
Duplicating machine operators	31	38	41	39	22.46	31.01	24.56
Key punch operators	295	316	341	321	7.03	15.56	8.78
Order clerks	240	289	316	288	20.25	31.49	19.88
Payroll and timekeeping clerks	172	211	226	214	22.13	31.01	24.08
Personnel clerks	90	111	118	113	23.40	30.14	24.79
Postal clerks	310	309	321	312	-28	3.41	.46
Procurement clerks	39	46	50	47	19.53	28.38	20.72
Production clerks	192	234	257	238	22.33	34.03	24.48
Raters	51	63	66	64	23.56	28.73	24.14
Receptionists	369	505	540	511	37.00	46.36	38.57
Reservation agents	52	55	59	56	6.64	13.57	7.48
Secretaries, stenographers, and typists	3,574	4,383	4,678	4,458	22.65	30.89	24.72
Secretaries	2,319	2,807	3,007	2,860	21.03	29.64	23.31
Stenographers	262	322	341	326	22.76	30.20	24.46
Typists	993	1,255	1,330	1,271	26.40	33.98	28.09
Shipping and receiving clerks	378	448	488	452	18.52	28.92	19.38

Table 2. Continued—Civilian employment in occupations with 25,000 workers or more, actual 1978 and projected 1990

Occupation	Employment (in thousands)				Percent change, 1978-90		
	1978	1990 Low-trend	1990 High-trend I	1990 High-trend II	Low-trend	High-trend I	High-trend II
Shipping packers	340	398	431	401	17.10	26.90	17.99
Statement clerks	30	44	45	44	45.76	49.57	45.81
Statistical clerks	81	95	101	96	16.85	24.09	18.23
Stock clerks, stockroom and warehouse	787	964	1,043	977	22.44	32.47	24.16
Survey workers	40	48	52	49	17.84	27.72	21.46
Switchboard operators/receptionists	219	276	298	282	25.96	36.08	28.71
Teacher's aides, except monitors	404	497	500	495	23.00	23.79	22.59
Telephone operators	312	376	414	382	20.60	32.58	22.54
Switchboard operators	171	218	234	222	27.65	37.18	30.05
Central office operators	101	113	128	114	11.24	26.08	12.62
Directory assistance operators	35	40	45	40	13.47	28.59	14.85
Ticket agents	49	51	54	51	3.75	10.11	4.61
Town clerks	25	33	34	33	28.55	30.80	28.78
Weighers	35	42	45	42	17.92	26.90	19.15
Crafts and related workers	11,679	14,366	15,555	14,668	23.01	33.19	25.60
Construction craftworkers	2,950	3,747	4,037	3,841	27.04	36.85	30.24
Brickmasons	144	204	220	211	41.71	52.76	46.35
Carpenters	979	1,183	1,274	1,228	20.82	30.17	25.46
Carpet cutters and layers	50	65	72	67	29.41	43.35	33.48
Ceiling tile installers and floor layers	25	35	38	36	36.88	50.70	41.16
Concrete and terrazzo finishers	113	152	164	157	34.61	44.96	38.82
Dry wall installers and lathers	92	125	135	128	35.46	46.23	38.99
Dry wall applicators	51	70	76	72	39.20	50.46	43.19
Tapers	30	42	46	43	40.68	51.68	43.66
Electricians	516	678	726	693	31.44	40.77	34.33
Glaziers	35	48	51	49	35.53	44.62	40.02
Painters, construction and maintenance	363	436	477	429	20.02	31.27	18.25
Plumbers and pipefitters	375	492	526	504	31.06	40.04	34.40
Roofers	99	130	139	133	31.05	40.91	35.03
Structural steel workers	67	90	95	92	33.07	40.57	36.37
Mechanics, repairers, and installers	3,758	4,764	5,157	4,863	26.77	37.24	29.40
Air conditioning, heating, and refrigerator mechanics	165	213	230	216	29.04	39.10	30.65
Aircraft mechanics	97	125	133	126	28.32	36.20	29.47
Auto body repairers	154	189	201	193	22.67	30.40	25.13
Automotive mechanics	847	1,052	1,124	1,082	24.25	32.71	27.77
Coin machine servicers and repairers	27	29	31	25	9.53	16.43	-7.79
Data processing machine mechanics	63	156	172	162	147.62	173.02	157.14
Diesel mechanics	166	214	227	214	29.29	37.24	29.36
Electric power line installers and repairers	157	189	215	192	20.33	36.28	22.12
Cable splicers	40	48	54	48	18.54	34.14	19.99
Line installers and repairers	110	133	151	136	21.30	37.45	23.24
Engineering equipment mechanics	86	104	112	107	20.83	30.45	24.90
Gas and electric appliance repairers	57	70	78	70	21.39	35.29	21.24
Instrument repairers	36	42	45	42	14.62	24.03	15.79
Maintenance mechanics	346	411	439	418	18.83	27.06	21.10
Maintenance repairers, general utility	626	785	846	795	25.52	35.18	27.01
Millwrights	93	108	114	109	15.47	22.39	16.79
Office machine and cash register servicers	49	89	96	91	80.78	96.24	86.69
Radio and television repairers	81	112	122	117	37.56	49.60	44.10
Railroad car repairers	30	24	27	25	-18.81	-10.47	-17.85
Telephone installers and repairers	228	273	310	277	20.21	36.29	21.85
Central office repairers	47	56	63	57	19.40	35.31	20.86
Installers, repairers, and section maintainers	69	83	94	84	20.36	36.34	22.01
Station installers	55	65	74	66	19.62	35.61	21.11
Metalworking craftworkers, except mechanics	909	1,081	1,192	1,106	18.96	31.11	21.69
Boilermakers	42	52	57	54	25.56	36.70	30.12
Heat treaters, annealers, and temperers	25	29	32	30	16.06	25.79	16.70
Machine tool setters, metalworking	57	66	74	67	16.10	29.85	18.52
Machinists	272	323	358	331	18.82	31.66	21.95
Sheet metal workers and tinsmiths	205	261	280	267	27.57	36.95	30.63
Tool and die makers	166	192	221	197	15.96	33.10	18.79
Printing trades craftworkers	386	442	476	458	14.72	43.55	18.72
Compositors and typesetters	123	121	130	124	-1.92	5.96	1.03
Press and plate printers	168	197	211	204	17.42	25.92	21.68
Letter press operators	36	39	42	40	8.99	17.88	13.64
Offset lithographic press operators	75	92	99	96	22.55	31.91	27.61
Press operators and plate printers	35	41	43	42	16.10	21.82	17.87
Other crafts and related workers	3,677	4,332	4,693	4,400	17.82	27.64	19.67
Bakers	60	72	76	74	20.11	27.22	22.97
Blue-collar worker supervisors	1,274	1,495	1,616	1,520	17.36	26.87	19.33
Cabinetmakers	72	89	95	88	22.96	31.00	21.36
Crane, derrick, and hoist operators	126	146	157	149	15.72	23.73	17.75
Dental lab technicians	48	69	79	71	44.91	67.04	48.65
Furniture upholsterers	30	38	43	39	27.31	41.84	31.43
Heavy equipment operators	431	546	598	560	26.57	38.65	29.83
Inspectors	475	544	595	554	14.70	25.43	16.73
Jewelers and silversmiths	29	32	35	31	10.74	21.54	7.24
Merchandise displays and window trimmers	26	31	33	32	17.84	26.30	20.68
Opticians	30	42	46	41	38.61	50.56	34.65
Sewage plant operators	38	43	45	43	15.01	18.28	15.26
Stationary engineers	60	68	72	68	13.48	19.89	14.40

Table 2. Continued—Civilian employment in occupations with 25,000 workers or more, actual 1978 and projected 1990

Occupation	Employment (in thousands)				Percent change, 1978-90		
	1978	1990 Low-trend	1990 High-trend I	1990 High-trend II	Low-trend	High-trend I	High-trend II
Tailors	66	75	83	77	14.34	25.05	16.75
Testers	105	120	130	122	14.55	23.83	16.48
Water treatment plant operators	27	32	33	32	15.98	21.15	16.30
Operatives	14,205	16,399	17,697	16,584	15.44	24.58	16.75
Assemblers	1,672	1,997	2,192	2,029	19.44	31.07	21.33
Electrical and electronic assemblers	207	278	305	281	34.24	47.30	36.07
Electro-mechanical equipment assemblers	53	69	78	71	29.89	46.37	32.13
Machine assemblers	100	124	144	127	24.76	44.67	27.48
Bindery operatives	81	86	94	90	6.57	15.63	10.72
Bindery workers, assembly	41	43	47	45	6.64	15.99	10.95
Laundrying, drycleaning, and pressing machine operators	316	356	404	375	12.48	27.76	18.68
Laundry operators, small establishment	34	48	53	49	39.62	56.00	44.80
Pressers:							
Hand	30	32	36	33	7.18	19.30	10.79
Machine	54	56	65	59	2.41	18.80	8.76
Machine, laundry	66	74	84	78	11.76	26.65	18.08
Washers, machine and starchers	56	79	87	82	41.42	55.69	47.19
Metalworking operatives	1,650	1,970	2,211	2,025	19.38	33.97	22.71
Drill press and boring machine operators	123	148	167	151	19.57	35.39	22.60
Electroplaters	35	44	48	45	24.38	34.56	27.29
Grinding and abrading machine operators, metal	131	154	173	157	17.43	32.37	20.01
Lathe machine operators, metal	153	186	210	191	22.03	37.69	25.29
Machine tool operators:							
Combination	170	200	226	206	17.91	33.43	21.47
Numerical control	49	61	70	63	24.18	41.49	27.45
Tool room	40	46	52	47	15.31	31.63	17.99
Milling and planing machine operators	68	83	95	86	21.58	39.59	25.21
Power brake and bending machine operators, metal	41	48	54	49	19.01	32.29	21.31
Punch press operators, metal	195	217	240	222	11.25	23.05	13.80
Welders and flamecutters	570	696	784	720	22.14	37.60	26.45
Mine operatives, not elsewhere classified	170	239	259	243	41.00	52.69	43.44
Roustabouts	61	81	85	79	31.42	37.94	29.43
Packing and inspecting operatives	906	981	1,041	993	8.30	14.93	9.67
Baggers	215	238	250	242	10.64	16.32	12.75
Production packagers	612	661	704	669	7.94	15.08	9.35
Selectors, glasswares	32	35	35	33	8.84	10.93	3.75
Painters, manufactured articles	166	205	222	206	23.42	33.46	24.05
Painters, automotive	40	56	59	55	40.04	45.96	37.34
Painters, production	113	132	145	134	17.34	29.04	19.02
Sewers and stitchers	919	967	1,065	987	5.25	15.93	7.39
Sewing machine operators:							
Regular equipment, garment	616	634	702	647	2.96	14.02	5.15
Special equipment, garment	89	96	106	98	8.61	19.98	11.00
Regular equipment, nongarment	144	161	175	164	12.08	21.22	13.58
Special equipment, nongarment	40	45	49	46	13.10	21.74	14.41
Textile operatives	394	399	419	396	1.36	6.53	.58
Folders, hand	27	29	32	30	8.64	19.29	9.13
Spinners, frame	31	32	32	31	1.38	4.18	-5.7
Weavers	37	33	33	32	-11.18	-8.85	-11.45
Transport equipment operatives	3,468	4,152	4,428	4,140	19.70	27.68	19.35
Ambulance drivers and attendants	28	41	42	40	45.30	48.79	40.86
Busdrivers	266	326	329	321	22.49	23.76	20.65
Chauffeurs	39	48	52	48	24.63	34.13	24.76
Delivery and route workers	802	916	991	901	14.28	23.52	12.33
Industrial truck operators	408	459	493	464	12.50	20.69	13.60
Parking attendants	37	44	51	58	21.56	40.23	58.07
Railroad brake operators	74	67	73	68	-10.27	-1.26	-9.06
Taxi drivers	79	69	78	72	-12.59	-8.7	-8.98
Truckdrivers	1,672	2,110	2,246	2,102	26.16	34.30	25.69
All other operatives	4,311	4,882	5,189	4,936	13.25	20.38	14.52
Asbestos and insulation workers	42	58	62	60	37.75	47.32	41.52
Cutters, machine	29	32	34	32	9.86	16.86	11.83
Dressmakers, except factory	53	49	53	50	-8.33	-5.4	-5.41
Filers, grinders, buffers, and chippers	127	151	168	155	19.56	33.04	22.66
Fuel pump attendants and lubricators	434	475	492	481	9.51	13.40	10.96
Furnace operators and tenders, except metal	62	65	67	65	4.97	9.15	4.98
Stationary boiler firers	47	51	53	51	6.80	10.99	7.13
Miscellaneous machine operatives:							
Lumber and furniture	51	59	60	56	16.21	18.45	9.74
Chemicals and allied products	153	167	176	172	9.13	15.20	12.82
Rubber and miscellaneous plastics	229	284	292	282	23.99	27.67	23.40
Miscellaneous operatives, not elsewhere classified:							
Durable goods	103	123	128	123	19.27	24.60	18.90
Nondurable goods	249	257	275	258	3.11	10.46	3.69
Mixing operatives	53	51	55	52	-2.36	4.32	-1.31
Oilers	40	48	52	49	19.52	30.02	21.65
Photographic process workers	66	81	89	81	22.68	34.55	22.40
Rotary drill operator helpers	31	42	45	42	34.02	41.28	32.91
Shear and slitter operators, metal	32	37	40	38	15.46	26.45	17.92
Shoemaking machine operators	68	54	59	55	-19.98	-13.07	-19.24
Surveyor helpers	48	68	70	68	39.92	45.20	41.45

Table 2. Continued—Civilian employment in occupations with 25,000 workers or more, actual 1978 and projected 1990

Occupation	Employment (in thousands)				Percent change, 1978-90		
	1978	1990 Low-trend	1990 High-trend I	1990 High-trend II	Low-trend	High-trend I	High-trend II
Tire changers and repairers	60	71	77	73	17.47	27.18	20.94
Winding operatives, not elsewhere classified	48	58	62	59	21.91	30.43	24.02
Coil winders	29	37	40	38	27.30	39.55	30.02
Wired, electronic	28	35	38	36	24.46	36.15	28.08
Wood machinists	27	33	34	32	23.67	27.82	22.10
Service workers	14,414	18,946	20,074	19,220	31.44	39.27	33.34
Food service workers	5,610	7,774	8,192	7,827	38.57	46.02	39.53
Bakers, bread and pastry	45	57	59	57	27.08	33.19	27.91
Bartenders	347	453	480	457	30.35	38.05	31.64
Butchers and meat cutters	178	212	225	214	18.64	25.84	19.90
Cooks, except private household	1,024	1,367	1,438	1,379	33.50	40.48	34.74
Cooks, institutional	296	370	386	378	25.19	30.68	27.69
Cooks, restaurant	320	445	471	448	39.18	47.43	40.12
Cooks, short order and specialty fast foods	408	552	580	554	35.07	42.13	35.63
Food preparation and service workers, fast food restaurant	714	1,206	1,265	1,210	68.84	77.10	69.37
Hosts/hostesses, restaurant, lounge, coffee shop	104	154	163	155	48.61	57.14	49.05
Kitchen helpers	771	1,072	1,131	1,084	38.98	46.74	40.53
Pantry, sandwich, and coffee makers	64	92	97	92	43.07	51.80	43.28
Waiters/waitresses	1,539	2,071	2,186	2,084	34.56	42.09	35.43
Waiters' assistants	252	363	384	366	43.72	52.20	45.03
Janitors and sextons	2,585	3,257	3,504	3,317	25.96	35.52	28.30
Selected health service workers	1,251	1,921	2,051	1,963	53.53	63.93	56.90
Medical assistants	81	116	123	116	44.20	52.27	43.52
Nurses' aides and orderlies	1,089	1,683	1,801	1,725	54.56	65.40	58.43
Psychiatric aides	77	115	120	116	49.50	56.20	49.86
Selected personal service workers	1,547	2,028	2,206	2,108	31.08	42.56	36.20
Barbers	114	142	160	149	23.90	40.06	30.14
Child-care attendants	35	55	60	59	56.26	67.85	66.53
Child-care workers	398	581	615	600	46.10	54.55	50.76
Cosmetologists and womens' hair stylists	434	530	603	566	22.22	38.89	30.43
Elevator operators	45	59	64	60	30.70	40.89	32.30
Flight attendants	51	64	68	65	26.82	34.56	27.75
Game and ride operators and concession workers	28	37	38	36	33.10	35.85	29.47
Housekeepers, hotel and motel	49	67	74	69	35.70	50.95	39.86
Recreation facility attendants	65	83	85	82	28.33	31.02	27.63
Reducing instructors	26	29	35	32	12.22	35.84	25.21
School monitors	37	38	38	38	3.03	3.41	2.78
Ushers, lobby attendants, and ticket takers	40	46	46	46	15.44	14.50	13.87
Welfare service aides	84	126	132	130	51.15	57.25	55.24
Protective service workers	1,586	2,098	2,189	2,120	32.28	38.02	33.71
Correction officials and jailers	95	152	154	152	60.28	63.08	60.55
Crossing or bridge tenders	27	32	33	32	18.07	20.76	18.21
Crossing guards, school	38	48	49	49	28.55	30.81	28.79
Firefighters	200	256	260	256	27.62	29.88	27.86
Fire officers	46	59	60	59	28.56	30.81	28.79
Guards and doorkeepers	591	801	868	820	35.52	46.80	38.73
Police detectives	59	72	74	72	23.06	25.33	23.30
Police officers	94	119	121	119	26.68	28.93	26.91
Police patrolmen/women	358	459	467	460	28.02	30.26	28.25
Private household workers	1,160	982	993	988	-15.41	-14.39	-14.87
Child-care workers, private household	486	412	417	414	-15.32	-14.29	-14.78
Housekeepers, private household	118	100	101	100	-15.40	-14.39	-14.86
Maids and servants, private household	530	449	455	452	-15.20	-14.19	-14.67
Supervisors, nonworking, service	189	254	270	256	34.12	42.27	35.10
All other service workers	484	633	670	640	30.76	38.33	32.29
Laborers, except farm	5,902	6,955	7,441	7,078	17.83	26.07	19.92
Animal caretakers	88	113	122	124	27.63	38.19	40.57
Construction laborers, excluding carpenter helpers	277	348	365	352	25.74	31.67	27.01
Highway maintenance workers	170	211	215	212	24.44	26.61	24.66
Pipelayers	43	54	60	55	25.48	38.32	27.80
Reinforcing-iron workers	31	42	45	43	34.50	41.55	37.99
Cannery workers	82	80	84	89	-2.53	3.18	8.85
Cleaners, vehicle	118	150	159	160	27.04	35.07	35.76
Conveyor operators and tenders	55	62	68	63	13.82	23.96	15.65
Garbage collectors	110	137	148	137	24.37	34.39	24.34
Gardeners and groundkeepers, except farm	639	738	789	765	15.58	23.50	19.71
Helpers, trades	928	1,161	1,255	1,193	25.04	35.20	28.49
Line service attendants	27	32	34	32	17.74	25.49	18.61
Off-bearers	25	28	28	26	9.73	10.76	3.94
Riggers	28	33	35	34	16.99	24.70	19.58
Stock handlers	918	1,131	1,210	1,137	23.18	31.82	23.82
Order fillers	352	407	445	405	15.52	26.18	15.08
Stock clerks, sales floor	566	724	766	731	27.95	35.34	29.26
Timbercutting and logging workers	70	59	63	61	-15.96	-10.90	-13.58
Fallers and buckers	43	36	38	37	-16.60	-11.51	-14.18
Farmers and farmworkers	2,775	2,193	2,426	2,327	-20.97	-12.57	-16.13
Farmers and farm managers	1,486	1,231	1,355	1,281	-17.18	-8.81	-13.76
Farmers (owners and tenants)	1,445	1,200	1,321	1,248	-16.96	-8.61	-13.65
Farm managers	41	31	34	34	-25.02	-15.78	-17.65
Farm supervisors and laborers	1,289	963	1,071	1,046	-25.35	-16.90	-18.87
Farm supervisors	32	25	28	27	-22.40	-13.00	-14.25
Farm laborers	1,257	938	1,044	1,019	-25.42	-17.00	-18.99

tional Employment Statistics (OES) Survey to collect data on occupational staffing patterns of industries more frequently. These data are obtained directly from establishments by mail survey. The survey is a Federal-State cooperative program in which data are collected by State employment security agencies according to standards, procedures, and methods developed by the BLS. All nonagricultural industries, except private households, are covered in this survey on a 3-year cycle—manufacturing industries during the first year, and roughly half of nonmanufacturing industries in each of the next 2 years. Each industry is therefore surveyed every 3 years. Survey questionnaires are tailored to an industry's occupational structure. For example, the iron and steel industry questionnaire does not list barber as an occupation. Each questionnaire is limited to a maximum of 200 occupations; residual categories, such as "other professional and technical workers" are included so that an establishment can list its total employment. Employers are requested to identify large or emerging occupations in their establishments, which are not found on the questionnaire.

Because data for all States were not available until the late 1970's, it was not until 1980 that national matrix for 1978 based on OES survey data could be developed. Occupational staffing patterns for the 1978 matrix were derived from the OES surveys of manufacturing industries in 1977; nonmanufacturing, except trade and regulated industries in 1978; and trade and regulated industries in 1979. Occupational employment estimates for 1978 were obtained by applying the occupational staffing pattern for each industry to the total wage-and-salary employment in that industry in 1978. The Bureau's Current Employment Survey (CES) was the source of the industry totals. As a result of using the OES survey as the data base, the number of detailed industries and occupations in the Bureau's industry-occupation matrix will increase substantially.

Differences among surveys

Wage-and-salary employment totals for agricultural and private household industries were obtained from the Current Population Survey (CPS) because the OES survey and the CES do not cover employment in these industries. Occupational distributions of employment in these industries were developed from the census-based matrix; detailed occupations in the census-based matrix were reclassified in the OES occupational framework.

Because an establishment may have workers in more occupations than the 200 listed on the questionnaire for the employer's industry, the OES surveys do not obtain complete employment counts for all occupations. In general, if survey data accounted for less than an esti-

mated 90 percent of total employment in an occupation, the data were collapsed into residual categories in the matrix. (About 400 occupations were treated in this manner.) If the survey accounted for more than an estimated 90 percent of an occupation's employment, the remainder was estimated on the basis of patterns from the census-based matrix. Estimates of employment in selected industries for about 200 occupations were developed through this procedure, but the sum of these estimates accounted for less than 4 percent of total national employment.

The OES surveys do not cover self-employed workers and unpaid family workers. Occupational employment estimates for these classes of workers also were developed from CPS and census-based matrix data and reclassified into the OES occupational framework. However, because of data limitations and resource constraints the occupational estimates for self-employed and unpaid family workers were not distributed across industries. Consequently, industry/occupation cross-tabulations are available only for wage-and-salary employment. To develop total employment estimates by occupation, employment of wage-and-salary workers was added to totals of self-employed and unpaid family workers.

Detailed occupational employment estimates in the OES survey-based matrix for 1978–90 generally are not comparable with those in previous census-based matrices because of many major differences in the underlying data sources. The census counts persons, whereas the OES survey counts jobs. The employment total in the OES matrix is higher than the total in the census matrix, because one person may hold more than one job. The difference between the numbers of jobs and of persons employed in 1978 was roughly 10 percent, but it varied among occupations. The census is a household survey, while the OES study is directed at employers. Household surveys generally are completed by one individual, who reports for all members of the household. Employer surveys are completed by an official of the responding establishment and generally are based on records.

In the census, individuals report themselves in the occupation in which they work the most hours. Respondents to the OES surveys are instructed to report employees performing more than one job in the one that requires the highest skill level; also, definitions that imply a specific skill level for each occupation are listed on the questionnaire. In the census, the titles reported by respondents are grouped into categories which may include workers with greatly different skill levels; categories usually take the title of the most prominent occupation in that group. For example, the title "lawyer" includes lawyers and law clerks which are separate titles in the OES survey.⁷ □

¹ This article is one in a series presenting data from the ongoing projections program. The first article reported on new labor force projections (see Howard N. Fullerton, Jr., "The 1995 labor force: a first look", *Monthly Labor Review*, December 1980, pp. 11-21). The second article, appearing in this issue of the *Review*, gives new macroeconomic projections for 1985 and 1990. The third article, also in this issue, describes projections of industry output and industry employment for 1985 and 1990.

² For the most recent census-based matrix, see George T. Silvestri, *The National Industry-Occupation Employment Matrix, 1970, 1978, and Projected 1990*, Bulletin 2086 (Bureau of Labor Statistics, 1981).

³ Statistics on employment in this article are based on a count of jobs, as used in the Bureau's Current Employment Surveys and Occupational Employment Statistics Surveys, rather than a count of persons as used in the Current Population Surveys and decennial census. Because one worker may hold more than one job, employment on a "jobs" concept is greater than employment on a "persons" concept. Differences between these surveys are discussed in more detail elsewhere in this article.

Employment in this article is slightly different than that in the other ones in this issue. Self-employed and unpaid family workers by industry are estimated by different methods. In addition, government employment in this article is based in the BLS establishment survey. In the other articles, government employment is based on National Income Accounts data from the Department of Commerce.

⁴ Later in 1981, employment projections for occupations with base-year employment of 5,000 or more will be published in the industry-occupation matrix.

⁵ An important limitation should be kept in mind when evaluating occupational employment projections that were generated by applying the industry-occupational matrix to the various industry projections. The occupational projections assume that all industries will have an average occupational composition regardless of the changes that occur in industry employment under the different scenarios. However, occupational composition of an increase or decrease in an industry's total employment may differ from the average occupational composition of the industry as a result of changes in product mix, capacity utilization, and other factors. For example, differences in the assumptions embodied in the various scenarios can produce shifts in an industry's product mix which increase employment requirements in some occupations, while reducing requirements in others.

⁶ For a detailed description of how the occupational employment projections were developed, see Richard P. Oliver, *Methodology for Labor Force, Industry and Occupational Employment Projections to 1990*, a BLS report to be published later this year.

⁷ For more information on the differences between the OES survey-based matrix and the census-based matrix, write to the Bureau of Labor Statistics, Office of Economic Growth and Employment Projections, Division of Occupational Outlook, Washington, D.C. 20212.

The 1995 labor force: a first look

All three projections—high, middle, and low—indicate that women will account for two-thirds of the growth, most of which will occur in the prime working-age group; the black labor force will grow twice as fast as the white force

HOWARD N FULLERTON, JR.

By the mid-1980's, persons in the labor force are projected to exceed those not in the labor force—including babies. This development reflects the changing age composition of the population which, in turn, is caused by the swings in births over the past 50 years. By 1995, this labor force would have a greater proportion of women and minorities; indeed, about two-thirds of the labor force growth would be generated by women, reflecting their continued labor force participation.¹

The projections discussed in this article are part of a continuing program of economic projections made by the Bureau of Labor Statistics. As part of this program, every 2 years labor force projections are prepared, followed by projections of the economy, of employment by industry, of demand, and ultimately, of occupations by industry.

The Bureau of Labor Statistics developed three labor force growth scenarios: a *high-growth* projection, which assumes rapid growth in the labor force participation of women in the 1980's and the convergence of participation between black men and white men under age 65; a *middle-growth* scenario, with the expansion coming from women; and a *low-growth* path with only moderate in-

creases in the participation of women and with the divergence in male participation between races continuing.²

In the intermediate scenario, the labor force is projected to reach 115 million by 1985 and 128 million by 1995. (See table 1.) This represents 1.8 percent growth per year from 1979 to 1985 and 1.0 percent per year from 1985 to 1995. (See table 2.) Under this scenario, labor force rates of women age 20 to 44 are assumed to rise at an increasing rate until 1983. For most age groups of men, participation is projected to decline, although not as fast as it did in the 1970's. Overall participation is assumed to increase more rapidly for whites than for blacks.³

In the high-growth scenario, the labor force is projected to grow 2.3 percent per year between 1979 and 1985 and 1.1 percent per year between 1985 and 1995. Under this scenario, about 135 million persons would be in the labor force in 1995. The participation rates for women age 16 to 19 and 45 to 64 are projected to grow at an increasing rate until 1985, before tapering off in the 1990's. The rates for white men age 25 to 39 are assumed to rise, reversing a long-term drop since 1960. By the end of the century, the labor force participation ratio of black men are projected to converge to the ratio of white men. (With the higher rate of black involvement in the Armed Forces and higher rates of institutionalization, the civilian labor force rates for

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some age groups of black men would exceed those of white men.) However, because blacks make up about 12 percent of the labor force, this assumption of the high-growth scenario does not have a significant impact on the level of the overall labor force.

In the low-growth scenario, the labor force is projected to grow 1.1 percent a year from 1979 to 1985 and 0.8 percent from 1985 to 1995. By 1995, the civilian labor force is projected to be only 122 million. The participation rates of women age 20 to 44 are projected to rise over the entire period, but at a decreasing rate. For other age groups of women, participation is assumed to increase at a slower rate than in the middle-growth path, reflecting a longer run experience than that in the 1970's. For men, labor force activity is projected to decrease more rapidly than in the middle-growth scenario, leading to an increased disparity in rates by race.

Women provide most growth

As a base for these projections, we used the population projections prepared by the Bureau of the Census. Under the Series II (middle) projection, the population 16 and older grows steadily through 1995, although the decrease in births (which began around 1960) means slower rates of growth during the remainder of this century.⁴ (See table 3.) Because of reduced birth rates during the 1930's and the 1970's and the baby boom of the 1950's, the age composition of the population and, thus, of the labor force will change significantly during the next 15 years.⁵

In the past, much of the increase in the labor force has been generated by the entrance of youth and women. The number of new labor force entrants could drop in the future because there will be fewer youths. This means that the labor force would consist of more experienced workers than now. By 1985, the small number of persons born during the Great Depression will begin to leave the prime working ages. They will be replaced

by the more populous baby-boom generation; the growth of the older population will be slowed.

More than two-thirds of the 1980-95 labor force growth would come from women. (These projections do not yield estimates of new entrants and of re-entrants.) Women are expected to compose an additional 4 percent of the labor force in 1995 under each of the three patterns of labor force growth. The increase in the proportion of employed women in the prime working-age group would more than offset the decreasing proportions of younger and older working women. On the other hand, the proportion of men in the labor force is assumed to be slightly less. Under the medium- and low-growth scenarios, the activity rates of men age 25 and over is expected to drop. Under the high-growth path, the rates for men age 40 to 64 are projected to remain constant and the rates for men age 25 to 39 will increase slightly. Rates for men and women under age 25 are moving up, but those for women are increasing faster. In the older age groups, where rates for men and women are dropping, those for men are dropping faster. Hence, women's increasing share of the labor force reflects their own greater activity as well as the decrease in male participation.

Until recently, labor force participation has been dropping for most age groups of black men, while their population has been increasing at a higher rate than that of whites. As the black population continues to grow at a faster rate, the black labor force also can be expected to grow at a faster rate. Thus, under all three projections, the black labor force is growing considerably faster—at about twice the rate of whites. That the relatively rapid growth is related to population growth may be seen by comparing possible participation rates. Under middle and low scenarios, the overall rate is lower for blacks than for whites. Under the high-growth scenario, which assumes convergence of male total participation ratios for blacks and whites, black civilian la-

Table 1. Civilian labor force based on three different growth paths to 1995

Growth path	Actual (in millions)			Projected (in millions)			Annual percent change ¹					Participation rate					
	1965	1975	1979	1985	1990	1995	1965 to 1975	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995	Actual			Projected		
												1965	1975	1979	1985	1990	1995
Total:	74.5	92.6	102.9				2.2	2.7				58.9	61.2	63.7			
Middle growth				115.0	122.4	127.5			1.9	1.3	0.8				66.5	67.9	68.6
High growth				118.3	128.1	134.7			2.4	1.6	1.0				68.4	71.1	72.4
Low growth				111.7	117.4	121.7			1.4	1.0	.7				64.6	65.2	65.9
Men:	48.3	55.6	59.5				1.4	1.7				80.7	77.9	77.9			
Middle growth				63.6	65.9	67.6			1.1	.7	.5				77.7	77.2	76.8
High growth				64.8	68.2	70.8			1.4	1.0	.8				79.2	79.9	80.5
Low growth				62.5	63.9	64.9			.8	.4	.3				76.3	74.9	73.7
Women:	26.2	37.0	43.4				3.5	4.1				39.3	46.3	51.0			
Middle growth				51.4	56.5	59.9			2.9	1.9	1.2				56.5	59.6	61.2
High growth				53.4	59.9	63.9			3.5	2.3	1.0				58.7	63.2	65.2
Low growth				49.2	53.5	56.8			2.1	1.7	1.2				54.1	56.4	57.9

¹ Compounded continuously.

Table 2. Annual rate of growth of the civilian labor force by sex, age, and race, 1975-79 and projected to 1995

[In percent]

Age, sex, and race	Actual	Projected								
	1975 to 1979	Middle growth			High growth			Low growth		
		1979 to 1985	1985 to 1990	1990 to 1995	1979 to 1985	1985 to 1990	1990 to 1995	1979 to 1985	1985 to 1990	1990 to 1995
Total, age 16 and over	2.67	1.86	1.25	.83	2.34	1.61	1.01	1.37	.99	.72
Men	1.70	1.11	.70	.52	1.43	1.01	.76	.80	.45	.32
16 to 24	3.15	-1.47	-2.17	-1.16	-1.11	-1.67	-.63	-1.67	-2.26	-1.19
16 to 19	1.39	-2.25	-.79	-.34	-1.76	-.14	.28	-2.41	-.87	-.38
20 to 24	2.72	-.06	-2.94	-1.66	-.22	-2.53	-1.21	-.28	-3.04	-1.69
25 to 54	1.83	2.06	1.88	1.10	2.24	2.04	1.23	1.88	1.72	.96
25 to 34	3.32	2.18	.52	-1.59	2.43	.75	-1.40	2.01	.35	-1.74
35 to 44	2.45	3.88	3.18	1.87	4.00	3.28	1.97	3.72	3.03	1.75
45 to 54	-.91	-.41	2.37	4.03	-.28	2.50	4.14	-.63	2.19	3.88
55 and over	-.91	.78	-1.20	-.57	1.69	-.26	.14	-.27	-2.30	-1.48
55 to 64	-.56	-.04	-1.43	-.44	.58	-.83	.00	-.99	-2.37	-1.15
65 and over	-6.96	4.47	-.33	-1.04	6.51	1.64	.58	2.98	-2.01	-2.80
Women	4.06	2.85	1.91	1.18	3.52	2.33	1.29	2.13	1.67	1.18
16 to 24	3.30	.49	-.90	-.21	1.02	-.24	-.28	-.04	-1.20	-.46
16 to 19	2.63	-1.16	.08	.30	-.84	.48	.73	-1.55	-.23	.10
20 to 24	3.73	1.48	-1.46	-.52	2.12	-.65	-.88	.85	-1.76	-.81
25 to 54	4.88	4.28	3.24	1.73	5.05	3.56	1.86	3.42	3.04	1.83
25 to 34	7.19	4.98	2.06	-.73	6.03	2.38	-.60	3.82	1.93	-.55
35 to 44	5.78	6.12	4.64	2.69	6.84	5.01	2.85	5.35	4.41	2.84
45 to 54	.72	.52	3.28	4.56	.80	3.59	4.75	.12	2.96	4.31
55 and over	2.05	.45	-.61	.01	.86	-.15	.30	.07	-.85	-.10
55 to 64	1.91	.44	-.98	.11	.83	-.63	.29	.13	-1.26	-.04
65 and over	2.60	.47	.78	-.36	1.02	1.62	.33	-.13	.72	-.30
WHITE										
Total, age 16 and over	2.49	1.71	1.08	.63	2.10	1.37	.76	1.22	.84	.57
Men	1.56	.96	.55	.36	1.20	.77	.52	.68	.32	.19
16 to 24	2.07	-.97	-2.28	-1.25	-.91	-2.14	-1.09	-1.16	-2.34	-1.26
25 to 54	1.68	1.88	1.72	.93	2.04	1.84	1.01	1.75	1.59	.82
55 and over	.39	-.22	-1.32	-.64	.60	-.47	-.01	-1.31	-2.47	-1.60
Women	3.89	2.72	1.74	.96	3.32	2.11	1.04	1.97	1.49	1.02
16 to 24	3.11	.36	-1.07	-.57	.68	-.72	-.78	-.16	-1.38	-.59
25 to 54	4.74	4.19	3.11	1.55	4.92	3.44	1.67	3.29	2.91	1.68
55 and over	1.94	.28	-.88	-.16	.68	-.43	.09	-.08	-1.12	-.29
BLACK AND OTHER										
Total, age 16 and over	3.97	2.97	2.39	2.02	4.01	3.14	2.46	2.42	2.05	1.65
Men	2.95	2.27	1.85	1.58	3.26	2.71	2.32	1.80	1.40	1.20
16 to 24	3.29	-.07	-1.41	-.56	2.33	1.06	1.66	-.32	-1.65	-.76
25 to 54	3.13	3.42	3.08	2.29	3.82	3.45	10.35	2.91	2.62	1.91
55 and over	1.52	.46	-.07	.07	2.11	1.57	1.49	-.18	-.19	-1.02
Women	5.15	3.71	2.92	2.44	4.81	3.56	2.58	3.09	2.70	2.08
16 to 24	4.67	1.35	.13	1.90	3.19	2.37	2.11	.73	-.11	.28
25 to 54	5.11	4.85	3.96	2.73	5.79	4.18	2.84	4.20	3.74	2.63
55 and over	2.94	1.77	1.25	1.18	2.27	1.79	1.62	1.33	1.03	1.14

NOTE: Compounded continuously.

bor force participation exceeds that of whites by 1995. (This reflects, for black women, an expected continuation of higher participation and, for black men, higher rates of institutionalization and of participation in the Armed Forces.) Under the middle and low scenarios, the racial gap in male participation rates is projected to approximately double from the percentage point difference in 1979.

The above description of population and labor force changes suggests that the discussion of future labor force trends should focus on two periods, 1979 to 1985, and 1985 to 1995. During 1979-85, the teenage and young adult population will decline in absolute numbers and the prime-age population will grow sharply. During 1985-95, the older adult population will grow at a

slower rate. Further, during the late 1980's and early 1990's, women of the baby-boom generation will pass their prime childbearing ages.

The changing labor force, 1979-85

A look back to 1975 will help our gaze forward to 1985. In 1975, the total fertility rate was 1.8 children per woman; for 1985, the Census Bureau's Series II population projection is for 2.0 children per woman.⁶ Because the total fertility rate adjusts for changing age composition, there would be an increase in births from the levels of the 1970's. This increase in fertility rates, coupled with the increase in the labor force participation of women, means there would be more working mothers.

In 1975, 46 percent of all women were in the labor force. By 1985, this is projected to increase to 56.4 percent under the middle-growth scenario. (See tables 4 and 5.) This dramatic increase reflects both the movement of women of the baby-boom generation into the prime working-age group and the projection of increased activity rates. In 1975, women represented 40 percent of the labor force—by 1985 they would represent about 45 percent. The percents do not vary much across scenarios.

Slow growth for youths. Since the early 1960's, the youth population (age 16 to 24) has been growing at a faster rate than has the older population. However, 20 years have passed since the years of peak births, and the size of this age group has begun to fall. Thus, with the ag-

ing of the baby-boom cohort, the numbers of those age 16 to 24 almost certainly will decline so that, despite a projected increase in their labor force participation rates, the level of the youth labor force would fall. (Of course, the drop would not be as sharp as that for the population component.)

The composition of the younger population will also be affected by the difference in fertility between blacks and whites. Although fertility for both groups has been falling, black fertility rates remain higher. As a consequence, the black population is younger (the median age is lower), and the youth population will have a greater proportion of blacks than will the population age 25 and over. At the same time, black youths have lower labor force participation than do their white counterparts, so if other things remained the same, the

Table 3. Civilian noninstitutional population, by age, sex, and race, 1975–79 and projected to 1995

[Numbers in thousands]

Age, sex, and race	Actual population		Projected population			Net change				Annual percent change ¹			
	1975	1979	1985	1990	1995	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995
Total, 16 and over	151,268	161,532	172,850	180,129	186,034	10,264	11,318	7,279	5,905	1.65	1.14	0.83	0.65
Men	71,403	76,449	81,889	85,285	88,031	5,046	5,440	3,396	2,746	1.72	1.15	.82	.64
16 to 24	16,793	17,669	16,364	14,695	13,983	876	-1,305	-1,669	-712	1.28	-1.27	-2.13	-39
16 to 19	8,046	8,155	6,920	6,521	6,403	109	-1,235	-399	-118	.34	-2.70	-1.18	-35
20 to 24	8,747	9,514	9,444	8,174	7,580	767	-70	-1,270	-594	2.21	-1.2	-2.85	-150
25 to 54	36,617	39,381	44,707	49,224	52,190	2,764	5,326	4,517	2,966	1.84	2.14	1.94	1.18
25 to 34	14,537	16,552	18,988	19,574	18,122	2,015	2,436	586	-1,452	3.30	2.31	.61	-1.53
35 to 44	10,756	11,838	14,947	17,510	19,236	1,082	3,109	2,563	1,726	2.43	3.96	3.22	1.90
45 to 54	11,324	10,991	10,772	12,140	14,832	-333	-219	1,368	2,692	-.74	-.33	2.42	4.09
55 and over	17,994	19,399	20,818	21,366	21,858	1,405	1,419	548	492	1.90	1.18	.52	.46
55 to 64	9,215	9,782	10,217	9,819	9,738	567	435	-398	-81	1.50	.73	-.79	-.82
65 and over	8,779	9,617	10,601	11,547	12,120	838	984	946	573	2.31	1.64	1.72	.97
Women	79,865	85,083	90,961	94,844	98,003	5,218	5,878	3,883	3,159	1.59	1.12	0.84	0.66
16 to 24	17,686	18,397	17,012	15,322	14,560	711	-1,385	-1,690	-762	.99	-1.30	-2.07	-1.02
16 to 19	8,215	8,224	6,981	6,560	6,421	9	-1,243	-421	-139	.03	-2.69	-1.24	-.43
20 to 24	9,471	10,173	10,031	8,762	8,139	702	-142	-1,269	-623	1.80	-.23	-2.67	-1.46
25 to 54	39,326	42,031	47,318	52,022	55,156	2,705	5,287	4,704	3,134	1.68	1.99	1.91	1.18
25 to 34	15,488	17,499	19,906	20,533	19,071	2,011	2,407	627	-1,462	3.14	2.17	.62	-1.47
35 to 44	11,632	12,780	15,938	18,553	20,384	1,148	3,158	2,615	1,831	2.38	3.75	3.06	1.92
45 to 54	12,206	11,752	11,474	12,936	15,701	-454	-278	1,462	2,765	-.94	-.40	2.43	3.95
55 and over	22,853	24,656	26,631	27,500	28,287	1,803	1,975	869	787	1.92	1.29	.64	.71
55 to 64	10,347	10,930	11,293	10,736	10,637	583	363	-557	-99	1.38	.55	-1.01	-.19
65 and over	12,506	13,726	15,338	16,764	17,650	1,220	1,612	1,426	886	2.35	1.87	1.79	1.01
WHITE													
Total, 16 and over	133,501	141,614	150,085	155,029	158,791	8,113	8,471	4,944	3,762	1.49	.97	.65	.48
Men	63,385	67,493	71,632	73,982	75,770	4,108	4,139	2,350	1,788	1.58	1.00	.65	.48
16 to 24	14,526	15,175	13,796	12,154	11,418	649	-1,379	-1,645	-733	1.10	-1.58	-2.50	-1.24
25 to 54	32,569	34,816	39,151	42,788	45,002	2,247	4,335	3,637	2,214	1.68	1.98	1.79	1.01
55 and over	16,291	17,501	18,685	19,040	19,350	1,210	1,184	355	310	1.81	1.10	.38	.32
Women	70,115	74,120	78,453	81,047	83,021	4,005	4,333	2,594	1,974	1.48	.95	.65	.48
16 to 24	15,068	15,522	14,118	12,482	11,724	454	-1,404	-1,636	-758	.74	-1.57	-2.43	-1.25
25 to 54	34,315	36,339	40,457	44,115	46,352	2,024	4,118	3,658	2,237	1.44	1.81	1.75	.99
55 and over	20,733	22,257	23,878	24,450	24,945	1,524	1,621	572	495	1.79	1.18	.47	.40
BLACK AND OTHER													
Total, 16 and over	17,768	19,918	22,765	25,100	27,243	2,150	2,847	2,335	2,143	2.90	2.25	1.97	1.65
Men	8,018	8,955	10,257	11,303	12,261	937	1,302	1,042	958	2.80	2.29	1.96	1.64
16 to 24	2,267	2,493	2,568	2,541	2,565	226	75	-27	24	2.40	.50	-.29	.19
25 to 54	4,048	4,564	5,556	6,436	7,188	516	992	880	752	3.04	3.33	2.98	2.23
55 and over	1,703	1,897	2,133	2,326	2,508	194	236	193	182	2.73	1.97	1.75	1.52
Women	9,750	10,963	12,508	13,797	14,982	1,213	1,545	1,289	1,185	2.97	2.22	1.98	1.66
16 to 24	2,618	2,873	2,894	2,840	2,836	255	21	-54	-4	2.36	.12	-.38	-.03
25 to 54	5,011	5,691	6,861	7,907	8,804	680	1,170	1,046	897	3.23	3.17	2.88	2.17
55 and over	2,120	2,399	2,753	3,050	3,342	279	354	297	292	3.14	2.32	2.07	1.85

¹Compounded continuously.

Table 4. Civilian labor force participation rate by sex, age, and race, 1975-79 and projected to 1995

[In percent]

Sex, age, and race	Actual		Projected								
	1975	1979	Middle growth			High growth			Low growth		
			1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	61.2	63.7	66.5	67.9	68.6	68.4	71.1	72.4	64.6	65.2	65.4
Men	77.9	77.9	77.7	77.2	76.8	79.2	79.9	80.5	76.3	74.9	73.7
16 to 24	72.4	75.1	76.9	76.8	76.1	78.7	80.5	82.0	76.1	75.5	74.7
16 to 19	59.2	61.7	63.4	64.7	64.7	65.3	68.8	71.7	62.8	63.8	63.7
20 to 24	84.6	86.6	86.9	86.4	85.7	88.4	89.8	91.2	85.8	84.9	84.1
25 to 54	94.4	94.4	94.0	93.7	93.4	95.0	95.5	95.7	93.0	92.0	91.0
25 to 34	95.3	95.4	94.7	94.3	94.0	96.1	96.7	97.4	93.7	92.5	91.5
35 to 44	95.7	95.8	95.4	95.2	95.1	96.0	96.4	96.7	94.4	93.6	93.0
45 to 54	92.1	91.4	91.0	90.8	90.6	91.7	92.1	92.4	89.8	88.8	87.9
55 and over	49.5	46.2	43.1	39.6	37.6	45.5	43.8	43.1	40.5	35.1	31.8
55 to 64	75.8	73.0	69.7	67.5	66.5	72.4	72.2	72.8	65.8	60.7	57.8
65 and over	21.7	20.0	17.5	15.8	14.3	19.7	19.6	19.2	16.1	13.3	11.0
Women	46.3	51.0	56.5	59.6	61.2	58.7	63.2	65.2	54.1	56.4	57.9
16 to 24	57.2	62.6	69.7	73.9	77.0	71.9	78.9	81.8	67.5	70.5	72.5
16 to 19	49.2	54.5	59.8	63.9	66.3	61.0	66.5	70.5	58.4	61.4	63.1
20 to 24	64.1	69.1	76.5	81.4	85.3	79.5	88.1	90.7	73.8	77.3	79.8
25 to 54	55.0	62.2	71.1	75.9	78.0	74.3	80.5	83.3	67.7	71.5	73.9
25 to 34	54.6	63.8	75.1	80.7	83.7	79.7	86.9	90.8	70.3	75.0	78.5
35 to 44	55.8	63.6	72.9	78.6	81.7	75.9	83.2	87.2	69.8	74.4	77.9
45 to 54	54.6	58.4	61.7	64.3	66.2	62.7	66.4	69.0	60.2	61.8	62.9
55 and over	23.1	23.2	22.1	20.7	20.2	22.6	21.7	21.5	21.6	20.0	19.4
55 to 64	41.0	41.9	41.6	41.7	42.3	42.6	43.4	44.5	40.9	40.3	40.6
65 and over	8.3	8.3	7.7	7.3	6.8	7.9	7.9	7.6	7.4	7.0	6.6
WHITE											
Total, age 16 and over	61.5	64.0	66.8	68.3	68.8	68.4	70.9	71.9	65.0	65.6	65.9
Men	78.7	78.6	78.5	78.1	77.7	79.6	80.1	80.3	77.2	76.0	74.9
16 to 24	74.3	77.2	80.1	81.0	80.9	80.4	81.9	82.5	79.2	79.8	79.7
25 to 54	95.1	95.1	94.6	94.3	93.9	95.5	95.7	93.8	90.9	92.1	92.1
55 and over	49.8	47.1	43.6	40.0	38.1	45.8	43.9	43.1	40.8	35.3	32.1
Women	45.9	50.6	56.2	59.3	60.7	58.2	62.5	64.3	53.8	56.1	57.6
16 to 24	59.0	64.8	72.8	78.0	80.6	74.2	80.9	82.8	70.5	74.4	76.9
25 to 54	54.2	61.6	70.8	75.7	77.8	73.8	80.2	83.0	67.2	71.2	73.6
55 and over	22.8	22.9	21.7	20.3	19.7	22.2	21.2	20.9	21.2	19.6	18.9
BLACK AND OTHER											
Total, age 16 and over	59.3	61.8	64.4	65.8	67.0	68.5	72.5	75.4	62.4	62.7	62.7
Men	71.5	71.9	71.9	71.5	71.3	76.2	79.0	81.7	69.9	68.0	66.6
16 to 24	60.1	62.3	60.2	56.6	54.5	69.4	74.0	79.6	59.3	55.1	52.5
25 to 54	89.0	89.3	89.8	90.2	90.5	91.8	94.0	96.0	87.1	85.6	84.3
55 and over	45.1	43.0	39.3	35.9	33.5	43.4	43.0	42.9	37.8	33.5	30.3
Women	49.2	53.5	58.3	61.1	63.5	62.2	67.1	70.3	56.3	58.3	59.5
16 to 24	46.4	50.8	54.7	56.1	61.8	60.9	69.8	77.6	52.7	53.4	54.2
25 to 54	60.2	66.3	73.1	77.0	79.2	77.1	82.1	90.8	70.4	73.5	75.2
55 and over	26.4	26.2	25.4	24.4	23.6	26.2	25.8	25.5	24.7	23.5	22.7

growth of the youth labor force would be slower. (See table 6.)

The number of black youths should increase slightly while the number of whites should drop. Only black young men had lessening labor force participation during the 1970's. Under the middle-growth projection, this drop is assumed to continue, although at a decreasing rate. The effects of greater labor force participation by black women and a proportionately larger youth population would offset the decline in male participation, and black youths would constitute the same proportion of the labor force in 1985 as at present. Under both the middle- and high-growth projections, the black youth labor force would be half men and half women. In the high-growth scenario, black youths represent an even greater proportion of the labor force in 1985; the more pessimistic low-growth pattern yields a lower proportion.

Prime-age labor force. The prime-age workers (25 to 54 years) would be the fastest growing component of the labor force under each of the growth paths. The following tabulation shows annual growth rates by major age group and race, 1975-79, and projected growth for 1979-85:

	1975-79	1979-85
Youth	3.2	-0.6
Prime	3.0	3.0
Older	.2	.7
White	2.6	1.7
Black and other	4.0	3.0

In each scenario, the prime-age labor force of women would grow at a faster rate than that of men. Under the high projection, between 1975 and 1985, the female la-

bor force is projected to grow at twice the male rate and at a pace faster than that experienced in the 1970's. This is due to three factors: the movement of women of the baby-boom generation into this age group, a moderate rise in fertility, and a continued growth in female labor force participation. The high-growth scenario for women in this age group is an attempt to reflect the acceleration in participation that was exhibited in the 1970's.

Under the high-growth scenario, prime-age men (particularly young men), are also expected to experience an increase in participation. Under the high-growth path, prime-age men would represent 78 percent of the total male labor force, a moderate increase from 1979. Under the middle-growth path, such trends would also be evident, although less significantly. For example, by 1985, prime-age male workers would represent only 75 per-

cent of the male labor force. With the more pronounced drop anticipated under the low-growth scenario, the proportion of prime-age men would be less than in 1975, while their female counterparts would be more than 10 percentage points higher than in 1975.

Older workers. Older people (age 55 and over) have the most on-the-job experience, although on average, they have the least formal education. From 1979 to 1985, older workers are expected to participate less intensively in the labor force. These projections do not indicate the extent of part-time labor force activity that this growing segment of the population might elect.

Under the high-growth scenario, men age 55 to 64 are expected to have only a modest decrease in participation. This decrease, coupled with population growth, will result in an increase in their labor force. Under the

Table 5. Civilian labor force by sex, age, and race, 1975-79 and projected to 1995

(Numbers in thousands)

Sex, age, and race	Actual		Projected								
	1975	1979	Middle growth			High growth			Low growth		
			1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	92,613	102,908	114,985	122,375	127,542	118,252	128,123	134,753	111,706	117,394	121,684
Men	55,615	59,517	63,600	65,880	67,611	64,825	68,174	70,835	62,458	63,888	64,918
16 to 24	12,158	13,270	12,592	11,282	10,641	12,873	11,833	11,463	12,445	11,099	10,450
16 to 19	4,760	5,031	4,387	4,216	4,144	4,521	4,489	4,553	4,344	4,158	4,078
20 to 24	7,398	8,239	8,205	7,066	6,497	8,352	7,344	6,910	8,101	6,941	6,372
25 to 54	34,569	37,180	42,029	46,147	48,758	42,473	46,988	49,950	41,584	45,287	47,507
25 to 34	13,854	15,792	17,976	18,453	17,029	18,239	18,934	17,645	17,796	18,113	16,583
35 to 44	10,288	11,337	14,252	16,672	18,297	14,353	16,873	18,604	14,116	16,393	17,880
45 to 54	10,426	10,051	9,801	11,022	13,432	9,881	11,181	13,701	9,672	10,781	13,044
55 and over	8,888	5,068	8,979	8,451	8,212	9,479	9,353	9,422	8,429	7,502	6,961
55 to 64	6,982	7,140	7,122	6,625	6,479	7,393	7,090	7,092	6,725	5,963	5,626
65 and over	1,906	1,290	1,857	1,826	1,733	2,086	2,263	2,330	1,704	1,539	1,335
Women	36,998	43,391	51,385	56,495	59,931	53,427	59,949	63,918	49,248	53,506	56,766
16 to 24	10,108	11,511	11,854	11,325	11,205	12,235	12,083	11,912	11,477	10,800	10,551
16 to 19	4,039	4,481	4,176	4,194	4,259	4,259	4,363	4,526	4,079	4,031	4,053
20 to 24	6,069	7,029	7,678	7,131	6,946	7,976	7,720	7,386	7,398	6,769	6,498
25 to 54	21,613	26,156	33,650	39,469	43,021	35,163	41,885	45,934	32,020	37,198	40,735
25 to 34	8,456	11,167	14,955	16,568	15,971	17,853	17,322	13,988	13,988	15,396	14,971
35 to 44	6,493	8,130	11,617	14,581	16,651	12,094	15,444	17,781	11,121	13,805	15,887
45 to 54	6,665	6,860	7,078	8,320	10,399	7,199	8,588	10,831	6,911	7,997	9,877
55 and over	5,277	5,724	5,881	5,701	5,705	6,029	5,981	6,072	5,508	5,480	5,480
55 to 64	4,244	4,579	4,703	4,476	4,502	4,812	4,662	4,731	4,615	4,330	4,320
65 and over	1,033	1,145	1,178	1,225	1,203	1,217	1,319	1,341	1,136	1,178	1,160
WHITE											
Total, age 16 and over	82,084	90,602	100,316	105,867	109,292	102,667	109,930	114,208	97,496	101,661	104,604
Men	49,881	53,074	56,228	57,800	58,871	57,014	59,245	60,817	55,287	56,197	56,752
16 to 24	10,795	11,718	11,047	9,843	9,242	11,090	9,953	9,421	10,923	9,699	9,103
25 to 54	30,965	33,105	37,041	40,342	42,256	37,370	40,939	43,051	36,742	39,775	41,447
55 and over	8,121	8,251	8,140	7,615	7,373	8,554	8,353	8,345	7,622	6,723	6,202
Women	32,203	37,528	44,088	48,067	50,421	45,653	50,685	53,391	42,209	45,464	47,852
16 to 24	8,890	10,051	10,271	9,731	9,453	10,472	10,100	9,710	9,952	9,284	9,013
25 to 54	18,595	22,382	28,635	33,379	36,052	29,872	35,391	38,462	27,187	31,389	34,118
55 and over	4,717	5,085	5,182	4,957	4,916	5,309	5,194	5,219	5,070	4,791	4,721
BLACK AND OTHER											
Total, age 16 and over	10,529	12,306	14,669	16,508	18,250	15,585	18,193	20,545	14,210	15,733	17,080
Men	5,734	6,443	7,372	8,080	8,740	7,811	8,929	10,018	7,171	7,691	8,166
16 to 24	1,363	1,552	1,545	1,439	1,399	1,783	1,880	2,042	1,522	1,400	1,347
25 to 54	3,602	4,075	4,988	5,805	6,502	5,103	6,049	6,899	4,842	5,512	6,060
55 and over	768	816	839	836	839	925	1,000	1,077	807	799	759
Women	4,795	5,863	7,297	8,428	9,510	7,774	9,264	10,527	7,039	8,042	8,914
16 to 24	1,216	1,460	1,583	1,594	1,752	1,763	1,983	2,202	1,526	1,516	1,538
25 to 54	3,018	3,774	5,015	6,090	6,969	5,291	6,494	7,472	4,833	5,809	6,617
55 and over	560	629	699	744	789	720	787	853	681	717	759

other two scenarios, their participation is expected to drop more sharply, and the male labor force age 55 to 64 would actually decrease. Participation rates for women in this age group are expected to increase under both the moderate- and high-growth projections. The result would be an older labor force with proportionately more women.

The scenarios in these projections for the age group 65 and over are the same for both sexes. For the high projection, recent legislation forbidding mandatory retirement before age 70 is expected to hold participation constant. Under the moderate-growth scenario, the measured rate of decrease in participation is reduced somewhat, so that labor force activity drops at a slower rate than in the past. Under the low-growth projection, the measured declines in labor force participation are projected to continue.

An experienced labor force, 1985–95

During 1985–95, the baby-boom generation will be in the prime working ages and the relatively small number of persons born in the Great Depression will begin retiring, easing pressures on retirement systems.

To put the 1995 projections in context, it is useful to look back to 1965, a time of the buildup of forces in Vietnam and a period of lower inflation. The fertility rate was 2.9 children per woman, well above the Census Bureau's Series II projection of 2.1 for 1995.⁷ In fact, 1965 was the first year in which births were below 4 million—after 11 years of high birth rates. In 1965, 40 percent of all women, 34 percent of all married women, and 23 percent of mothers with children under age 6 were in the labor force. Although comparable projections of the labor force by marital and parental status were not made by the Bureau of Labor Statistics for 1995, more than half of all married women were already in the labor force by 1979, as were 45.2 percent of mothers with preschool children. Both groups (which, of course, overlap) are projected to supply much of the labor force growth in the 1990's.

Youths. In 1965, youths were a relatively small proportion of the labor force, 18 percent. By 1979, this number had climbed to 24.4 percent. The effects of changes in the composition of the labor force may be seen by looking at the median age of the labor force. In 1965, it was 40 years; by 1979, it had dropped 5 years, taking the effects of both greater retirement and the aging of the baby-boom generation into account; by 1995, the median age of the labor force is projected to be 37.5 years.

Based on the Census Bureau's Series II birth rate projection, the youth labor force would continue to decrease from 1985 to 1995, although a larger proportion of teenagers would participate in the labor force. Only

under the high-growth pattern would young men age 20 to 24 have a greater participation rate than in 1979. By 1995, the youth labor force would be a smaller proportion of the labor force than in either 1979 or 1985.

Prime-age workers. By 1995, more than 70 percent of the labor force would be in the prime working ages. For the middle- and high-growth scenarios, this is actually a lower proportion than in 1985. The projected growth for prime-age men is about the same under all three scenarios; consequently, even after the growth in female participation is taken into account, the prime-age labor force is still more stable over the scenarios than that of the younger and older age groups. (See table 6.) In the middle- and low-growth projections, it is assumed that the youth and the older labor force grow relatively slower than the prime-age labor force, so these scenarios have a higher proportion of prime-age workers. However, the greatest number of prime-age workers would be attained under the high-growth pattern. Under all projections, the labor force would have more women and more blacks than now: 47 percent of the labor force would be women, and 14 to 15 percent of the labor force would be black. Following are selected annual growth rates (in percent) of all persons in the labor force, by major age group and race, 1965–79, and projected growth to 1995:

	1965–79	1979–95
Youth	3.9	–0.9
Prime	2.2	2.3
Older . . . . .	.4	–.2
White	2.3	1.2
Black and other	2.8	2.5

Older workers. Under all scenarios, workers age 55 and older would continue to be a decreasing proportion of the workforce. The changes for the 25 years from 1970 are most dramatic in the low-growth projection—in 1995, older workers would constitute about two-thirds the proportion of the labor force that they did in 1970. This drop reflects both their expected continued drop in participation and the increase in the numbers of persons in the prime working ages, when participation is highest. The drop in the proportions for the middle- and high-growth paths is less extreme, from 14 percent in 1979 to around 11 percent in 1995.

How the projections were revised

The uncertainty of the projection process is indicated by the changes from the 1978 set.⁸ (See table 7.) The difference between the high and low in 1985 and 1990 is about the same as that in the 1978 projections; the current middle projection is midway between the previous middle and high. Each scenario, high, middle, and low was revised upward—the low one the most, to almost

Table 6. Labor force distribution by sex, age, and race, 1975-79 and projected to 1995

[In percent]

Sex, age, and race	Actual		Projected								
	1975	1979	Middle growth			High growth			Low growth		
			1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men	60.0	57.8	55.3	53.8	53.0	54.8	53.2	52.5	55.9	54.4	53.3
16 to 24	13.1	13.3	10.9	9.2	8.3	10.8	9.2	8.5	11.1	9.4	8.5
16 to 19	5.1	4.8	3.8	3.4	3.2	3.8	3.5	3.3	3.8	3.5	3.3
20 to 24	7.9	8.0	7.1	5.7	5.0	7.0	5.7	5.1	7.2	5.9	5.2
25 to 54	37.3	36.1	36.5	37.7	38.2	35.9	36.6	37.0	37.2	38.5	39.0
25 to 34	14.9	15.3	15.6	15.0	13.3	15.4	14.7	13.0	15.9	15.4	13.6
35 to 44	11.1	11.0	12.3	13.6	14.3	12.1	13.1	13.8	12.6	13.9	14.6
45 to 54	11.2	9.7	8.5	9.0	10.5	8.3	8.7	10.1	8.6	9.1	10.7
55 and over	9.5	8.3	7.8	6.9	6.4	8.0	7.3	6.9	7.5	6.3	5.7
55 to 64	7.5	6.9	6.1	5.4	5.0	6.2	5.5	5.2	6.0	5.0	4.6
65 and over	2.0	1.3	1.6	1.4	1.3	1.7	1.7	1.7	1.5	1.3	1.0
Women	39.9	42.1	44.6	46.1	46.9	45.1	46.7	47.4	44.0	45.5	46.6
16 to 24	10.9	11.1	10.3	9.2	8.7	10.3	9.4	8.8	10.2	9.1	8.6
16 to 19	4.3	4.3	3.6	3.4	3.3	3.6	3.4	3.3	3.6	3.4	3.3
20 to 24	6.5	6.8	6.6	5.8	5.4	6.7	6.0	5.4	6.6	5.7	5.3
25 to 54	23.3	25.4	29.2	32.2	33.7	29.7	32.6	34.0	28.6	31.6	33.4
25 to 34	9.1	10.8	13.0	13.5	12.5	13.4	13.9	12.8	12.5	13.1	12.3
35 to 44	7.0	7.9	10.1	11.9	13.0	10.2	12.0	13.1	9.9	11.7	13.0
45 to 54	7.1	6.6	6.1	6.7	8.1	6.0	6.7	8.0	6.1	6.8	8.1
55 and over	5.6	5.5	5.1	4.6	4.4	5.0	4.6	4.5	5.1	4.6	4.5
55 to 64	4.5	4.4	4.0	3.6	3.5	4.0	3.6	3.5	4.1	3.6	3.5
65 and over	1.1	1.1	1.0	1.0	.9	1.0	1.0	.9	1.0	1.0	.9
WHITE											
Total, age 16 and over	88.6	88.0	87.2	86.5	85.6	86.8	85.8	84.7	87.2	86.5	85.9
Men	53.8	51.5	48.9	47.2	46.1	48.2	46.2	45.1	49.4	47.8	46.6
16 to 24	11.6	11.3	9.6	8.0	7.2	9.3	7.7	6.9	9.7	8.2	7.4
25 to 54	33.4	32.1	32.2	32.9	33.1	31.6	31.9	31.9	32.8	33.8	34.0
55 and over	8.7	8.0	7.0	6.2	5.7	7.2	6.5	6.1	6.8	5.7	5.0
Women	34.7	36.4	38.3	39.2	39.5	38.6	39.5	39.6	37.7	38.7	39.3
16 to 24	9.5	9.7	8.9	7.9	7.4	8.8	7.8	7.2	8.9	7.9	7.4
25 to 54	20.0	21.7	24.9	27.2	28.2	25.2	27.6	28.5	24.3	26.7	28.0
55 and over	5.0	4.9	4.5	4.0	3.8	4.4	4.0	3.8	4.5	4.0	3.8
BLACK AND OTHER											
Total, age 16 and over	11.3	11.9	12.7	13.4	14.3	13.1	14.1	15.2	12.7	13.4	14.0
Men	6.1	6.2	6.4	6.6	6.8	6.6	6.9	7.4	6.4	6.5	6.7
16 to 24	1.4	1.5	1.3	1.1	1.0	1.5	1.4	1.5	1.3	1.1	1.1
25 to 54	3.8	3.9	4.3	4.7	5.0	4.3	4.7	7.3	4.3	4.6	4.9
55 and over	.8	.7	.7	.6	.6	.7	.7	.7	.7	.6	.6
Women	5.1	5.6	6.3	6.8	7.4	6.5	7.2	7.8	6.3	6.8	7.3
16 to 24	1.3	1.4	1.3	1.3	1.3	1.4	1.5	1.6	1.3	1.2	1.2
25 to 54	3.3	3.6	4.3	4.9	5.4	4.4	5.0	5.5	4.3	4.9	5.4
55 and over	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6

the level of the previous middle-growth path. The changes reflect the effects of two additional years of observations, as well as changes in the assumptions made for women age 20 to 44 mentioned earlier. They also reflect the general experience that it is more difficult to project an increasing phenomenon.

In 1990, the projected number of women would be about 2.5 million higher under each scenario, but the proportion of the labor force in each major age group differs among scenarios. Under both the high and middle scenarios, the number of young women in the labor force would be smaller than in the previous projection, reflecting their slower participation growth. For women in the 20 to 44 age group, the 1978 projection included an adjustment to the high-growth scenario to reflect accelerating participation rates; in the current projection, this assumption was formally introduced in both the

middle- and high-growth scenarios.

The differences between the two sets of projections are less uniform for men. The number of men in the labor force is essentially unchanged in the high-growth scenario; in the low and middle scenarios the number of men is projected to increase. The Bureau of Labor Statistics typically revised downward the number of men in the labor force with each succeeding labor force projection (while increasing the number of women). These changes reflect the slowing or ending of the decline in male participation rates. For the high-growth scenario, it is assumed that male participation rates will either rise or at least hold constant.

To summarize, for each scenario, the number of women expected to be in the labor force was revised upward by about the same amount. For men, the high-growth projection was approximately the same as the

last projection, the middle-growth path was revised upward slightly, and the low-growth path was revised upward significantly.

Possible consequences

A number of questions could be asked about the possible consequences of the changes in the structure of the population and of the labor force in these projections. Would these changes affect the ability of society to maintain the responsibilities it has assumed, such as social security? Could the changing composition of the labor force make goals such as equal employment opportunity easier or more difficult to accomplish? Is there potential for changes in productivity? Will there be scarcities of certain kinds of workers? How would migration affect the composition of the labor force?

Societal responsibilities. One of the implications of these projections is the change in the "economic dependency ratios" for both the high and middle projections. The economic dependency ratio is defined as all persons not in the labor force (including those under age 16) divided by the total in the labor force.⁹ This ratio should drop to below 100 nonworkers per 100 workers. Under the conditions of the middle-growth pattern, the depen-

dependency ratio would stabilize after 1990. Under the conditions of the high-growth scenario, (which assumes higher participation), the dependency ratio drops significantly; in fact, it shows no sign of leveling off in this century. Under the conditions of the low-growth projection, the dependency ratio would stabilize above the 100-nonworker-per-100-worker level, but well below historic levels. The following tabulation shows dependency ratios for 1965-79 and projected ratios for the three scenarios, 1985-95:

	Actual	Projected		
		Middle	High	Low
1965	151.8	...	...	...
1970	138.5	...	...	...
1975	125.4	...	...	...
1979	110.1	...	...	...
1985 .....	...	98.8	93.5	104.5
1990 .....	...	95.6	87.0	103.4
1995 .....	...	94.5	84.4	104.1

These favorable ratios are a characteristic of the age of the baby-boom cohort and of the numbers of projected births. A large labor force is combined with low births to give low economic dependency ratios. As the baby-

Table 7. Comparison of the current and previous projections for 1985 and 1990

[Numbers in thousands]

Growth path, sex, and age	1985			1990		
	Previous ¹	Current	Difference ²	Previous ¹	Current	Difference ²
MIDDLE						
Total, age 16 and over	112,953	114,985	2,032	119,366	122,375	3,039
Men	63,007	63,600	593	65,115	65,880	765
16 to 24	12,465	12,592	127	11,156	11,282	126
25 to 54	41,824	42,029	205	45,845	46,147	302
55 and over	8,718	8,979	261	8,114	8,451	337
Women	49,946	51,385	1,439	54,251	56,495	2,244
16 to 24	11,934	11,854	-80	11,225	11,325	100
25 to 54	32,432	33,650	1,218	37,713	39,469	1,756
55 and over	5,580	5,881	301	5,313	5,701	388
HIGH						
Total, age 16 and over	117,005	118,252	1,247	125,603	128,123	2,520
Men	65,013	64,825	-188	68,220	68,174	-46
16 to 24	12,882	12,873	-9	11,879	11,833	-46
25 to 54	42,533	42,473	-60	47,056	46,988	-68
55 and over	9,598	9,479	-119	9,285	9,353	68
Women	51,992	53,427	1,435	57,383	59,949	2,566
16 to 24	12,510	12,235	-275	12,054	12,083	29
25 to 54	33,596	35,163	1,567	39,630	41,885	2,256
55 and over	5,886	6,029	143	5,699	5,981	282
LOW						
Total, age 16 and over	108,900	111,706	2,806	113,521	117,394	3,873
Men	61,169	62,458	1,289	62,472	63,888	1,416
16 to 24	12,134	12,445	311	10,744	11,099	355
25 to 54	41,219	41,584	365	44,844	45,287	443
55 and over	7,816	8,429	613	6,884	7,502	618
Women	47,731	49,248	1,517	51,049	53,506	2,457
16 to 24	11,315	11,477	162	10,375	10,800	425
25 to 54	31,220	32,020	800	35,942	37,198	1,256
55 and over	5,196	5,751	555	4,732	5,508	776

¹ The previous projections were published in Paul O. Flaim and Howard N Fullerton, Jr., "Labor force projections to 1990: Three possible paths," *Monthly Labor Review*, pp. 25-35.

December 1978.

² A minus sign indicates that the current projection is lower than the previous projection.

boom cohort leaves the prime working ages (after 2015), the dependency ratios should rise again, although the higher mortality of older people will prevent it from reaching the levels of the 1960's. Differences in the number of older people are a consequence of past fertility—not improvements in mortality—but if spectacular increases in longevity occur, this could change.¹⁰ Thus, the current difficulties of the social security system are not a result of the current age composition of the population. This favorable age composition effect on social security almost certainly will reverse in the early part of the next century.

Black-white differentials. One dilemma confronting labor force forecasters and policymakers concerned with employment and training programs has been the continued divergence of labor force participation between blacks and whites in the prime-age groups. As recently as the mid-1950's, the rates for men were virtually the same; but since then, the participation rates for black men have dropped more rapidly than those for white men. The high-growth scenario projects a possible return to parity of their labor force rates. The extent to which black rates have to increase is a measure of the problems that have to be confronted. In numbers, about 1.3 million more black men would participate in the high than in the middle-growth path labor force. For women, the picture has been different; in 1979, the rate for prime-age black women was higher than that for their white counterparts (despite higher fertility among black women). Moreover, participation of women in both groups is increasing, although faster for whites.

The differences in female participation reflect the greater family responsibilities of black women—more are single parents than are whites, although the number of such white women is increasing.¹¹ The higher fertility of black women obviously translates into higher population growth and then into higher labor force growth. Thus, the youth groups of the 1980's and 1990's will have a higher proportion of blacks.

Productivity. One question raised by these projections is the effect of a proportionally greater prime-age labor force on productivity. The proportion of prime-age workers will increase at least by 10 percentage points (with the low-growth projection having the greatest concentration in the prime ages). Analyses have centered on the relative size of the youth labor force (which will diminish) and on the likely impact this would have on productivity gains.¹² The growing proportion of the prime-age labor force should have a favorable impact on productivity because of the greater continuity of participation by women and because of the higher educational attainment of all age, sex, and ethnic components.¹³

In the 1980's and 1990's, employers may have increasing difficulty finding young workers. The decline in the number of youths will be particularly important to the Armed Forces—the largest single employer of youths. Given the decrease in the youth labor force, those who employ unskilled workers may also experience difficulty—depending to some extent on the Nation's immigration policy.

The growth of the prime-age labor force would exceed that of the overall labor force by 20 percent. Because this is the experienced component of the labor force, analysts who look for a shortage of skilled workers must consider likely changes in the composition of the prime-age labor force. More than half (59 percent) of the growth is projected to be generated by women and 22 percent by blacks (black women are in both groups). Skilled and professional workers will have to come from these groups in greater numbers than in the past if there is not to be a shortage.

In the U.S. labor market, there is a tradition of male occupations and of female occupations, and there has been little change in this pattern.¹⁴ The growth in female participation has occurred largely in occupations traditionally held by women. What would happen if demand would no longer grow in those sectors? The argument has been presented that higher participation would be translated into greater continuity of work and, thus, into more capacity to retain skills and professional abilities that diminish if not used. Given that much of the increase in female labor force activity will probably come from mothers, employers may have to review their personnel practices (such as provision of day care) to attract these workers.¹⁵

By 1995, the youngest of the baby-boom generation will be in their thirties. They may well face competition for career positions which may result in frustration for some and greater productivity for all. The older members of the baby-boom generation will be in the pre-retirement years and should be at the peak of their productivity.

Immigration. Along with growth in the native adult population and increased labor force activity, immigration represents a possible source of labor force growth. For purposes of this discussion, migration can be divided into two groups, legal or "documented" migration and illegal or "undocumented" migration. The Bureau of the Census projects that "documented" net migration will average 400,000 persons a year, with bulges in a few years such as 1976 and 1980 when large numbers of refugees reached our shores. To estimate the proportion of the labor force growth that net migration represents, we can look at 1979. The labor force participation rate for those age 16 and older was 63.7 percent. If the comparable rate for the migrant population was about the

same, and ignoring the fact that there are proportionately fewer older persons in the migrant population, some 173,000 would have been in the labor force in 1979, or about 7 percent of the actual labor force growth.¹⁶ Documented workers vary from those with high skills (the brain drain) and professional athletes to lower skilled agricultural and service workers.

Undocumented workers also represent a variety of skills, from college graduates to unskilled workers. By their nature, we know little about these people as a group. The discussion that follows is based on a study conducted by Jacob S. Siegel, Jeffrey S. Passel, and J. Gregory Robinson for the Select Commission on Immigration and Refugee Policy.¹⁷ After a review of past estimates, they concluded that there are 3 to 6 million undocumented workers in the United States. It is im-

portant not to confuse the *stock* of undocumented workers with the *flow* of documented workers discussed in the preceding paragraph. The only information available about flows of undocumented workers is for Mexicans. There appears to be considerable movement in both directions netting to zero (with large seasonal fluctuation). There is no way of ascertaining what portion of undocumented workers, if any, are currently accounted for in existing labor force data. Therefore, no changes have been made to the projections to account for undocumented workers.

Obviously, these last few paragraphs have raised rather than answered questions about the implications of the changing structure of the labor force. The topics discussed here illustrate some uses for which these projections have been generated; there also are other uses. □

— FOOTNOTES —

¹ These projections replace those described by Paul O. Flaim and Howard N Fullerton, Jr. in "Labor force projections to 1990: three possible paths," *Monthly Labor Review*, pp. 25-35, December 1978.

² These scenarios are prepared by projecting the changes in the ratio of the total labor force to the total population for each of 54 age-sex-race groups; the levels of the anticipated labor force were calculated by applying the projected rates to the Bureau of the Census' population projections. The high and low scenarios do not represent "confidence intervals," but rather different views of the future. A complete methodological statement is in preparation.

³ The term "blacks" refers to black and other races, which includes Negroes, American Indians, Eskimos, and others. At the time of the 1970 Census of Population, 89 percent of this population group was black.

⁴ *Projections of the Population of the United States: 1977 to 2050, Current Population Reports* (Bureau of the Census, Series P-25, No. 704, 1977). For an analysis of recent fertility trends, see Arthur A. Campbell, "Baby Boom to Birth Dearth and Beyond," *Annals*, January 1978, pp. 40-60.

⁵ There is no standard definition of the baby-boom period; this article uses the 1950's, as described in Leon F. Bouvier, "America's Baby Boom Generation: The Fateful Bulge," *Population Bulletin*, Vol. 35, No. 1, 1980.

⁶ *Projections of the Population . . .*, Table A-5. A moderate increase in fertility is plausible because the Series II population projections are tracking well at this time.

⁷ *Projections of the Population . . .*, Table A-5.

⁸ Flaim and Fullerton, "Labor force projections. . . ." Projections were not published for 1995.

⁹ There is no standard definition of the "economic dependency ra-

tio." See Henry S. Shryock, Jacob S. Siegel, and others, *The Methods and Materials of Demography* (Bureau of the Census, 1973), p. 235.

¹⁰ Jacob S. Siegel, "On the Demography of Aging," *Demography*, forthcoming, and Nathan Keyfitz, *Applied Mathematical Demography* (New York, John Wiley and Sons, 1977).

¹¹ Elizabeth Waldman and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 39-49.

¹² George L. Perry, "Potential Output and Productivity," *Brookings Papers on Economic Activity*, 1977; J. R. Norsworthy, M. J. Harper, and K. Kunze, "The Slowdown in Productivity Growth: Analysis of Some Contributing Factors," *Brookings Papers on Economic Activity*, 1979; and the discussion by Martin Neil Baily, Edward F. Denison, and Michael L. Wachter in the same issue.

¹³ Edward F. Denison, *Accounting for United States Economic Growth, 1929-1969* (Washington, The Brookings Institution, 1974), and *Accounting for Slower Economic Growth* (Washington, The Brookings Institution, 1979).

¹⁴ Valerie K. Oppenheimer, "Demographic Influence on Female Employment and the Status of Women," in Joan Hamber, ed., *Changing Women in a Changing Society* (Chicago, University of Chicago Press, 1973).

¹⁵ Peter F. Drucker, *Managing in Turbulent Times* (New York, Harper and Row, 1980).

¹⁶ *Projections of the Population . . .* Table C-1 contains the distribution of the immigrant population.

¹⁷ Jacob S. Siegel, Jeffrey S. Passel, and J. Gregory Robinson, "Preliminary Review of Existing Studies of the Number of Illegal Residents in the United States" (Washington, Select Commission on Immigration and Refugee Policy, 1980).

Appendix A. Gross National Product and Components, Selected Historical and Projected Years, 1963 to 1990

Table A-1. Gross national product, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	830503	1007284	1182760	1597947	1725780	1715750	1818222	2077928	2076188
1. Dairy and poultry products	1545	1781	1337	1510	1568	1564	1725	1829	1856
2. Meat animals and livestock	557	108	485	716	742	727	878	1042	1014
3. Cotton	887	-350	700	1238	1268	1226	1320	1474	1399
4. Food and feed grains	1691	2481	3114	7171	7611	7342	8215	9515	8774
5. Agricultural products, n.e.c.	5367	5377	6315	10694	11325	11077	12308	13672	13147
6. Forestry and fishery products	-729	-1349	-706	-233	-283	-263	-346	-537	-523
7. Agricultural, forestry, and fishery services	130	368	303	421	465	460	507	604	606
8. Iron and ferroalloy ores mining	-532	-627	-534	-543	-632	-635	-572	-746	-780
9. Copper ore mining	1	-9	-43	-75	-90	-90	-83	-112	-118
10. Nonferrous metal ores mining, except copper	-48	-161	-120	-127	-131	-128	-84	-116	-125
11. Coal mining	954	1040	771	2978	3180	3048	3751	4241	3855
12. Crude petroleum and natural gas	-1596	-1169	-2633	-4715	-5389	-5342	-4426	-5613	-5668
13. Stone and clay mining and quarrying	638	757	918	1034	1038	1029	1074	1123	1106
14. Chemical and fertilizer mineral mining	2	89	26	74	68	60	70	54	27
15. Maintenance and repair construction	7249	7906	9454	10140	10210	10154	11020	11447	11491
16. Ordnance	1844	5302	2879	2906	3004	2982	3291	3452	3514
17. Complete guided missiles and space vehicles	4423	5251	3734	4890	4796	4746	5021	4869	4987
18. Meat products	17385	19487	21195	23735	24545	24455	26005	27563	27901
19. Dairy products	9605	10941	11039	15412	16047	15995	16640	17750	18022
20. Canned and frozen foods	7476	8586	9707	12423	12904	12858	13426	14257	14451
21. Grain mill products	2590	3564	4361	6485	6772	6708	7395	7992	7961
22. Bakery products	6897	7037	6903	6726	7013	7000	6778	7239	7379
23. Sugar	-168	-117	60	288	217	222	295	204	218
24. Confectionery products	2243	2792	2710	2971	3085	3076	3191	3380	3436
25. Alcoholic beverages	4360	4803	7471	10950	11039	11002	12753	12899	12879
26. Soft drinks and flavorings	2281	3903	4676	7638	7977	7948	9282	9950	10100
27. Food products, n.e.c.	5685	6564	6973	8273	8607	8519	9263	9932	9852
28. Tobacco manufacturing	7508	7453	7078	7263	7448	7369	7333	7625	7486
29. Fabric, yarn, and thread mills	766	627	537	851	812	776	937	851	718
30. Floor covering mills	966	1561	2689	4373	4707	4669	5017	5743	5749
31. Textile mill products, n.e.c.	-236	-128	-79	94	45	31	-3	-110	-165
32. Hosiery and knit goods	751	1002	1487	1570	1721	1724	1671	1834	1854
33. Apparel	17039	18896	19662	24528	26485	26554	28209	30725	31140
34. Fabricated textile products, n.e.c.	1706	2504	3107	3498	3858	3816	3853	4593	4679
35. Logging	132	275	391	972	1036	988	1146	1291	1155
36. Sawmills and planing mills	1661	1911	1953	1423	1314	1303	1434	951	892
37. Millwork, plywood, and wood products, n.e.c.	3431	3793	6405	8095	8426	8389	8463	9265	9299
38. Wooden containers	2	36	15	12	11	11	14	11	10
39. Household furniture	4520	5184	6754	8520	9171	9135	9441	10882	11165
40. Furniture and fixtures, except household	2229	2967	3458	4407	5105	5100	5038	6698	6715
41. Paper products	1476	1835	2739	2575	2537	2484	2760	2615	2467
42. Paperboard	185	227	255	291	308	304	325	369	363
43. Newspaper printing and publishing	1798	2045	1958	2488	2895	2865	2780	3133	3176
44. Periodical and book printing, publishing	3180	3776	4138	6774	7255	7194	7922	9056	9073
45. Printing and publishing, n.e.c.	1219	1815	2277	2718	2814	2791	2990	3262	3274
46. Industrial inorganic and organic chemicals	1929	2012	1796	3817	3869	3698	4680	4853	4392
47. Agricultural chemicals	303	444	475	1130	1178	1129	1431	1561	1413
48. Chemical products, n.e.c.	935	1519	1328	2039	2105	2065	2314	2468	2393
49. Plastic materials and synthetic rubber	398	459	562	1242	1300	1236	1457	1613	1425
50. Synthetic fibers	115	44	-13	376	377	349	514	520	422
51. Drugs	2705	3573	5696	10994	11208	11179	12853	13731	13562
52. Cleaning and toilet preparations	4403	5927	7581	9477	10044	9941	10708	12090	12137
53. Paints and allied products	588	678	917	1053	1096	1087	1196	1329	1324
54. Petroleum refining and related products	11676	14248	14899	14818	16399	16363	14431	16179	16201
55. Tires and inner tubes	1695	1780	2675	2982	3295	3290	3203	3903	3860
56. Rubber products, except tires and tubes	956	1291	1240	1268	1274	1268	1400	1429	1419
57. Plastic products	797	1157	2065	5388	5658	5547	6693	7495	7350
58. Leather tanning and industrial leather	-30	-64	-40	-66	-90	-94	-79	-122	-141
59. Leather products, including footwear	4122	4383	4122	4135	4353	4367	4455	4684	4744
60. Glass	662	826	907	924	936	912	1096	1169	1131

See footnotes at end of table.

Table A-1. Gross national product, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	5361	5592	6840	7293	7548	7528	7691	8407	8460
62. Structural clay products	907	799	860	934	965	960	986	1002	1002
63. Pottery and related products	442	370	553	534	537	527	562	569	565
64. Stone and clay products, n.e.c.	1469	1402	1640	2153	2219	2203	2354	2586	2576
65. Blast furnaces and basic steel products	2672	1127	-396	-1935	-2509	-2504	-3801	-5287	-5441
66. Iron and steel foundries and forgings	586	583	840	953	973	958	959	1024	993
67. Primary copper and copper products	2079	1835	2695	2964	3022	2991	3211	3469	3413
68. Primary aluminum and aluminum products	89	132	-311	-325	-412	-430	-385	-586	-667
69. Primary nonferrous metals and products, n.e.c.	-807	-1103	-1195	-2394	-2763	-2751	-2941	-3746	-3824
70. Metal containers	92	126	73	93	96	94	106	121	115
71. Heating apparatus and plumbing fixtures	1349	1205	1370	1513	1580	1568	1668	1750	1745
72. Fabricated structural metal products	8008	10031	11803	15041	15875	15814	16287	18734	18782
73. Screw machine products	169	313	124	132	106	101	151	110	97
74. Metal stampings	490	716	1025	1714	1792	1725	2047	2289	2134
75. Cutlery, handtools, and general hardware	1290	1396	1839	2395	2498	2459	2704	2995	2945
76. Fabricated metal products, n.e.c.	1619	2477	3588	4741	5012	4959	5267	6043	5948
77. Engines, turbines, and generators	1464	2218	2791	4078	4584	4502	4534	5693	5499
78. Farm machinery	2888	4309	4533	7982	9096	9064	9659	12628	12540
79. Construction, mining, and oilfield machinery	4646	5476	6427	11807	13481	13257	14822	19227	18610
80. Material handling equipment	1466	2105	2295	3359	3930	3913	4209	5719	5688
81. Metalworking machinery	3097	4849	4628	6869	8115	8060	8027	10977	10847
82. Special industry machinery	3634	4784	4772	4849	5756	5707	5000	6923	6769
83. General industrial machinery	3130	3561	3298	5236	6042	5973	6647	8880	8688
84. Nonelectrical machinery, n.e.c.	269	465	433	575	605	596	670	754	735
85. Computers and peripheral equipment	1798	3284	5325	19729	22538	22178	30012	38771	37680
86. Typewriters and other office equipment	772	1222	1142	2914	3381	3358	3500	4667	4629
87. Service industry machines	2651	3882	4865	6567	7388	7338	7446	9426	9357
88. Electric transmission equipment	2422	3227	3725	5497	6246	6217	6605	8475	8440
89. Electrical industrial apparatus	1246	1966	1656	2398	2695	2663	3024	3809	3742
90. Household appliances	3668	4406	5952	7280	7999	7947	8316	9664	9855
91. Electric lighting and wiring	2233	2498	3113	3587	3807	3773	4174	4726	4706
92. Radio and television receiving sets	1907	3408	3503	6154	7280	7127	6169	9209	9218
93. Telephone and telegraph apparatus	1458	2292	3102	4541	5408	5402	5516	7687	7684
94. Radio and communication equipment	7523	9530	7342	11761	12255	12195	14116	15631	15845
95. Electronic components	779	1213	1414	5222	5458	5237	6535	7118	6438
96. Electrical machinery and equipment, n.e.c.	1096	1488	1890	2975	3306	3273	3530	4275	4209
97. Motor vehicles	27202	31750	43373	56665	67456	67465	66511	86250	85908
98. Aircraft	13732	17537	12822	24729	25085	24703	29019	30658	30084
99. Ship and boat building and repair	2220	3283	3998	5822	6363	6311	6987	8364	8447
100. Railroad equipment	1490	2377	1747	2922	3467	3457	3636	5092	5077
101. Motorcycles, bicycles, and parts	123	214	357	496	611	590	596	912	926
102. Transportation equipment, n.e.c.	877	1743	5037	4226	4661	4644	4597	5476	5504
103. Scientific and controlling instruments	1905	2334	2686	5732	6378	6319	6611	8141	8044
104. Medical and dental instruments	735	1190	1691	3185	3608	3587	3906	5070	5027
105. Optical and ophthalmic equipment	400	614	917	2156	2336	2327	2745	3371	3350
106. Photographic equipment and supplies	1013	2157	3569	7121	8185	8090	8615	11008	10820
107. Watches, clocks, and clock-operated devices	300	440	322	786	810	811	838	917	908
108. Jewelry and silverware	1144	1651	2104	2429	2444	2447	2582	2899	2873
109. Musical instruments and sporting goods	2302	2558	3622	4639	5409	5355	5132	6319	6353
110. Manufactured products, n.e.c.	1376	1741	2189	2667	2840	2806	2881	3274	3233
111. Railroad transportation	5118	5687	5596	6660	7138	7055	7431	8455	8341
112. Local transit and intercity buses	4258	4510	4896	5345	5564	5570	5979	6246	6245
113. Truck transportation	8023	9199	12312	14740	16055	15920	17153	19972	19890
114. Water transportation	3153	3419	3508	5496	5789	5629	6406	7027	6640
115. Air transportation	2597	5322	7224	13123	14132	13987	17066	19515	19187
116. Pipeline transportation	241	344	388	537	577	568	636	700	674
117. Transportation services	196	142	411	536	571	557	655	749	702
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	8275	11902	17790	34700	38176	37851	42112	49474	49867
120. Electric utilities, public and private	8508	10868	14554	21444	22716	22537	25020	27454	27868

See footnotes at end of table.

Table A-1. Gross national product, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	5093	5982	7009	6733	6760	6753	6675	6789	6725
122. Water and sanitary services, excluding public	2428	2684	2997	3691	3761	3756	4282	4505	4566
123. Wholesale trade	37667	46522	60941	79189	86561	85925	92533	109063	108766
124. Eating and drinking places	29602	31766	36595	48630	51744	51701	55140	59383	60376
125. Retail trade, except eating and drinking places	74866	91792	110451	138723	153251	152905	163565	190496	193007
126. Banking	9529	10512	15182	23590	23970	23808	27145	28177	28377
127. Credit agencies and financial brokers	5226	8721	7776	10723	13492	13740	11775	15264	15559
128. Insurance	14056	16676	19929	27720	28516	28515	33105	37085	37355
129. Owner-occupied real estate	50347	60500	76688	116740	129850	130088	135401	157740	160714
130. Real estate	26240	30792	41103	55412	60294	60196	62982	71635	72278
131. Hotels and lodging places	3388	4522	5993	7973	8746	8694	9145	9868	10091
132. Personal and repair services	9697	11070	12181	12336	14516	14577	13245	16713	17173
133. Barber and beauty shops	3935	4515	4310	4133	4495	4504	4067	4873	5024
134. Business services, n.e.c.	5123	7186	8410	14663	15178	15044	16965	18262	18331
135. Advertising	574	625	688	822	839	835	886	966	963
136. Professional services, n.e.c.	10383	11262	14406	20975	22004	21902	23937	27161	27673
137. Automobile repair	9599	11583	14698	21911	23659	23571	26309	30631	30475
138. Motion pictures	2411	2084	2062	4565	5191	5106	5250	6452	6409
139. Amusements and recreation services	5317	5834	6578	12350	13458	13323	15259	17803	18166
140. Doctors' and dentists' services	14441	18126	23306	35732	37304	37440	41997	47854	48538
141. Hospitals	11004	14676	22390	38017	39647	39397	46200	53742	54208
142. Medical services, except hospitals	3991	4745	8241	13632	14392	14337	15933	19647	19796
143. Educational services	8430	11013	12789	14048	14634	14738	15412	16481	16706
144. Nonprofit organizations	10096	11968	13105	17757	19184	19284	20545	24387	24939
145. Post office	1945	2550	2902	3377	3529	3501	3638	3949	4001
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	280	389	421	426	461	449	507	573	547
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	827	1053	2051	2607	2766	2759	2925	3280	3280
150. Noncomparable imports	-4692	-4423	-5062	-10856	-13414	-13234	-18167	-24432	-24715
151. Scrap, used and secondhand goods	213	-1353	-1761	-13030	-5287	-5356	-18389	-8362	-8629
152. Construction industry	40518	49265	54968	59367	61646	61451	65979	72306	72826
153. Government industry	100232	121953	131948	161167	161167	159998	167585	167585	165869
154. Rest of the world industry	2080	5798	6918	14025	14223	12784	14472	14165	9548
155. Households	6431	6442	5349	3986	4068	4065	3962	4004	4013
156. Inventory valuation adjustment	-251	-2127	-7591	-11519	-7000	-6941	-12897	-10246	-10189

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

Table A-2. Personal consumption expenditures, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	501375	603172	738069	996029	1084101	1082627	1149936	1319912	1339262
1. Dairy and poultry products	1486	1716	1269	1437	1492	1490	1644	1746	1778
2. Meat animals and livestock	172	190	185	340	396	392	484	615	624
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	3	247	163	187	195	195	201	215	220
5. Agricultural products, n.e.c.	3793	4219	4417	5701	6101	6083	6352	7060	7205
6. Forestry and fishery products	623	249	848	1385	1499	1494	1628	1828	1864
7. Agricultural, forestry, and fishery services	21	168	125	226	263	261	296	376	382
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	304	221	125	89	104	103	113	126	130
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	18	5	5	5	5	5	5	6	6
14. Chemical and fertilizer mineral mining	2	3	3	3	3	3	3	4	4
15. Maintenance and repair construction	0	0	0	0	0	0	0	0	0
16. Ordnance	233	406	457	769	898	887	883	1120	1136
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	17303	19540	20976	23311	24292	24249	25349	27145	27686
19. Dairy products	9048	9968	10318	14602	15228	15201	15726	16797	17137
20. Canned and frozen foods	7213	8122	9382	11969	12483	12460	12970	13854	14133
21. Grain mill products	2006	2858	3525	5169	5394	5384	5762	6159	6285
22. Bakery products	6772	6907	6762	6600	6884	6872	6627	7081	7225
23. Sugar	846	890	1021	1115	1163	1161	1201	1284	1310
24. Confectionery products	2217	2759	2703	2988	3118	3112	3219	3440	3511
25. Alcoholic beverages	4774	5341	8105	11960	12235	12190	13951	14442	14452
26. Soft drinks and flavorings	2172	3777	4511	7266	7582	7568	8816	9424	9618
27. Food products, n.e.c.	4914	5912	5975	6796	7088	7075	7438	7945	8106
28. Tobacco manufacturing	6890	6545	6087	5980	6098	6073	5923	6026	6032
29. Fabric, yarn, and thread mills	796	720	639	821	912	912	940	1069	1089
30. Floor covering mills	804	1269	1391	2316	2506	2476	2816	3195	3191
31. Textile mill products, n.e.c.	131	141	123	150	165	163	179	206	208
32. Hosiery and knit goods	732	959	1551	1726	1919	1923	1855	2083	2116
33. Apparel	17213	19213	21012	27289	29742	29799	31500	35023	35566
34. Fabricated textile products, n.e.c.	1556	2047	2775	3057	3429	3396	3409	4146	4254
35. Logging	50	30	5	3	4	4	4	4	4
36. Sawmills and planing mills	0	0	0	0	0	0	0	0	0
37. Millwork, plywood, and wood products, n.e.c.	242	304	380	521	564	556	640	728	727
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	3821	4520	5706	7365	7914	7884	8163	9277	9573
40. Furniture and fixtures, except household	228	278	257	347	375	371	428	485	485
41. Paper products	1589	1782	2389	2565	2785	2778	2941	3288	3339
42. Paperboard	89	86	106	98	108	108	111	126	128
43. Newspaper printing and publishing	1788	2036	1949	2475	2884	2855	2767	3120	3165
44. Periodical and book printing, publishing	2247	2509	2901	5223	5726	5688	6167	7258	7340
45. Printing and publishing, n.e.c.	592	808	880	1033	1128	1123	1179	1356	1390
46. Industrial inorganic and organic chemicals	14	21	20	29	32	32	32	38	39
47. Agricultural chemicals	77	109	153	253	278	277	296	334	339
48. Chemical products, n.e.c.	277	295	375	456	505	504	544	626	633
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	2013	2613	4175	7380	7541	7585	8530	9108	9146
52. Cleaning and toilet preparations	4081	5435	7069	8662	9209	9127	9596	10852	10954
53. Paints and allied products	28	60	123	114	125	125	132	149	151
54. Petroleum refining and related products	9004	10924	13503	12081	13183	13175	11481	12693	12742
55. Tires and inner tubes	1392	1483	2594	3238	3652	3649	3533	4423	4420
56. Rubber products, except tires and tubes	734	911	1081	1197	1246	1244	1389	1526	1541
57. Plastic products	165	380	688	2080	2267	2218	2613	3008	3042
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0
59. Leather products, including footwear	4364	4760	4923	5407	5834	5836	5750	6342	6427
60. Glass	375	523	563	587	638	626	723	831	838

See footnotes at end of table.

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Federal Reserve Bank of St. Louis

Table A-2. Personal consumption expenditures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	3	3	1	2	2	2	2	2	2
62. Structural clay products	0	0	0	0	0	0	0	0	0
63. Pottery and related products	287	305	414	484	525	514	532	608	612
64. Stone and clay products, n.e.c.	143	164	206	323	349	348	337	408	423
65. Blast furnaces and basic steel products	14	5	5	4	5	5	5	6	6
66. Iron and steel foundries and forgings	0	0	0	0	0	0	0	0	0
67. Primary copper and copper products	4	8	8	9	10	10	11	14	14
68. Primary aluminum and aluminum products	13	10	20	26	28	27	31	35	36
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	63	39	80	94	105	105	120	145	149
72. Fabricated structural metal products	19	21	49	68	74	73	84	95	95
73. Screw machine products	41	52	40	38	43	42	44	53	55
74. Metal stampings	333	416	421	405	439	429	487	559	564
75. Cutlery, handtools, and general hardware	578	705	849	1092	1178	1162	1240	1431	1436
76. Fabricated metal products, n.e.c.	153	202	299	318	348	344	367	421	426
77. Engines, turbines, and generators	154	167	138	236	275	270	269	356	360
78. Farm machinery	13	42	66	92	99	98	113	128	128
79. Construction, mining, and oilfield machinery	0	0	0	0	0	0	0	0	0
80. Material handling equipment	0	0	0	0	0	0	0	0	0
81. Metalworking machinery	92	95	168	234	254	251	289	328	328
82. Special industry machinery	25	24	45	63	69	68	78	89	89
83. General industrial machinery	0	0	0	0	0	0	0	0	0
84. Nonelectrical machinery, n.e.c.	3	5	18	28	31	31	35	41	41
85. Computers and peripheral equipment	0	0	12	307	333	329	403	458	458
86. Typewriters and other office equipment	142	149	199	297	322	318	362	411	410
87. Service industry machines	393	466	486	587	659	655	646	779	800
88. Electric transmission equipment	9	12	29	30	34	33	34	40	40
89. Electrical industrial apparatus	16	19	24	34	37	36	42	48	48
90. Household appliances	2573	3447	4573	5924	6620	6577	6575	7754	7980
91. Electric lighting and wiring	530	668	926	1193	1329	1318	1436	1676	1689
92. Radio and television receiving sets	1678	3503	4817	9763	11505	11333	11720	16345	16513
93. Telephone and telegraph apparatus	0	0	17	23	25	25	29	33	33
94. Radio and communication equipment	82	63	78	155	183	180	184	257	260
95. Electronic components	172	165	319	634	746	735	753	1049	1060
96. Electrical machinery and equipment, n.e.c.	525	764	1156	1668	1884	1878	1960	2361	2376
97. Motor vehicles	15560	19145	28380	37333	44495	44679	42403	53114	53794
98. Aircraft	60	60	106	181	211	208	206	273	277
99. Ship and boat building and repair	267	479	973	1668	1940	1910	1898	2516	2545
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	225	361	1313	2102	2444	2407	2367	3137	3174
102. Transportation equipment, n.e.c.	139	457	1628	1383	1635	1632	1466	1874	1898
103. Scientific and controlling instruments	22	30	33	47	50	49	55	61	62
104. Medical and dental instruments	156	207	275	395	411	413	499	568	573
105. Optical and ophthalmic equipment	275	407	486	799	864	865	886	1104	1117
106. Photographic equipment and supplies	448	780	1072	2155	2493	2471	2651	3294	3348
107. Watches, clocks, and clock-operated devices	388	521	524	936	1004	1006	1048	1225	1232
108. Jewelry and silverware	1322	1867	2255	2685	2791	2804	2921	3399	3431
109. Musical instruments and sporting goods	2068	2413	3396	4932	5789	5742	5491	6791	6906
110. Manufactured products, n.e.c.	880	1131	1343	1679	1839	1825	1960	2284	2313
111. Railroad transportation	2474	2715	2486	2863	3101	3098	3299	3709	3761
112. Local transit and intercity buses	3818	3846	4158	4681	4907	4914	5280	5535	5532
113. Truck transportation	3429	3975	6675	7563	8142	8117	8672	9846	10001
114. Water transportation	800	643	1028	1237	1335	1332	1427	1609	1625
115. Air transportation	1941	3575	5806	9589	10578	10572	12416	14723	14834
116. Pipeline transportation	167	230	290	300	328	327	335	366	367
117. Transportation services	25	104	196	243	259	258	274	318	314
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	6249	8920	12879	26690	29366	29110	32385	37753	38245
120. Electric utilities, public and private	7066	8949	12220	19093	20358	20181	22577	24972	25366

See footnotes at end of table.

Table A-2. Personal consumption expenditures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	4855	5723	6555	6591	6708	6700	6651	6957	6915
122. Water and sanitary services, excluding public	2351	2580	2801	3434	3495	3492	4000	4212	4270
123. Wholesale trade	24284	29563	38163	44825	48532	48390	51228	58334	58974
124. Eating and drinking places	30451	32556	37496	49486	52502	52463	56226	60409	61371
125. Retail trade, except eating and drinking places	66170	83533	102158	129662	143142	142816	153651	178045	180511
126. Banking	7517	8527	12374	19665	20018	19892	23174	23989	24228
127. Credit agencies and financial brokers	5049	8516	7579	10527	13263	13512	11585	15020	15318
128. Insurance	13389	16020	19082	26658	27442	27460	31962	35894	36218
129. Owner-occupied real estate	50347	60500	76688	116740	129850	130088	135401	157740	160714
130. Real estate	21524	25583	31977	43926	48265	48358	50402	57781	58793
131. Hotels and lodging places	2659	3666	5274	6788	7543	7497	7987	8687	8884
132. Personal and repair services	9295	10606	11362	11486	13623	13686	12266	15591	16046
133. Barber and beauty shops	3935	4515	4310	4133	4495	4504	4067	4873	5024
134. Business services, n.e.c.	618	1342	1901	3100	3487	3464	3608	4493	4588
135. Advertising	165	179	123	150	158	159	169	204	215
136. Professional services, n.e.c.	4233	4952	5350	9005	9661	9642	10806	12986	13546
137. Automobile repair	8998	10810	13780	20954	22662	22576	25291	29529	29365
138. Motion pictures	1801	1598	1672	3421	3986	3946	3926	4990	5062
139. Amusements and recreation services	5743	6213	6998	12700	13798	13660	15616	18169	18522
140. Doctors' and dentists' services	14073	17436	21676	33165	34724	34864	39307	45037	45716
141. Hospitals	10304	13248	19745	33517	35126	34880	41322	48634	49085
142. Medical services, except hospitals	3445	3539	4898	9016	9740	9690	10785	14201	14355
143. Educational services	6556	8664	11124	12014	12588	12750	13220	14295	14546
144. Nonprofit organizations	9997	11861	13025	17647	19072	19175	20429	24264	24826
145. Post office	1467	1781	1869	2128	2276	2259	2314	2592	2642
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	182	268	300	157	175	175	189	214	224
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	761	982	1987	2537	2692	2686	2855	3204	3205
150. Noncomparable imports	3785	5332	6550	6457	7076	7095	7268	8638	8788
151. Scrap, used and secondhand goods	1761	2639	2163	2279	2737	2748	3184	4022	4077
152. Construction industry	0	0	0	0	0	0	0	0	0
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	-1815	-2587	-3524	-7172	-7831	-7855	-7916	-9466	-9591
155. Households	6431	6442	5349	3986	4068	4065	3961	4003	4013
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-3. Gross private domestic investment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	124491	152600	195279	246388	292733	292521	286821	390171	392600
1. Dairy and poultry products	2	-6	-20	-25	-25	-25	-29	-35	-35
2. Meat animals and livestock	662	195	459	551	562	557	601	723	719
3. Cotton	-69	122	289	454	463	459	508	611	607
4. Food and feed grains	256	932	1336	1830	1867	1851	2032	2443	2430
5. Agricultural products, n.e.c.	1053	118	556	764	783	777	835	992	988
6. Forestry and fishery products	86	7	18	26	27	26	35	42	42
7. Agricultural, forestry, and fishery services	48	113	81	91	95	95	96	107	108
8. Iron and ferroalloy ores mining	-65	31	8	13	13	13	18	22	22
9. Copper ore mining	-5	6	23	23	23	23	28	33	33
10. Nonferrous metal ores mining, except copper	34	73	202	211	257	258	284	413	415
11. Coal mining	0	214	81	117	119	118	130	156	155
12. Crude petroleum and natural gas	32	314	129	163	182	181	186	246	246
13. Stone and clay mining and quarrying	261	226	416	541	564	562	617	688	692
14. Chemical and fertilizer mineral mining	-1	6	-8	-12	-12	-12	-13	-16	-16
15. Maintenance and repair construction	28	24	27	30	31	31	32	36	36
16. Ordnance	1	138	81	50	52	51	80	95	94
17. Complete guided missiles and space vehicles	-23	104	71	140	175	175	203	299	301
18. Meat products	257	287	294	375	383	380	415	498	496
19. Dairy products	15	55	69	84	86	85	90	108	108
20. Canned and frozen foods	39	295	134	170	174	172	188	227	225
21. Grain mill products	81	77	188	246	251	249	275	331	329
22. Bakery products	24	25	14	18	18	18	20	25	24
23. Sugar	142	55	12	15	16	16	20	25	24
24. Confectionery products	36	53	31	39	40	39	42	50	50
25. Alcoholic beverages	75	191	254	348	356	353	391	468	466
26. Soft drinks and flavorings	32	49	39	50	51	50	55	66	66
27. Food products, n.e.c.	136	92	233	307	313	311	340	409	406
28. Tobacco manufacturing	39	235	223	289	295	292	293	352	351
29. Fabric, yarn, and thread mills	41	130	279	384	392	389	448	538	535
30. Floor covering mills	174	275	1281	2066	2226	2222	2214	2596	2617
31. Textile mill products, n.e.c.	116	112	150	292	302	300	335	394	394
32. Hosiery and knit goods	15	40	89	131	134	133	154	185	184
33. Apparel	89	319	660	945	964	956	1120	1346	1339
34. Fabricated textile products, n.e.c.	48	55	169	245	250	248	281	338	336
35. Logging	-5	5	11	14	14	14	17	20	20
36. Sawmills and planing mills	1982	2318	2815	2945	3092	3082	3090	3458	3488
37. Millwork, plywood, and wood products, n.e.c.	3188	3273	6227	7800	8191	8168	8195	9138	9221
38. Wooden containers	1	3	3	-6	-6	-6	-6	-7	-7
39. Household furniture	749	638	1122	1302	1452	1448	1512	1954	1959
40. Furniture and fixtures, except household	1663	2199	2679	3367	4062	4068	3848	5475	5506
41. Paper products	347	478	500	627	650	647	693	798	800
42. Paperboard	47	46	64	90	92	91	103	123	123
43. Newspaper printing and publishing	4	2	14	23	23	23	25	30	30
44. Periodical and book printing, publishing	103	157	96	163	167	166	183	220	219
45. Printing and publishing, n.e.c.	69	211	173	255	260	258	288	345	344
46. Industrial inorganic and organic chemicals	189	288	282	344	391	390	411	544	546
47. Agricultural chemicals	30	89	66	92	94	93	99	119	118
48. Chemical products, n.e.c.	141	134	294	364	376	374	417	478	479
49. Plastic materials and synthetic rubber	13	42	87	134	136	135	158	191	190
50. Synthetic fibers	12	-19	-14	-24	-24	-24	-30	-36	-36
51. Drugs	106	123	212	353	360	357	407	490	487
52. Cleaning and toilet preparations	78	110	169	195	199	197	401	482	479
53. Paints and allied products	377	414	557	659	686	684	758	857	862
54. Petroleum refining and related products	985	1294	958	1023	1066	1063	1163	1297	1306
55. Tires and inner tubes	93	97	288	344	354	352	383	448	447
56. Rubber products, except tires and tubes	89	103	149	176	188	187	186	222	223
57. Plastic products	406	459	1113	2590	2700	2688	3049	3484	3500
58. Leather tanning and industrial leather	-13	-8	45	52	53	53	63	76	75
59. Leather products, including footwear	-67	27	209	234	239	237	281	338	336
60. Glass	216	183	289	365	376	374	423	493	493

See footnotes at end of table.

Table A-3. Gross private domestic investment, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	3615	3473	4676	5518	5779	5763	6012	6681	6739
62. Structural clay products	747	636	759	852	894	891	913	1015	1024
63. Pottery and related products	211	196	328	368	383	382	412	462	465
64. Stone and clay products, n.e.c.	976	860	1132	1534	1596	1591	1701	1904	1916
65. Blast furnaces and basic steel products	2054	1892	1965	1877	1945	1938	2133	2407	2417
66. Iron and steel foundries and forgings	386	314	205	235	245	245	259	292	294
67. Primary copper and copper products	1515	1839	2451	2722	2842	2832	2997	3388	3407
68. Primary aluminum and aluminum products	126	166	-12	-29	-29	-29	-38	-47	-47
69. Primary nonferrous metals and products, n.e.c.	22	131	108	162	165	164	207	248	247
70. Metal containers	53	92	45	55	59	58	61	77	77
71. Heating apparatus and plumbing fixtures	1063	951	1136	1235	1292	1288	1340	1501	1512
72. Fabricated structural metal products	5306	6567	8714	11265	12081	12055	12287	14589	14680
73. Screw machine products	95	111	91	118	121	121	136	159	159
74. Metal stampings	97	43	155	205	209	207	226	271	269
75. Cutlery, handtools, and general hardware	555	429	840	1008	1058	1054	1117	1290	1296
76. Fabricated metal products, n.e.c.	1021	1534	2817	3496	3786	3778	4029	4853	4877
77. Engines, turbines, and generators	596	1056	1779	2145	2576	2579	2362	3363	3379
78. Farm machinery	2661	4093	4396	7236	8561	8575	8714	12210	12276
79. Construction, mining, and oilfield machinery	2811	3358	4344	6894	8284	8293	8831	12566	12631
80. Material handling equipment	1200	1769	2068	2945	3515	3519	3759	5272	5302
81. Metalworking machinery	2325	4347	4016	5515	6718	6729	6430	9286	9337
82. Special industry machinery	2926	4215	4382	4529	5521	5530	4794	6925	6963
83. General industrial machinery	2231	2647	2652	4325	5188	5195	5729	8118	8163
84. Nonelectrical machinery, n.e.c.	30	87	106	138	149	149	160	204	203
85. Computers and peripheral equipment	1089	2382	3738	11051	13486	13510	17214	24875	25018
86. Typewriters and other office equipment	410	671	616	2121	2599	2604	2671	3880	3903
87. Service industry machines	1733	2606	3434	4564	5274	5274	5281	7058	7098
88. Electric transmission equipment	1784	2476	3053	4382	5176	5181	5289	7289	7331
89. Electrical industrial apparatus	728	1171	1124	1526	1829	1831	1903	2704	2716
90. Household appliances	987	902	1595	2008	2153	2147	2639	3112	3133
91. Electric lighting and wiring	1185	1192	1628	1922	2026	2019	2234	2586	2599
92. Radio and television receiving sets	278	251	486	854	930	926	991	1275	1275
93. Telephone and telegraph apparatus	1267	2032	2896	4147	5034	5042	5036	7251	7289
94. Radio and communication equipment	1335	2384	1534	3042	3711	3718	4409	6371	6409
95. Electronic components	90	174	13	197	206	204	264	325	323
96. Electrical machinery and equipment, n.e.c.	328	334	580	957	1128	1128	1267	1770	1777
97. Motor vehicles	8347	10635	17541	24413	29694	29742	27407	39503	39717
98. Aircraft	1092	5259	2183	3087	3712	3716	3665	5230	5255
99. Ship and boat building and repair	447	941	1375	1859	2203	2203	2318	3269	3282
100. Railroad equipment	1247	2146	1492	2636	3173	3177	3386	4839	4862
101. Motorcycles, bicycles, and parts	10	56	131	178	193	192	204	261	261
102. Transportation equipment, n.e.c.	721	1296	3455	2866	3066	3059	3162	3673	3705
103. Scientific and controlling instruments	832	1094	1512	3295	3909	3913	3828	5297	5329
104. Medical and dental instruments	349	615	1041	1998	2396	2398	2523	3597	3614
105. Optical and ophthalmic equipment	119	206	459	1449	1626	1628	1970	2527	2539
106. Photographic equipment and supplies	190	692	1695	3261	3995	4003	3910	5678	5711
107. Watches, clocks, and clock-operated devices	17	8	37	55	56	56	65	78	78
108. Jewelry and silverware	10	40	190	261	266	264	285	343	341
109. Musical instruments and sporting goods	306	321	494	680	780	779	869	1186	1188
110. Manufactured products, n.e.c.	363	490	703	851	976	976	901	1204	1208
111. Railroad transportation	1247	1208	1395	1650	1802	1798	1841	2268	2279
112. Local transit and intercity buses	5	7	11	13	13	13	14	15	15
113. Truck transportation	2034	1656	2425	2692	3300	3295	2996	4284	4309
114. Water transportation	75	74	180	210	222	222	224	261	262
115. Air transportation	131	216	150	173	198	198	184	238	239
116. Pipeline transportation	9	15	7	9	9	9	11	13	13
117. Transportation services	0	0	0	1	1	1	1	1	1
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	1115	1548	2439	3286	3975	3981	4017	5726	5761
120. Electric utilities, public and private	143	30	41	46	48	48	50	55	56

See footnotes at end of table.

Table A-3. Gross private domestic investment, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	4	7	5	5	6	6	6	6	7
122. Water and sanitary services, excluding public	56	14	80	90	94	94	97	108	109
123. Wholesale trade	6125	7234	11838	15410	17634	17628	18242	24119	24255
124. Eating and drinking places	306	434	423	472	495	494	512	567	572
125. Retail trade, except eating and drinking places	8115	7466	7557	8236	9254	9249	9038	11487	11576
126. Banking	229	192	286	320	335	335	346	384	387
127. Credit agencies and financial brokers	14	16	26	29	31	31	32	36	36
128. Insurance	247	266	263	293	307	306	320	355	358
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	3191	3240	5012	5601	5895	5881	6093	6747	6818
131. Hotels and lodging places	6	10	15	16	17	17	18	20	20
132. Personal and repair services	75	125	200	212	258	258	282	407	409
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	457	996	971	1340	1402	1398	1481	1643	1657
135. Advertising	102	91	43	48	50	50	52	57	58
136. Professional services, n.e.c.	2928	3078	4507	5962	6233	6216	6574	7292	7353
137. Automobile repair	316	319	318	354	370	369	390	432	436
138. Motion pictures	9	-67	-164	8	8	8	31	37	37
139. Amusements and recreation services	9	12	9	11	11	11	11	13	13
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	2	2	2	3	3	3	3	3	3
144. Nonprofit organizations	66	71	47	52	55	55	57	63	63
145. Post office	25	26	29	33	34	34	35	39	39
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	4	20	5	6	6	6	7	7	7
150. Noncomparable imports	41	-104	43	49	52	51	53	61	62
151. Scrap, used and secondhand goods	-2363	-4609	-5114	-16186	-8660	-8667	-21441	-11428	-11509
152. Construction industry	27667	32323	41386	45003	47119	46993	51437	57038	57540
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	-251	-2127	-7591	-11519	-7000	-6941	-12897	-10246	-10189

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

Table A-4. Producers' durable equipment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	42714	62407	77273	113907	145419	145713	141992	214486	215741
1. Dairy and poultry products	0	0	0	0	0	0	0	0	0
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	0	0	0	0	0	0	0	0	0
5. Agricultural products, n.e.c.	0	0	0	0	0	0	0	0	0
6. Forestry and fishery products	0	0	0	0	0	0	0	0	0
7. Agricultural, forestry, and fishery services	0	0	0	0	0	0	0	0	0
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	35	65	199	207	254	254	282	410	412
11. Coal mining	0	0	0	0	0	0	0	0	0
12. Crude petroleum and natural gas	12	18	53	73	90	90	88	128	129
13. Stone and clay mining and quarrying	0	0	0	0	0	0	0	0	0
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	0	0	0	0	0	0	0	0	0
16. Ordnance	0	0	0	0	0	0	0	0	0
17. Complete guided missiles and space vehicles	12	34	80	152	187	187	217	315	317
18. Meat products	0	0	0	0	0	0	0	0	0
19. Dairy products	0	0	0	0	0	0	0	0	0
20. Canned and frozen foods	0	0	0	0	0	0	0	0	0
21. Grain mill products	0	0	0	0	0	0	0	0	0
22. Bakery products	0	0	0	0	0	0	0	0	0
23. Sugar	0	0	0	0	0	0	0	0	0
24. Confectionery products	0	0	0	0	0	0	0	0	0
25. Alcoholic beverages	0	0	0	0	0	0	0	0	0
26. Soft drinks and flavorings	0	0	0	0	0	0	0	0	0
27. Food products, n.e.c.	0	0	0	0	0	0	0	0	0
28. Tobacco manufacturing	0	0	0	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	0	0	0	0	0	0	0	0	0
30. Floor covering mills	52	83	244	314	385	386	356	518	521
31. Textile mill products, n.e.c.	1	1	3	2	2	2	3	4	4
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	0	0	0	0	0	0	0	0	0
34. Fabricated textile products, n.e.c.	0	0	0	0	0	0	0	0	0
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	0	0	0	0	0	0	0	0	0
37. Millwork, plywood, and wood products, n.e.c.	7	9	5	5	6	6	4	6	6
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	153	190	570	568	697	698	645	938	943
40. Furniture and fixtures, except household	1481	1978	2388	3015	3697	3704	3468	5042	5071
41. Paper products	0	0	0	0	0	0	0	0	0
42. Paperboard	0	0	0	0	0	0	0	0	0
43. Newspaper printing and publishing	0	0	0	0	0	0	0	0	0
44. Periodical and book printing, publishing	0	0	0	0	0	0	0	0	0
45. Printing and publishing, n.e.c.	0	0	0	0	0	0	0	0	0
46. Industrial inorganic and organic chemicals	45	83	164	188	231	231	228	331	333
47. Agricultural chemicals	0	0	0	0	0	0	0	0	0
48. Chemical products, n.e.c.	0	0	0	0	0	0	0	0	0
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	0	0	0	0	0	0	0	0	0
52. Cleaning and toilet preparations	0	0	0	0	0	0	0	0	0
53. Paints and allied products	0	0	0	0	0	0	0	0	0
54. Petroleum refining and related products	0	0	0	0	0	0	0	0	0
55. Tires and inner tubes	0	0	0	0	0	0	0	0	0
56. Rubber products, except tires and tubes	22	36	31	29	36	36	24	35	35
57. Plastic products	3	6	11	16	20	20	23	33	33
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0
59. Leather products, including footwear	0	0	0	0	0	0	0	0	0
60. Glass	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-4. Producers' durable equipment, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	0	0	0	0	0	0	0	0	0
62. Structural clay products	0	0	0	0	0	0	0	0	0
63. Pottery and related products	0	0	0	0	0	0	0	0	0
64. Stone and clay products, n.e.c.	0	0	0	0	0	0	0	0	0
65. Blast furnaces and basic steel products	0	0	0	0	0	0	0	0	0
66. Iron and steel foundries and forgings	1	1	2	1	2	2	2	3	3
67. Primary copper and copper products	41	45	64	80	98	99	89	129	130
68. Primary aluminum and aluminum products	0	0	0	0	0	0	0	0	0
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	12	14	13	14	18	18	14	21	21
71. Heating apparatus and plumbing fixtures	0	0	0	0	0	0	0	0	0
72. Fabricated structural metal products	665	1131	1197	1961	2404	2409	2598	3776	3798
73. Screw machine products	0	0	0	0	0	0	0	0	0
74. Metal stampings	0	0	0	0	0	0	0	0	0
75. Cutlery, handtools, and general hardware	15	24	30	48	58	59	61	89	90
76. Fabricated metal products, n.e.c.	299	389	683	881	1080	1082	1001	1456	1464
77. Engines, turbines, and generators	557	984	1606	1886	2312	2317	2078	3021	3039
78. Farm machinery	2596	3606	4202	6917	8235	8252	8334	11752	11821
79. Construction, mining, and oilfield machinery	2500	3116	3774	6053	7421	7436	7851	11414	11480
80. Material handling equipment	930	1373	1641	2445	2998	3004	3172	4611	4638
81. Metalworking machinery	2243	4150	3878	5304	6503	6516	6189	8997	9050
82. Special industry machinery	2889	4104	4261	4373	5361	5372	4616	6711	6750
83. General industrial machinery	1912	2344	2170	3720	4561	4571	5045	7334	7377
84. Nonelectrical machinery, n.e.c.	10	7	39	40	48	49	48	69	70
85. Computers and peripheral equipment	1062	2272	3713	10727	13151	13178	16697	24274	24416
86. Typewriters and other office equipment	389	621	610	2113	2591	2596	2661	3869	3891
87. Service industry machines	1303	1965	2078	2834	3475	3482	3355	4878	4906
88. Electric transmission equipment	1483	2095	2318	3325	4077	4085	4074	5922	5957
89. Electrical industrial apparatus	682	1082	992	1322	1620	1624	1660	2413	2427
90. Household appliances	130	142	215	301	369	370	401	582	586
91. Electric lighting and wiring	66	78	82	160	197	197	230	335	337
92. Radio and television receiving sets	118	119	184	279	342	343	355	516	519
93. Telephone and telegraph apparatus	1284	1939	2748	3906	4789	4798	4756	6914	6955
94. Radio and communication equipment	1263	1834	1444	2938	3602	3610	4294	6243	6279
95. Electronic components	99	20	14	21	26	26	26	38	39
96. Electrical machinery and equipment, n.e.c.	250	255	414	727	892	893	998	1451	1459
97. Motor vehicles	7497	10978	16664	23260	28517	28575	26061	37886	38108
98. Aircraft	604	2945	1981	2738	3357	3364	3272	4756	4784
99. Ship and boat building and repair	476	712	1145	1488	1824	1828	1915	2784	2800
100. Railroad equipment	1221	2190	1491	2352	2884	2890	3052	4437	4463
101. Motorcycles, bicycles, and parts	8	35	46	57	70	71	64	93	93
102. Transportation equipment, n.e.c.	111	173	184	314	385	386	425	618	622
103. Scientific and controlling instruments	535	738	1146	2595	3182	3188	3030	4405	4431
104. Medical and dental instruments	321	579	973	1739	2132	2136	2241	3258	3277
105. Optical and ophthalmic equipment	116	199	393	1314	1488	1491	1784	2303	2316
106. Photographic equipment and supplies	172	611	1682	3245	3978	3987	3891	5657	5690
107. Watches, clocks, and clock-operated devices	1	1	1	2	2	2	2	3	3
108. Jewelry and silverware	0	0	0	0	0	0	0	0	0
109. Musical instruments and sporting goods	284	240	323	424	520	521	561	815	820
110. Manufactured products, n.e.c.	273	344	443	509	624	625	522	759	764
111. Railroad transportation	282	388	380	461	565	566	548	797	801
112. Local transit and intercity buses	0	0	0	0	0	0	0	0	0
113. Truck transportation	508	615	673	693	1217	1220	787	1799	1809
114. Water transportation	6	8	24	23	28	28	19	28	28
115. Air transportation	16	41	81	93	114	114	95	137	138
116. Pipeline transportation	0	0	0	0	0	0	0	0	0
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	951	1353	2167	2982	3656	3663	3687	5361	5392
120. Electric utilities, public and private	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-4. Producers' durable equipment, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	0	0	0	0	0	0	0	0	0
122. Water and sanitary services, excluding public	0	0	0	0	0	0	0	0	0
123. Wholesale trade	3012	4168	6421	8628	10578	10600	10834	15751	15843
124. Eating and drinking places	0	0	0	0	0	0	0	0	0
125. Retail trade, except eating and drinking places	3278	3235	2677	3417	4189	4198	4260	6193	6229
126. Banking	0	0	0	0	0	0	0	0	0
127. Credit agencies and financial brokers	0	0	0	0	0	0	0	0	0
128. Insurance	0	0	0	0	0	0	0	0	0
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	0	0	0	0	0	0	0	0	0
131. Hotels and lodging places	0	0	0	0	0	0	0	0	0
132. Personal and repair services	73	123	192	202	248	249	272	395	398
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	0	0	0	0	0	0	0	0	0
135. Advertising	0	0	0	0	0	0	0	0	0
136. Professional services, n.e.c.	0	0	0	0	0	0	0	0	0
137. Automobile repair	0	0	0	0	0	0	0	0	0
138. Motion pictures	0	0	0	0	0	0	0	0	0
139. Amusements and recreation services	0	0	0	0	0	0	0	0	0
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	0	0	0	0	0	0	0	0	0
144. Nonprofit organizations	0	0	0	0	0	0	0	0	0
145. Post office	0	0	0	0	0	0	0	0	0
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
150. Noncomparable imports	1	3	5	3	3	3	5	7	7
151. Scrap, used and secondhand goods	-1649	-3480	-3933	-9578	-5976	-5988	-11276	-8331	-8380
152. Construction industry	0	0	0	0	0	0	0	0	0
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-5. Nonresidential structures, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	30823	41009	42478	46296	49362	49205	55699	62750	63100
1. Dairy and poultry products	0	0	0	0	0	0	0	0	0
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	1	2	3	4	4	4	4	5	5
5. Agricultural products, n.e.c.	35	25	18	20	21	21	24	27	27
6. Forestry and fishery products	0	0	0	0	0	0	0	0	0
7. Agricultural, forestry, and fishery services	22	57	13	14	14	14	16	18	18
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	0	0	0	0	0	0	0	0	0
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	145	144	227	297	308	307	367	408	410
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	11	14	8	9	9	9	10	12	12
16. Ordnance	5	2	4	5	5	5	6	6	6
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	9	8	2	2	2	2	2	2	3
19. Dairy products	0	0	0	0	0	0	0	0	0
20. Canned and frozen foods	0	0	0	0	0	0	0	0	0
21. Grain mill products	0	0	0	0	0	0	0	0	0
22. Bakery products	0	0	0	0	0	0	0	0	0
23. Sugar	0	0	0	0	0	0	0	0	0
24. Confectionery products	2	1	1	1	1	1	2	2	2
25. Alcoholic beverages	11	1	5	5	6	6	6	7	7
26. Soft drinks and flavorings	0	0	0	0	0	0	0	0	0
27. Food products, n.e.c.	0	0	0	0	0	0	0	0	0
28. Tobacco manufacturing	3	3	2	2	2	2	3	3	3
29. Fabric, yarn, and thread mills	0	0	0	0	0	0	0	0	0
30. Floor covering mills	1	10	32	35	36	36	42	46	47
31. Textile mill products, n.e.c.	27	10	5	5	5	5	6	7	7
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	9	13	2	3	3	3	3	3	4
34. Fabricated textile products, n.e.c.	1	1	1	1	1	1	1	1	1
35. Logging	3	4	2	2	2	2	2	2	3
36. Sawmills and planing mills	200	269	173	191	197	197	227	253	254
37. Millwork, plywood, and wood products, n.e.c.	482	785	888	977	1011	1007	1164	1294	1301
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	7	5	3	3	3	3	3	4	4
40. Furniture and fixtures, except household	96	111	91	100	104	104	120	133	134
41. Paper products	95	83	58	64	66	66	76	85	85
42. Paperboard	4	0	1	2	2	2	2	2	2
43. Newspaper printing and publishing	0	0	0	0	0	0	0	0	0
44. Periodical and book printing, publishing	2	1	2	2	2	2	2	2	2
45. Printing and publishing, n.e.c.	6	5	5	5	5	5	6	7	7
46. Industrial inorganic and organic chemicals	68	19	49	54	56	56	65	72	73
47. Agricultural chemicals	2	0	1	1	1	1	2	2	2
48. Chemical products, n.e.c.	84	77	114	125	130	129	149	166	167
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	0	0	0	0	0	0	0	0	0
52. Cleaning and toilet preparations	0	0	0	0	0	0	0	0	0
53. Paints and allied products	94	153	156	171	177	177	204	227	228
54. Petroleum refining and related products	455	498	548	552	571	570	668	743	747
55. Tires and inner tubes	32	41	48	53	55	54	63	70	70
56. Rubber products, except tires and tubes	28	13	9	10	10	10	11	13	13
57. Plastic products	161	183	210	270	280	279	321	357	359
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0
59. Leather products, including footwear	1	1	1	1	1	1	1	1	1
60. Glass	32	112	75	83	86	85	99	110	110

See footnotes at end of table.

Table A-5. Nonresidential structures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	1286	1861	1702	1873	1938	1932	2232	2482	2496
62. Structural clay products	333	288	162	179	185	184	213	237	238
63. Pottery and related products	80	83	136	150	155	155	179	199	200
64. Stone and clay products, n.e.c.	519	560	618	831	860	857	960	1068	1074
65. Blast furnaces and basic steel products	1292	1118	1149	1164	1205	1201	1307	1453	1461
66. Iron and steel foundries and forgings	267	230	70	77	80	79	92	102	103
67. Primary copper and copper products	833	1177	1613	1716	1776	1770	1914	2128	2140
68. Primary aluminum and aluminum products	15	7	13	14	15	15	17	19	19
69. Primary nonferrous metals and products, n.e.c.	4	20	1	1	1	1	1	1	1
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	328	304	246	271	280	279	323	359	361
72. Fabricated structural metal products	2851	3940	4820	6002	6212	6192	6421	7139	7178
73. Screw machine products	68	26	21	24	24	24	28	31	32
74. Metal stampings	38	7	7	8	8	8	10	11	11
75. Cutlery, handtools, and general hardware	134	159	181	199	206	206	238	264	266
76. Fabricated metal products, n.e.c.	347	691	1719	2090	2163	2156	2453	2727	2742
77. Engines, turbines, and generators	0	0	0	0	0	0	0	0	0
78. Farm machinery	0	0	0	0	0	0	0	0	0
79. Construction, mining, and oilfield machinery	218	167	164	181	187	186	215	240	241
80. Material handling equipment	204	289	319	351	363	362	419	465	468
81. Metalworking machinery	1	1	4	4	4	4	5	6	6
82. Special industry machinery	0	0	0	0	0	0	0	0	0
83. General industrial machinery	153	33	141	155	160	160	185	205	207
84. Nonelectrical machinery, n.e.c.	3	23	3	3	3	3	3	4	4
85. Computers and peripheral equipment	0	0	0	0	0	0	0	0	0
86. Typewriters and other office equipment	0	0	0	0	0	0	0	0	0
87. Service industry machines	254	271	358	518	536	535	627	697	701
88. Electric transmission equipment	240	207	322	463	479	477	553	614	618
89. Electrical industrial apparatus	22	7	16	18	18	18	21	24	24
90. Household appliances	6	38	44	48	50	50	58	64	65
91. Electric lighting and wiring	601	649	925	1017	1052	1049	1212	1348	1355
92. Radio and television receiving sets	1	1	1	2	2	2	2	2	2
93. Telephone and telegraph apparatus	0	0	0	0	0	0	0	0	0
94. Radio and communication equipment	42	40	30	33	34	34	40	44	44
95. Electronic components	0	0	0	0	0	0	0	0	0
96. Electrical machinery and equipment, n.e.c.	14	20	15	16	17	17	19	21	22
97. Motor vehicles	28	18	12	14	14	14	16	18	18
98. Aircraft	0	0	0	0	0	0	0	0	0
99. Ship and boat building and repair	0	0	0	0	0	0	0	0	0
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	55	60	156	165	171	170	238	265	266
103. Scientific and controlling instruments	166	145	227	442	458	456	511	568	571
104. Medical and dental instruments	0	0	0	0	0	0	0	0	0
105. Optical and ophthalmic equipment	0	0	0	0	0	0	0	0	0
106. Photographic equipment and supplies	4	1	4	4	4	4	5	6	6
107. Watches, clocks, and clock-operated devices	7	2	3	3	3	3	3	4	4
108. Jewelry and silverware	1	1	1	1	1	1	1	1	1
109. Musical instruments and sporting goods	1	1	1	1	1	1	2	2	2
110. Manufactured products, n.e.c.	23	40	19	21	21	21	25	27	27
111. Railroad transportation	288	298	232	255	264	263	304	338	340
112. Local transit and intercity buses	2	2	3	4	4	4	4	5	5
113. Truck transportation	779	533	687	755	782	779	901	1001	1007
114. Water transportation	31	24	49	54	56	56	64	71	72
115. Air transportation	54	61	18	20	21	21	24	27	27
116. Pipeline transportation	6	5	4	4	4	4	5	5	6
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	62	118	82	90	93	93	107	119	120
120. Electric utilities, public and private	54	18	12	14	14	14	16	18	18

See footnotes at end of table.

Table A-5. Nonresidential structures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	2	4	1	2	2	2	2	2	2
122. Water and sanitary services, excluding public	22	8	24	26	27	27	31	35	35
123. Wholesale trade	1051	1192	1700	2429	2514	2506	2858	3178	3196
124. Eating and drinking places	138	239	127	140	144	144	166	185	186
125. Retail trade, except eating and drinking places	1232	1341	982	1030	1065	1062	1227	1365	1372
126. Banking	86	116	86	95	98	98	113	125	126
127. Credit agencies and financial brokers	5	9	10	11	11	11	13	15	15
128. Insurance	133	160	96	105	109	109	126	140	140
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	457	689	616	745	771	769	680	756	760
131. Hotels and lodging places	1	2	4	5	5	5	6	6	7
132. Personal and repair services	1	1	2	3	3	3	3	4	4
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	209	604	411	593	614	612	707	786	790
135. Advertising	46	55	13	14	15	15	17	19	19
136. Professional services, n.e.c.	1420	1642	2161	2875	2975	2966	3370	3747	3768
137. Automobile repair	121	198	134	148	153	152	176	195	197
138. Motion pictures	0	0	0	0	0	0	0	0	0
139. Amusements and recreation services	5	4	3	3	3	3	4	4	4
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	1	1	1	1	1	1	1	1	1
144. Nonprofit organizations	25	41	14	15	16	16	18	20	20
145. Post office	9	16	8	9	9	9	11	12	12
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	2	12	2	2	2	2	2	2	2
150. Noncomparable imports	3	6	10	11	11	11	13	15	15
151. Scrap, used and secondhand goods	-646	-139	-125	-2432	-1068	-1064	-1964	-1357	-1365
152. Construction industry	12658	18617	17137	18150	18784	18724	22471	24982	25121
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-6. Residential structures, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	43193	37178	65180	71168	77894	77714	71375	86301	87275
1. Dairy and poultry products	0	0	0	0	0	0	0	0	0
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	9	5	15	17	18	18	18	20	20
5. Agricultural products, n.e.c.	321	33	91	103	108	108	107	118	119
6. Forestry and fishery products	0	0	0	0	0	0	0	0	0
7. Agricultural, forestry, and fishery services	25	57	69	77	81	81	80	88	89
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	0	0	0	0	0	0	0	0	0
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	114	68	166	216	228	227	219	242	245
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	18	10	19	21	22	22	22	24	25
16. Ordnance	0	1	4	4	4	4	4	4	5
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	8	4	4	4	5	5	5	5	5
19. Dairy products	0	0	0	0	0	0	0	0	0
20. Canned and frozen foods	0	0	0	0	0	0	0	0	0
21. Grain mill products	0	0	0	0	0	0	0	0	0
22. Bakery products	0	0	0	0	0	0	0	0	0
23. Sugar	0	0	0	0	0	0	0	0	0
24. Confectionery products	2	4	2	2	2	2	2	2	2
25. Alcoholic beverages	11	21	8	10	10	10	10	11	11
26. Soft drinks and flavorings	0	0	0	0	0	0	0	0	0
27. Food products, n.e.c.	0	0	0	0	0	0	0	0	0
28. Tobacco manufacturing	4	7	4	4	4	4	4	5	5
29. Fabric, yarn, and thread mills	0	0	0	0	0	0	0	0	0
30. Floor covering mills	89	165	866	1520	1604	1600	1597	1767	1787
31. Textile mill products, n.e.c.	28	1	88	96	101	101	97	108	109
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	12	27	5	6	6	6	6	6	7
34. Fabricated textile products, n.e.c.	1	0	3	3	3	3	3	3	3
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	1732	1962	2377	2423	2557	2551	2474	2738	2769
37. Millwork, plywood, and wood products, n.e.c.	2640	2393	4977	6246	6591	6576	6392	7074	7154
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	490	386	194	207	218	218	266	294	298
40. Furniture and fixtures, except household	68	62	122	137	145	144	142	157	159
41. Paper products	137	135	262	294	311	310	306	338	342
42. Paperboard	1	1	2	3	3	3	3	3	3
43. Newspaper printing and publishing	0	0	0	0	0	0	0	0	0
44. Periodical and book printing, publishing	2	2	3	3	4	4	3	4	4
45. Printing and publishing, n.e.c.	6	13	11	12	13	13	13	14	14
46. Industrial inorganic and organic chemicals	28	2	12	14	14	14	14	16	16
47. Agricultural chemicals	2	2	6	6	7	7	7	7	7
48. Chemical products, n.e.c.	31	14	81	91	96	96	95	105	106
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	0	0	0	0	0	0	0	0	0
52. Cleaning and toilet preparations	0	0	0	0	0	0	0	0	0
53. Paints and allied products	231	198	286	325	343	342	370	410	414
54. Petroleum refining and related products	316	215	369	414	437	436	430	476	481
55. Tires and inner tubes	5	9	61	69	73	73	72	79	80
56. Rubber products, except tires and tubes	23	15	62	68	72	71	70	77	78
57. Plastic products	190	195	582	1444	1524	1520	1662	1839	1860
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0
59. Leather products, including footwear	1	1	2	2	2	2	2	2	2
60. Glass	83	21	58	65	68	68	67	74	75

See footnotes at end of table.

Table A-6. Residential structures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	2314	1541	2840	3493	3686	3677	3613	3999	4044
62. Structural clay products	400	325	568	639	674	673	663	734	742
63. Pottery and related products	108	96	160	180	190	189	187	207	209
64. Stone and clay products, n.e.c.	411	252	398	547	577	576	564	624	631
65. Blast furnaces and basic steel products	623	121	353	397	419	418	412	456	461
66. Iron and steel foundries and forgings	108	66	107	120	127	127	125	138	140
67. Primary copper and copper products	565	498	581	653	689	687	678	750	759
68. Primary aluminum and aluminum products	35	3	5	6	6	6	6	6	6
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	715	610	769	815	860	858	848	939	949
72. Fabricated structural metal products	1693	1377	2290	2775	2928	2921	2672	2957	2990
73. Screw machine products	2	10	15	17	18	18	17	19	20
74. Metal stampings	0	0	0	0	0	0	0	0	0
75. Cutlery, handtools, and general hardware	319	154	422	474	500	499	492	544	551
76. Fabricated metal products, n.e.c.	332	304	184	207	218	218	215	238	240
77. Engines, turbines, and generators	0	0	0	0	0	0	0	0	0
78. Farm machinery	0	0	0	0	0	0	0	0	0
79. Construction, mining, and oilfield machinery	15	0	64	72	76	76	75	83	84
80. Material handling equipment	49	62	58	65	69	68	67	75	75
81. Metalworking machinery	1	1	8	9	10	10	9	10	11
82. Special industry machinery	0	0	0	0	0	0	0	0	0
83. General industrial machinery	107	119	204	229	241	241	237	263	266
84. Nonelectrical machinery, n.e.c.	3	15	6	7	7	7	7	8	8
85. Computers and peripheral equipment	0	0	0	119	126	126	215	238	241
86. Typewriters and other office equipment	0	0	0	0	0	0	0	0	0
87. Service industry machines	106	217	701	788	831	829	818	905	915
88. Electric transmission equipment	54	103	316	431	455	454	468	518	524
89. Electrical industrial apparatus	3	6	1	1	1	1	1	2	2
90. Household appliances	614	611	956	1198	1264	1261	1631	1805	1825
91. Electric lighting and wiring	482	397	442	497	525	524	516	571	578
92. Radio and television receiving sets	22	32	39	53	55	55	59	65	66
93. Telephone and telegraph apparatus	0	0	0	0	0	0	0	0	0
94. Radio and communication equipment	4	11	55	61	65	65	64	71	71
95. Electronic components	0	0	0	0	0	0	0	0	0
96. Electrical machinery and equipment, n.e.c.	23	16	31	34	36	36	36	40	40
97. Motor vehicles	4	6	14	15	16	16	16	17	18
98. Aircraft	0	0	0	0	0	0	0	0	0
99. Ship and boat building and repair	0	0	0	0	0	0	0	0	0
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	500	1030	2925	2160	2279	2274	2238	2476	2504
103. Scientific and controlling instruments	91	120	95	194	205	204	219	242	245
104. Medical and dental instruments	0	0	0	0	0	0	0	0	0
105. Optical and ophthalmic equipment	0	0	0	0	0	0	0	0	0
106. Photographic equipment and supplies	1	2	8	9	9	9	9	10	10
107. Watches, clocks, and clock-operated devices	1	1	2	2	2	2	2	2	2
108. Jewelry and silverware	1	1	2	2	2	2	2	2	2
109. Musical instruments and sporting goods	1	1	2	2	2	2	2	2	2
110. Manufactured products, n.e.c.	33	48	82	92	97	97	96	106	107
111. Railroad transportation	596	387	536	583	615	614	593	657	664
112. Local transit and intercity buses	3	5	8	9	10	10	9	10	11
113. Truck transportation	618	385	828	914	965	962	939	1039	1051
114. Water transportation	28	21	76	82	87	87	83	92	93
115. Air transportation	60	111	42	47	49	49	49	54	54
116. Pipeline transportation	0	0	0	0	0	0	0	0	0
117. Transportation services	0	0	0	1	1	1	1	1	1
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	102	77	191	214	226	226	223	246	249
120. Electric utilities, public and private	90	12	29	32	34	34	33	37	37

See footnotes at end of table.

Table A-6. Residential structures, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	2	3	3	4	4	4	4	4	4
122. Water and sanitary services, excluding public	35	6	57	64	67	67	66	73	74
123. Wholesale trade	1635	1287	2718	2911	3072	3065	2935	3248	3285
124. Eating and drinking places	168	196	296	333	351	350	345	382	386
125. Retail trade, except eating and drinking places	3605	2891	3896	3786	3995	3986	3547	3926	3970
126. Banking	143	76	200	225	238	237	234	259	262
127. Credit agencies and financial brokers	9	6	17	19	20	20	19	21	22
128. Insurance	115	106	167	188	198	198	195	216	218
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	2734	2551	4396	4856	5124	5112	5413	5991	6058
131. Hotels and lodging places	5	8	10	12	12	12	12	13	13
132. Personal and repair services	1	1	6	7	7	7	7	8	8
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	248	392	560	747	788	786	775	858	867
135. Advertising	57	36	30	34	36	36	35	39	39
136. Professional services, n.e.c.	1508	1436	2345	3087	3258	3250	3204	3545	3585
137. Automobile repair	195	122	184	206	218	217	214	237	240
138. Motion pictures	0	1	0	0	0	0	0	0	0
139. Amusements and recreation services	5	9	7	8	8	8	8	9	9
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	1	1	2	2	2	2	2	2	2
144. Nonprofit organizations	41	30	33	37	39	39	39	43	43
145. Post office	16	10	21	24	25	25	24	27	27
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	2	7	4	4	5	5	5	5	5
150. Noncomparable imports	8	11	24	27	29	29	28	31	31
151. Scrap, used and secondhand goods	-211	-891	-1260	-4414	-1859	-1855	-8467	-2059	-2083
152. Construction industry	15009	13706	24250	26853	28335	28270	28966	32056	32418
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-7. Change in business inventories, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	7762	12007	10350	15019	20060	19891	17757	26635	26485
1. Dairy and poultry products	2	-6	-20	-25	-25	-25	-29	-35	-35
2. Meat animals and livestock	662	195	459	551	562	557	601	723	719
3. Cotton	-69	122	289	454	463	459	508	611	607
4. Food and feed grains	246	925	1318	1810	1845	1830	2011	2419	2405
5. Agricultural products, n.e.c.	697	60	447	641	654	648	704	847	843
6. Forestry and fishery products	86	7	18	26	27	26	35	42	42
7. Agricultural, forestry, and fishery services	0	0	0	0	0	0	0	0	0
8. Iron and ferroalloy ores mining	-65	31	8	13	13	13	18	22	22
9. Copper ore mining	-5	6	23	23	23	23	28	33	33
10. Nonferrous metal ores mining, except copper	-1	8	4	4	4	4	2	3	3
11. Coal mining	0	214	81	117	119	118	130	156	155
12. Crude petroleum and natural gas	20	296	75	90	92	91	98	118	118
13. Stone and clay mining and quarrying	2	14	23	28	29	29	31	38	37
14. Chemical and fertilizer mineral mining	-1	6	-8	-12	-12	-12	-13	-16	-16
15. Maintenance and repair construction	0	0	0	0	0	0	0	0	0
16. Ordnance	-4	134	73	42	43	43	70	84	84
17. Complete guided missiles and space vehicles	-35	70	-9	-12	-12	-12	-13	-16	-16
18. Meat products	239	276	289	369	376	373	408	491	488
19. Dairy products	15	55	69	84	86	85	90	108	108
20. Canned and frozen foods	39	295	134	170	174	172	188	227	225
21. Grain mill products	81	77	188	246	251	249	275	331	329
22. Bakery products	24	25	14	18	18	18	20	25	24
23. Sugar	142	55	12	15	16	16	20	25	24
24. Confectionery products	32	48	28	36	36	36	38	46	46
25. Alcoholic beverages	53	169	241	333	340	337	375	451	448
26. Soft drinks and flavorings	32	49	39	50	51	50	55	66	66
27. Food products, n.e.c.	136	92	233	307	313	311	340	409	406
28. Tobacco manufacturing	32	226	217	283	288	286	287	345	343
29. Fabric, yarn, and thread mills	41	130	279	384	392	389	448	538	535
30. Floor covering mills	31	18	140	198	201	200	220	264	263
31. Textile mill products, n.e.c.	60	101	54	189	193	191	229	276	274
32. Hosiery and knit goods	15	40	89	131	134	133	154	185	184
33. Apparel	69	280	653	937	955	947	1111	1337	1329
34. Fabricated textile products, n.e.c.	47	54	166	241	246	244	277	333	332
35. Logging	-8	2	9	12	12	12	14	17	17
36. Sawmills and planing mills	49	87	265	331	338	335	389	468	465
37. Millwork, plywood, and wood products, n.e.c.	60	86	358	573	584	579	635	764	760
38. Wooden containers	1	3	3	-6	-6	-6	-6	-7	-7
39. Household furniture	99	58	356	524	534	530	597	719	715
40. Furniture and fixtures, except household	19	48	78	115	117	116	119	143	142
41. Paper products	115	261	180	268	274	271	312	375	373
42. Paperboard	42	45	61	86	88	87	98	118	118
43. Newspaper printing and publishing	4	2	14	23	23	23	25	30	30
44. Periodical and book printing, publishing	99	154	92	158	162	160	178	214	213
45. Printing and publishing, n.e.c.	58	194	158	238	242	240	270	325	323
46. Industrial inorganic and organic chemicals	48	185	57	88	89	89	104	126	125
47. Agricultural chemicals	26	87	59	84	86	85	91	110	109
48. Chemical products, n.e.c.	27	43	99	148	151	149	173	208	207
49. Plastic materials and synthetic rubber	13	42	87	134	136	135	158	191	190
50. Synthetic fibers	12	-19	-14	-24	-24	-24	-30	-36	-36
51. Drugs	106	123	212	353	360	357	407	490	487
52. Cleaning and toilet preparations	78	110	169	195	199	197	401	482	479
53. Paints and allied products	51	64	116	163	166	165	184	221	220
54. Petroleum refining and related products	215	581	42	57	58	57	65	78	78
55. Tires and inner tubes	56	47	178	222	227	225	248	299	297
56. Rubber products, except tires and tubes	15	40	48	70	71	71	82	98	98
57. Plastic products	52	75	310	860	877	870	1043	1255	1248
58. Leather tanning and industrial leather	-13	-8	45	52	53	53	63	76	75
59. Leather products, including footwear	-69	25	206	232	236	234	278	335	333
60. Glass	101	50	156	218	222	220	257	309	307

See footnotes at end of table.

Table A-7. Change in business inventories, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	15	71	134	153	156	154	167	201	200
62. Structural clay products	14	23	29	34	35	35	37	45	45
63. Pottery and related products	23	18	31	38	39	38	47	56	56
64. Stone and clay products, n.e.c.	47	48	116	156	159	158	176	212	211
65. Blast furnaces and basic steel products	139	653	463	316	322	320	414	498	495
66. Iron and steel foundries and forgings	10	17	26	37	37	37	41	49	49
67. Primary copper and copper products	76	120	194	273	279	276	317	381	379
68. Primary aluminum and aluminum products	77	156	-29	-49	-50	-49	-60	-72	-72
69. Primary nonferrous metals and products, n.e.c.	18	111	107	161	164	163	206	247	246
70. Metal containers	41	78	32	40	41	41	47	56	56
71. Heating apparatus and plumbing fixtures	21	36	121	149	152	151	169	204	202
72. Fabricated structural metal products	97	119	407	527	538	533	596	717	713
73. Screw machine products	25	75	55	78	80	79	90	108	108
74. Metal stampings	59	36	148	196	200	199	216	260	258
75. Cutlery, handtools, and general hardware	87	92	207	287	293	291	326	393	390
76. Fabricated metal products, n.e.c.	43	150	232	318	324	322	360	433	431
77. Engines, turbines, and generators	39	72	173	259	264	262	284	342	340
78. Farm machinery	66	487	194	319	326	323	380	458	455
79. Construction, mining, and oilfield machinery	78	75	342	588	599	594	690	830	825
80. Material handling equipment	17	45	51	84	86	85	101	121	121
81. Metalworking machinery	80	195	126	198	201	200	227	273	271
82. Special industry machinery	37	111	121	156	159	158	178	214	213
83. General industrial machinery	60	152	138	221	225	224	263	316	314
84. Nonelectrical machinery, n.e.c.	14	43	59	89	90	90	102	123	122
85. Computers and peripheral equipment	27	110	25	205	209	207	302	363	361
86. Typewriters and other office equipment	21	51	5	8	9	8	10	12	12
87. Service industry machines	69	153	298	423	432	428	481	579	576
88. Electric transmission equipment	7	71	98	163	166	165	194	234	233
89. Electrical industrial apparatus	22	77	115	186	189	188	221	266	264
90. Household appliances	238	112	380	461	470	466	549	661	657
91. Electric lighting and wiring	37	68	179	247	252	250	276	332	330
92. Radio and television receiving sets	138	99	262	521	531	526	576	692	689
93. Telephone and telegraph apparatus	-16	93	149	241	246	244	280	336	334
94. Radio and communication equipment	27	501	6	10	10	10	12	14	14
95. Electronic components	-9	155	-1	176	180	178	238	286	285
96. Electrical machinery and equipment, n.e.c.	41	43	121	180	183	182	215	258	257
97. Motor vehicles	818	-367	851	1125	1147	1137	1315	1582	1573
98. Aircraft	488	2314	203	349	356	353	394	473	471
99. Ship and boat building and repair	-29	229	230	371	378	375	403	485	482
100. Railroad equipment	26	-45	1	284	289	287	334	401	399
101. Motorcycles, bicycles, and parts	3	21	85	121	123	122	140	169	168
102. Transportation equipment, n.e.c.	55	33	190	227	231	229	261	314	313
103. Scientific and controlling instruments	40	91	44	64	65	65	68	82	82
104. Medical and dental instruments	28	36	68	259	264	262	282	339	337
105. Optical and ophthalmic equipment	3	8	66	135	138	137	186	224	223
106. Photographic equipment and supplies	13	78	2	4	4	4	5	6	6
107. Watches, clocks, and clock-operated devices	8	4	31	49	50	49	58	69	69
108. Jewelry and silverware	9	38	188	258	263	261	282	340	338
109. Musical instruments and sporting goods	21	79	169	253	258	256	305	367	365
110. Manufactured products, n.e.c.	35	58	159	229	234	232	259	312	310
111. Railroad transportation	81	135	248	351	358	355	396	476	474
112. Local transit and intercity buses	0	0	0	0	0	0	0	0	0
113. Truck transportation	128	123	238	330	336	334	370	445	442
114. Water transportation	10	20	31	51	52	51	58	69	69
115. Air transportation	1	3	9	14	15	14	17	20	20
116. Pipeline transportation	3	10	3	5	5	5	6	7	7
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	0	0	0	0	0	0	0	0	0
120. Electric utilities, public and private	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-7. Change in business inventories, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	0	0	0	0	0	0	0	0	0
122. Water and sanitary services, excluding public	0	0	0	0	0	0	0	0	0
123. Wholesale trade	428	588	999	1441	1470	1457	1615	1943	1932
124. Eating and drinking places	0	0	0	0	0	0	0	0	0
125. Retail trade, except eating and drinking places	0	0	2	4	4	4	4	4	4
126. Banking	0	0	0	0	0	0	0	0	0
127. Credit agencies and financial brokers	0	0	0	0	0	0	0	0	0
128. Insurance	0	0	0	0	0	0	0	0	0
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	0	0	0	0	0	0	0	0	0
131. Hotels and lodging places	0	0	0	0	0	0	0	0	0
132. Personal and repair services	0	0	0	0	0	0	0	0	0
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	0	0	0	0	0	0	0	0	0
135. Advertising	0	0	0	0	0	0	0	0	0
136. Professional services, n.e.c.	0	0	0	0	0	0	0	0	0
137. Automobile repair	0	0	0	0	0	0	0	0	0
138. Motion pictures	9	-69	-164	8	8	8	31	37	37
139. Amusements and recreation services	0	0	0	0	0	0	0	0	0
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	0	0	0	0	0	0	0	0	0
144. Nonprofit organizations	0	0	0	0	0	0	0	0	0
145. Post office	0	0	0	0	0	0	0	0	0
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
150. Noncomparable imports	29	-124	4	8	9	8	7	9	9
151. Scrap, used and secondhand goods	143	-99	204	238	243	241	266	320	318
152. Construction industry	0	0	0	0	0	0	0	0	0
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	-251	-2127	-7591	-11519	-7000	-6941	-12897	-10246	-10189

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

Table A-8. Net exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	7258	3542	-3406	36891	30656	23994	43138	28438	3363
1. Dairy and poultry products	12	15	15	36	38	36	42	47	42
2. Meat animals and livestock	-281	-283	-163	-184	-225	-231	-216	-305	-339
3. Cotton	464	402	389	447	477	455	470	529	473
4. Food and feed grains	1973	1836	2415	5569	5953	5680	6566	7425	6665
5. Agricultural products, n.e.c.	553	604	1329	3827	4036	3819	4652	5138	4480
6. Forestry and fishery products	-689	-797	-1047	-1160	-1338	-1335	-1448	-1860	-1910
7. Agricultural, forestry, and fishery services	12	11	18	40	43	41	48	53	47
8. Iron and ferroalloy ores mining	-473	-587	-517	-541	-630	-633	-567	-746	-779
9. Copper ore mining	6	-16	-66	-97	-113	-113	-111	-145	-151
10. Nonferrous metal ores mining, except copper	-468	-391	-316	-338	-388	-386	-368	-529	-540
11. Coal mining	565	506	495	2684	2872	2742	3420	3872	3482
12. Crude petroleum and natural gas	-1628	-1483	-2762	-4975	-5665	-5613	-4777	-6020	-6067
13. Stone and clay mining and quarrying	-103	-64	-89	-84	-107	-112	-121	-175	-197
14. Chemical and fertilizer mineral mining	-35	38	-16	46	39	31	49	33	5
15. Maintenance and repair construction	2	4	6	14	15	14	16	18	17
16. Ordnance	261	211	233	282	293	275	339	365	307
17. Complete guided missiles and space vehicles	9	17	11	25	27	26	30	34	30
18. Meat products	-530	-818	-928	-789	-988	-1029	-697	-1074	-1272
19. Dairy products	188	7	0	137	127	109	163	141	80
20. Canned and frozen foods	-19	-128	-225	-122	-179	-199	-184	-315	-398
21. Grain mill products	448	506	545	937	994	944	1201	1343	1189
22. Bakery products	-9	-27	-33	-45	-52	-53	-51	-69	-73
23. Sugar	-1163	-1072	-991	-856	-976	-968	-942	-1121	-1132
24. Confectionery products	-63	-77	-94	-118	-140	-142	-138	-187	-202
25. Alcoholic beverages	-484	-732	-881	-1350	-1542	-1531	-1581	-2004	-2031
26. Soft drinks and flavorings	32	24	70	268	285	271	345	386	342
27. Food products, n.e.c.	502	413	542	949	969	898	1246	1311	1072
28. Tobacco manufacturing	579	671	767	995	1058	1006	1117	1249	1106
29. Fabric, yarn, and thread mills	-146	-348	-464	-512	-652	-685	-624	-936	-1088
30. Floor covering mills	-53	-43	-65	-74	-90	-92	-88	-122	-134
31. Textile mill products, n.e.c.	-505	-399	-365	-367	-442	-451	-543	-738	-795
32. Hosiery and knit goods	4	3	-153	-287	-332	-331	-338	-434	-446
33. Apparel	-430	-863	-2225	-4080	-4683	-4661	-4818	-6150	-6277
34. Fabricated textile products, n.e.c.	3	9	-31	-17	-32	-38	-85	-135	-162
35. Logging	86	240	375	955	1019	970	1125	1267	1131
36. Sawmills and planing mills	-611	-676	-973	-1619	-1876	-1877	-1757	-2612	-2700
37. Millwork, plywood, and wood products, n.e.c.	-396	-484	-624	-607	-711	-716	-751	-990	-1040
38. Wooden containers	-4	0	-1	1	1	1	1	0	-1
39. Household furniture	-116	-122	-183	-298	-344	-344	-401	-517	-532
40. Furniture and fixtures, except household	-25	-104	-100	-135	-158	-159	-159	-209	-220
41. Paper products	-823	-982	-828	-1430	-1720	-1757	-1699	-2328	-2526
42. Paperboard	15	24	26	42	44	42	49	54	47
43. Newspaper printing and publishing	3	-1	-8	-15	-17	-17	-18	-23	-24
44. Periodical and book printing, publishing	157	137	107	251	251	229	263	260	194
45. Printing and publishing, n.e.c.	13	14	35	53	51	45	61	56	37
46. Industrial inorganic and organic chemicals	556	654	556	2050	2082	1922	2468	2565	2059
47. Agricultural chemicals	105	132	149	639	658	613	890	957	805
48. Chemical products, n.e.c.	238	139	231	535	554	519	639	684	573
49. Plastic materials and synthetic rubber	367	425	454	1084	1140	1077	1276	1401	1213
50. Synthetic fibers	87	31	-14	345	348	319	482	498	397
51. Drugs	208	184	270	980	1016	951	1237	1331	1122
52. Cleaning and toilet preparations	85	101	121	310	327	309	367	404	352
53. Paints and allied products	41	55	67	90	96	92	102	115	103
54. Petroleum refining and related products	-229	-548	-2161	-874	-1048	-1068	-891	-1219	-1322
55. Tires and inner tubes	55	-39	-337	-799	-921	-919	-925	-1196	-1236
56. Rubber products, except tires and tubes	25	-60	-257	-438	-513	-516	-528	-694	-727
57. Plastic products	59	60	21	374	344	295	658	619	422
58. Leather tanning and industrial leather	-18	-59	-86	-121	-146	-149	-144	-200	-219
59. Leather products, including footwear	-184	-430	-1028	-1525	-1741	-1727	-1599	-2021	-2044
60. Glass	-12	-37	-129	-233	-285	-294	-275	-390	-435

See footnotes at end of table.

Table A-8. Net exports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	-18	-15	-81	-135	-155	-155	-163	-209	-215
62. Structural clay products	-13	-3	-34	-50	-61	-63	-64	-155	-165
63. Pottery and related products	-102	-186	-236	-375	-430	-428	-444	-566	-577
64. Stone and clay products, n.e.c.	18	-15	-30	-37	-61	-71	-39	-90	-130
65. Blast furnaces and basic steel products	-460	-1610	-2813	-4252	-4898	-4884	-6371	-8140	-8313
66. Iron and steel foundries and forgings	45	68	115	220	229	214	222	238	199
67. Primary copper and copper products	-31	-718	-166	-185	-245	-261	-236	-373	-448
68. Primary aluminum and aluminum products	-81	-94	-346	-361	-449	-466	-423	-616	-701
69. Primary nonferrous metals and products, n.e.c.	-595	-1038	-1264	-2534	-2907	-2893	-3113	-3963	-4033
70. Metal containers	25	11	10	22	22	20	28	28	21
71. Heating apparatus and plumbing fixtures	44	24	-1	50	46	40	59	-49	-72
72. Fabricated structural metal products	271	243	244	315	328	308	352	380	321
73. Screw machine products	-19	-41	-92	-164	-194	-196	-198	-265	-281
74. Metal stampings	20	212	413	1062	1129	1074	1280	1436	1276
75. Cutlery, handtools, and general hardware	40	7	-100	-8	-41	-58	-16	-89	-156
76. Fabricated metal products, n.e.c.	78	80	-166	238	207	169	186	93	-43
77. Engines, turbines, and generators	400	374	461	1145	1192	1118	1287	1378	1153
78. Farm machinery	168	99	14	566	343	298	734	186	31
79. Construction, mining, and oilfield machinery	1374	1483	1791	4482	4769	4537	5528	6198	5506
80. Material handling equipment	121	132	70	234	235	215	255	253	189
81. Metalworking machinery	516	165	285	869	898	839	1020	1085	901
82. Special industry machinery	646	468	264	120	35	-23	-32	-243	-439
83. General industrial machinery	464	460	343	500	447	374	447	303	56
84. Nonelectrical machinery, n.e.c.	59	83	72	152	162	155	184	207	184
85. Computers and peripheral equipment	212	417	977	6623	7018	6659	9897	11049	9764
86. Typewriters and other office equipment	21	42	-51	-36	-62	-74	-157	-244	-291
87. Service industry machines	252	385	451	760	797	751	761	810	674
88. Electric transmission equipment	169	136	94	154	120	87	102	5	-115
89. Electrical industrial apparatus	190	230	193	360	362	331	425	429	329
90. Household appliances	61	-18	-289	-755	-880	-883	-1013	-1324	-1380
91. Electric lighting and wiring	32	83	65	6	-18	-32	1	-50	-100
92. Radio and television receiving sets	-147	-500	-1924	-4668	-5356	-5330	-6802	-8664	-8822
93. Telephone and telegraph apparatus	17	10	-16	65	51	38	111	82	27
94. Radio and communication equipment	267	324	316	686	686	626	675	643	448
95. Electronic components	128	179	436	3224	3363	3159	4198	4489	3751
96. Electrical machinery and equipment, n.e.c.	34	60	-19	-44	-97	-123	-176	-325	-428
97. Motor vehicles	1134	-611	-4336	-8321	-10029	-10248	-7074	-10202	-11527
98. Aircraft	1100	1743	2483	7580	8251	7833	9640	11247	9919
99. Ship and boat building and repair	21	-7	18	92	75	57	91	50	-12
100. Railroad equipment	179	151	148	200	207	194	157	156	116
101. Motorcycles, bicycles, and parts	-119	-212	-1105	-1790	-2040	-2022	-1981	-2499	-2521
102. Transportation equipment, n.e.c.	8	-23	-67	-46	-65	-72	-57	-100	-126
103. Scientific and controlling instruments	387	466	454	1024	1076	1016	1159	1263	1083
104. Medical and dental instruments	86	92	143	302	311	289	318	329	263
105. Optical and ophthalmic equipment	-34	-78	-151	-297	-354	-360	-393	-534	-576
106. Photographic equipment and supplies	63	120	192	852	847	771	1125	1107	817
107. Watches, clocks, and clock-operated devices	-114	-206	-275	-267	-310	-311	-353	-461	-481
108. Jewelry and silverware	-192	-268	-338	-526	-623	-631	-643	-862	-918
109. Musical instruments and sporting goods	-149	-271	-448	-1141	-1330	-1335	-1408	-1845	-1929
110. Manufactured products, n.e.c.	-76	-207	-309	-376	-461	-475	-543	-754	-828
111. Railroad transportation	758	866	1085	1436	1530	1457	1560	1754	1563
112. Local transit and intercity buses	0	0	1	1	1	1	2	2	2
113. Truck transportation	762	755	887	2020	2161	2063	2815	3188	2867
114. Water transportation	1887	1821	1690	3130	3332	3172	3701	4156	3700
115. Air transportation	-164	-11	128	1667	1686	1551	2591	2728	2232
116. Pipeline transportation	40	62	56	181	193	185	240	272	245
117. Transportation services	170	38	215	292	312	298	380	431	387
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	52	150	389	1332	1425	1361	1823	2064	1856
120. Electric utilities, public and private	15	10	-29	-40	-52	-56	-60	-90	-105

See footnotes at end of table.

Table A-8. Net exports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	-119	-114	-237	-589	-679	-678	-750	-962	-986
122. Water and sanitary services, excluding public	4	6	11	20	21	20	23	27	24
123. Wholesale trade	3799	5284	6973	14276	15670	15197	17946	21383	20244
124. Eating and drinking places	0	0	0	0	0	0	0	0	0
125. Retail trade, except eating and drinking places	34	67	119	272	291	278	321	364	327
126. Banking	2	7	8	31	33	31	41	46	42
127. Credit agencies and financial brokers	12	11	11	26	27	26	32	36	32
128. Insurance	-26	-97	71	160	154	136	181	166	107
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	588	695	2035	3275	3504	3345	3777	4278	3847
131. Hotels and lodging places	0	3	4	7	7	7	8	9	8
132. Personal and repair services	0	0	0	0	0	0	0	0	0
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	44	121	399	1490	1594	1522	1892	2142	1926
135. Advertising	19	31	31	100	106	101	122	136	120
136. Professional services, n.e.c.	298	447	400	984	1053	1005	1143	1295	1164
137. Automobile repair	0	0	0	0	0	0	0	0	0
138. Motion pictures	493	390	426	933	998	952	1064	1203	1079
139. Amusements and recreation services	0	0	0	0	0	0	0	0	0
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	0	0	0	0	0	0	0	0	0
144. Nonprofit organizations	26	25	23	36	35	32	36	35	25
145. Post office	44	25	21	18	19	18	20	23	21
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	95	109	118	263	281	268	310	351	316
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
150. Noncomparable imports	-11111	-13680	-15162	-21407	-24475	-24307	-28891	-36342	-36904
151. Scrap, used and secondhand goods	-250	-406	-210	-426	-647	-733	-1769	-2551	-2883
152. Construction industry	1	10	4	9	9	9	11	13	11
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	5067	8885	10646	21981	22818	21367	23555	24768	20222
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-9. Exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	42217	54249	72793	164909	176427	168432	203280	230224	207028
1. Dairy and poultry products	15	16	17	39	42	40	46	52	47
2. Meat animals and livestock	49	59	94	215	230	220	254	287	258
3. Cotton	495	438	403	464	497	474	491	556	500
4. Food and feed grains	2025	1873	2465	5637	6030	5757	6652	7534	6775
5. Agricultural products, n.e.c.	1050	1291	1896	4675	5001	4775	5674	6426	5779
6. Forestry and fishery products	89	92	105	240	257	245	283	321	289
7. Agricultural, forestry, and fishery services	16	19	19	44	47	44	51	58	52
8. Iron and ferroalloy ores mining	141	131	102	216	231	221	220	249	224
9. Copper ore mining	25	33	17	32	34	32	41	46	42
10. Nonferrous metal ores mining, except copper	7	12	15	46	50	47	57	64	58
11. Coal mining	569	510	496	2686	2874	2744	3422	3875	3485
12. Crude petroleum and natural gas	1	1	1	3	4	3	5	5	5
13. Stone and clay mining and quarrying	50	100	90	162	173	165	172	195	175
14. Chemical and fertilizer mineral mining	62	124	79	195	209	200	226	256	230
15. Maintenance and repair construction	2	4	6	14	15	14	16	18	17
16. Ordnance	292	335	314	408	437	417	488	553	497
17. Complete guided missiles and space vehicles	9	17	11	25	27	26	30	34	30
18. Meat products	448	348	569	1301	1392	1329	1536	1739	1564
19. Dairy products	274	133	187	428	458	437	505	572	514
20. Canned and frozen foods	289	295	339	574	614	586	655	742	667
21. Grain mill products	491	553	619	1053	1127	1076	1338	1516	1363
22. Bakery products	7	7	11	26	27	26	30	34	30
23. Sugar	5	9	9	21	22	21	24	28	25
24. Confectionery products	26	35	39	89	95	91	105	119	107
25. Alcoholic beverages	19	29	33	79	85	81	94	106	96
26. Soft drinks and flavorings	37	40	85	295	316	302	378	429	385
27. Food products, n.e.c.	700	825	971	1614	1727	1648	2029	2297	2066
28. Tobacco manufacturing	709	720	839	1100	1177	1124	1242	1407	1265
29. Fabric, yarn, and thread mills	352	287	432	1003	1073	1024	1175	1331	1197
30. Floor covering mills	1	17	33	78	84	80	92	104	93
31. Textile mill products, n.e.c.	33	82	123	346	370	353	416	471	424
32. Hosiery and knit goods	18	28	26	61	65	62	70	79	71
33. Apparel	172	166	235	537	575	549	634	718	646
34. Fabricated textile products, n.e.c.	42	82	103	183	195	186	213	241	217
35. Logging	141	302	407	1005	1075	1027	1184	1341	1206
36. Sawmills and planing mills	170	215	336	468	501	478	557	631	567
37. Millwork, plywood, and wood products, n.e.c.	45	60	106	288	308	294	345	390	351
38. Wooden containers	3	4	3	6	6	6	7	8	7
39. Household furniture	14	28	33	76	81	77	89	101	91
40. Furniture and fixtures, except household	27	23	28	64	69	65	76	86	77
41. Paper products	579	721	957	1344	1438	1373	1465	1660	1492
42. Paperboard	29	28	33	52	55	53	60	67	61
43. Newspaper printing and publishing	5	4	4	4	4	4	4	5	4
44. Periodical and book printing, publishing	244	247	276	501	536	511	557	631	567
45. Printing and publishing, n.e.c.	26	47	91	140	150	143	164	185	167
46. Industrial inorganic and organic chemicals	858	1233	1569	3664	3920	3742	4279	4846	4358
47. Agricultural chemicals	144	201	329	1007	1078	1029	1292	1464	1316
48. Chemical products, n.e.c.	323	276	400	794	849	811	949	1075	967
49. Plastic materials and synthetic rubber	386	473	576	1369	1465	1398	1620	1835	1650
50. Synthetic fibers	144	128	188	659	705	673	856	969	872
51. Drugs	276	319	539	1448	1549	1479	1783	2019	1816
52. Cleaning and toilet preparations	104	132	167	382	409	390	451	510	459
53. Paints and allied products	42	56	69	93	99	95	105	119	107
54. Petroleum refining and related products	826	761	712	771	825	788	759	860	773
55. Tires and inner tubes	91	75	91	158	169	162	246	278	250
56. Rubber products, except tires and tubes	142	121	153	199	213	203	228	258	232
57. Plastic products	107	160	341	1186	1269	1211	1646	1864	1676
58. Leather tanning and industrial leather	69	60	71	123	132	126	143	162	145
59. Leather products, including footwear	26	24	36	56	59	57	54	62	55
60. Glass	143	186	206	289	309	295	339	384	346

See footnotes at end of table.

Table A-9. Exports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	6	14	13	30	32	30	35	40	36
62. Structural clay products	30	35	40	66	70	67	71	80	72
63. Pottery and related products	27	28	36	46	50	47	51	58	52
64. Stone and clay products, n.e.c.	115	146	167	269	288	275	322	364	328
65. Blast furnaces and basic steel products	652	555	625	809	866	826	887	1004	903
66. Iron and steel foundries and forgings	68	115	175	313	335	320	332	376	338
67. Primary copper and copper products	412	290	306	492	527	503	590	668	601
68. Primary aluminum and aluminum products	158	246	241	551	590	563	650	737	662
69. Primary nonferrous metals and products, n.e.c.	180	309	268	313	335	320	323	366	329
70. Metal containers	37	20	26	47	51	48	57	65	58
71. Heating apparatus and plumbing fixtures	51	58	68	156	166	159	184	208	187
72. Fabricated structural metal products	295	291	324	439	470	448	500	567	510
73. Screw machine products	43	73	81	105	113	108	119	134	121
74. Metal stampings	75	275	474	1157	1237	1181	1393	1577	1418
75. Cutlery, handtools, and general hardware	164	167	201	460	492	469	542	614	552
76. Fabricated metal products, n.e.c.	205	368	411	940	1005	960	1109	1256	1130
77. Engines, turbines, and generators	439	490	710	1624	1737	1658	1916	2170	1951
78. Farm machinery	409	500	470	1075	1150	1098	1368	1437	1292
79. Construction, mining, and oilfield machinery	1409	1610	1968	4862	5201	4966	6021	6819	6132
80. Material handling equipment	136	164	198	453	484	462	534	605	544
81. Metalworking machinery	608	572	582	1331	1424	1359	1571	1779	1600
82. Special industry machinery	831	974	1139	1480	1583	1511	1587	1797	1616
83. General industrial machinery	529	764	876	1774	1898	1812	2034	2304	2072
84. Nonelectrical machinery, n.e.c.	60	85	79	162	174	166	197	223	200
85. Computers and peripheral equipment	284	600	1525	7605	8137	7768	11151	12629	11357
86. Typewriters and other office equipment	76	134	135	309	330	315	364	413	371
87. Service industry machines	255	403	528	1002	1072	1024	1163	1317	1184
88. Electric transmission equipment	197	288	410	812	868	829	973	1102	991
89. Electrical industrial apparatus	241	340	418	709	758	724	840	952	856
90. Household appliances	150	164	216	293	313	299	374	423	381
91. Electric lighting and wiring	111	202	237	357	382	365	400	453	408
92. Radio and television receiving sets	78	93	208	585	626	598	739	837	753
93. Telephone and telegraph apparatus	42	57	81	324	346	331	452	511	460
94. Radio and communication equipment	326	522	604	1381	1478	1411	1630	1846	1660
95. Electronic components	188	356	1008	4477	4790	4573	6284	7117	6400
96. Electrical machinery and equipment, n.e.c.	110	200	301	688	736	703	815	923	830
97. Motor vehicles	1865	2352	4123	8043	8605	8215	10125	11467	10312
98. Aircraft	1229	2128	3045	8843	9461	9032	11514	13041	11727
99. Ship and boat building and repair	35	66	189	432	462	441	510	578	520
100. Railroad equipment	181	160	174	294	315	301	329	372	335
101. Motorcycles, bicycles, and parts	2	5	7	20	21	20	24	27	24
102. Transportation equipment, n.e.c.	13	26	79	181	193	185	213	242	217
103. Scientific and controlling instruments	424	543	573	1310	1402	1338	1546	1751	1575
104. Medical and dental instruments	99	120	209	478	511	488	564	639	574
105. Optical and ophthalmic equipment	24	40	74	231	247	236	304	344	309
106. Photographic equipment and supplies	164	284	575	1789	1914	1827	2432	2754	2477
107. Watches, clocks, and clock-operated devices	6	13	14	86	92	87	128	145	130
108. Jewelry and silverware	118	144	226	350	375	358	402	455	410
109. Musical instruments and sporting goods	69	91	257	453	485	463	561	635	571
110. Manufactured products, n.e.c.	67	199	204	467	499	476	551	624	561
111. Railroad transportation	802	896	1142	1525	1631	1557	1665	1885	1695
112. Local transit and intercity buses	0	0	1	1	1	1	2	2	2
113. Truck transportation	762	755	887	2020	2161	2063	2815	3188	2867
114. Water transportation	1972	1932	1838	3360	3594	3431	3975	4502	4048
115. Air transportation	313	790	1075	3085	3300	3151	4207	4765	4285
116. Pipeline transportation	40	62	56	181	193	185	240	272	245
117. Transportation services	170	38	215	292	312	298	380	431	387
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	52	150	389	1332	1425	1361	1823	2064	1856
120. Electric utilities, public and private	24	29	38	99	106	101	117	132	119

See footnotes at end of table.

Table A-9. Exports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	12	53	110	131	140	134	135	153	137
122. Water and sanitary services, excluding public	4	6	11	20	21	20	23	27	24
123. Wholesale trade	2280	2948	3980	8515	9109	8696	10521	12029	10817
124. Eating and drinking places	0	0	0	0	0	0	0	0	0
125. Retail trade, except eating and drinking places	34	67	119	272	291	278	321	364	327
126. Banking	2	7	8	31	33	31	41	46	42
127. Credit agencies and financial brokers	12	11	11	26	27	26	32	36	32
128. Insurance	47	25	236	416	446	425	485	549	493
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	588	695	2035	3275	3504	3345	3777	4278	3847
131. Hotels and lodging places	0	3	4	7	7	7	8	9	8
132. Personal and repair services	0	0	0	0	0	0	0	0	0
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	44	122	401	1493	1598	1525	1896	2147	1931
135. Advertising	25	39	40	116	124	119	141	160	144
136. Professional services, n.e.c.	298	447	400	984	1053	1005	1143	1295	1164
137. Automobile repair	0	0	0	0	0	0	0	0	0
138. Motion pictures	494	391	438	948	1014	968	1082	1226	1102
139. Amusements and recreation services	0	0	0	0	0	0	0	0	0
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	0	0	0	0	0	0	0	0	0
144. Nonprofit organizations	38	45	53	73	78	75	82	93	83
145. Post office	44	25	21	18	19	18	20	23	21
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	95	109	118	263	281	268	310	351	316
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
150. Noncomparable imports	388	486	681	1441	1542	1472	2260	2559	2301
151. Scrap, used and secondhand goods	356	722	919	2359	2524	2410	2531	2866	2577
152. Construction industry	1	10	4	9	9	9	11	13	11
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	6547	11154	14167	32118	34361	32804	38543	43652	39254
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-10. Imports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	-34959	-50707	-76199	-128018	-145771	-144438	-160142	-201786	-203365
1. Dairy and poultry products	-3	-1	-2	-3	-4	-4	-4	-5	-5
2. Meat animals and livestock	-330	-342	-257	-399	-455	-451	-470	-592	-597
3. Cotton	-31	-36	-14	-17	-19	-19	-21	-27	-27
4. Food and feed grains	-52	-37	-50	-68	-77	-76	-86	-108	-109
5. Agricultural products, n.e.c.	-497	-687	-567	-847	-965	-956	-1022	-1288	-1298
6. Forestry and fishery products	-778	-889	-1152	-1400	-1595	-1580	-1731	-2181	-2198
7. Agricultural, forestry, and fishery services	-4	-7	-2	-3	-4	-4	-4	-5	-5
8. Iron and ferroalloy ores mining	-614	-719	-619	-757	-862	-854	-787	-995	-1003
9. Copper ore mining	-19	-48	-83	-129	-147	-146	-152	-191	-193
10. Nonferrous metal ores mining, except copper	-475	-403	-331	-384	-438	-434	-425	-593	-598
11. Coal mining	-4	-4	-1	-2	-2	-2	-2	-3	-3
12. Crude petroleum and natural gas	-1629	-1484	-2763	-4978	-5669	-5617	-4782	-6025	-6072
13. Stone and clay mining and quarrying	-153	-164	-179	-246	-280	-277	-293	-369	-372
14. Chemical and fertilizer mineral mining	-97	-85	-96	-150	-170	-169	-177	-223	-225
15. Maintenance and repair construction	0	0	0	0	0	0	0	0	0
16. Ordnance	-31	-124	-81	-126	-143	-142	-150	-189	-190
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	-978	-1167	-1496	-2090	-2380	-2358	-2233	-2813	-2835
19. Dairy products	-85	-126	-187	-291	-331	-328	-342	-431	-434
20. Canned and frozen foods	-308	-423	-564	-696	-793	-786	-839	-1056	-1065
21. Grain mill products	-42	-47	-75	-117	-133	-132	-137	-173	-174
22. Bakery products	-16	-33	-44	-70	-80	-79	-81	-102	-103
23. Sugar	-1169	-1081	-1000	-876	-998	-989	-966	-1148	-1157
24. Confectionery products	-89	-113	-133	-207	-235	-233	-243	-307	-309
25. Alcoholic beverages	-503	-761	-913	-1429	-1627	-1612	-1675	-2110	-2127
26. Soft drinks and flavorings	-5	-16	-15	-27	-31	-30	-34	-43	-43
27. Food products, n.e.c.	-198	-412	-428	-665	-758	-751	-783	-986	-994
28. Tobacco manufacturing	-130	-50	-71	-105	-119	-118	-125	-158	-159
29. Fabric, yarn, and thread mills	-498	-635	-895	-1515	-1725	-1709	-1799	-2266	-2284
30. Floor covering mills	-54	-60	-98	-152	-174	-172	-179	-226	-228
31. Textile mill products, n.e.c.	-538	-481	-488	-713	-811	-804	-959	-1209	-1218
32. Hosiery and knit goods	-14	-24	-178	-349	-397	-393	-408	-514	-518
33. Apparel	-601	-1029	-2460	-4618	-5258	-5210	-5452	-6869	-6923
34. Fabricated textile products, n.e.c.	-39	-73	-134	-199	-227	-225	-298	-376	-379
35. Logging	-55	-63	-32	-50	-57	-56	-59	-74	-75
36. Sawmills and planing mills	-781	-891	-1310	-2087	-2377	-2355	-2314	-3242	-3267
37. Millwork, plywood, and wood products, n.e.c.	-441	-544	-730	-896	-1020	-1010	-1095	-1380	-1391
38. Wooden containers	-7	-4	-4	-5	-5	-5	-6	-7	-7
39. Household furniture	-130	-150	-216	-373	-425	-421	-491	-618	-623
40. Furniture and fixtures, except household	-52	-127	-128	-199	-227	-224	-234	-295	-297
41. Paper products	-1402	-1703	-1785	-2774	-3158	-3130	-3165	-3987	-4018
42. Paperboard	-15	-3	-6	-9	-11	-11	-11	-14	-14
43. Newspaper printing and publishing	-2	-5	-12	-19	-21	-21	-22	-28	-28
44. Periodical and book printing, publishing	-87	-111	-169	-250	-285	-282	-295	-371	-374
45. Printing and publishing, n.e.c.	-13	-33	-56	-87	-99	-98	-102	-129	-130
46. Industrial inorganic and organic chemicals	-302	-579	-1013	-1613	-1837	-1820	-1811	-2281	-2299
47. Agricultural chemicals	-39	-69	-181	-369	-420	-416	-403	-507	-511
48. Chemical products, n.e.c.	-85	-137	-170	-259	-295	-292	-310	-391	-394
49. Plastic materials and synthetic rubber	-19	-48	-122	-285	-325	-322	-344	-434	-437
50. Synthetic fibers	-57	-97	-202	-314	-357	-354	-374	-471	-475
51. Drugs	-69	-136	-269	-468	-533	-528	-546	-688	-693
52. Cleaning and toilet preparations	-19	-31	-46	-72	-81	-81	-84	-106	-107
53. Paints and allied products	-1	-1	-2	-3	-3	-3	-3	-4	-4
54. Petroleum refining and related products	-1056	-1309	-2873	-1645	-1873	-1856	-1650	-2078	-2095
55. Tires and inner tubes	-36	-114	-428	-957	-1090	-1080	-1170	-1474	-1486
56. Rubber products, except tires and tubes	-116	-181	-410	-637	-726	-719	-755	-952	-959
57. Plastic products	-48	-100	-321	-812	-925	-916	-988	-1245	-1255
58. Leather tanning and industrial leather	-87	-119	-157	-244	-278	-275	-287	-362	-365
59. Leather products, including footwear	-210	-454	-1064	-1581	-1800	-1784	-1653	-2083	-2099
60. Glass	-155	-223	-336	-522	-595	-589	-615	-774	-780

See footnotes at end of table.

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Federal Reserve Bank of St. Louis

Table A-10. Imports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	-24	-29	-94	-164	-187	-185	-198	-249	-251
62. Structural clay products	-43	-39	-74	-115	-131	-130	-135	-235	-237
63. Pottery and related products	-128	-214	-271	-421	-480	-475	-496	-624	-629
64. Stone and clay products, n.e.c.	-97	-161	-197	-306	-349	-345	-360	-454	-458
65. Blast furnaces and basic steel products	-1112	-2165	-3437	-5062	-5764	-5711	-7258	-9144	-9216
66. Iron and steel foundries and forgings	-23	-48	-60	-93	-106	-105	-110	-138	-139
67. Primary copper and copper products	-443	-1008	-472	-677	-771	-764	-826	-1041	-1049
68. Primary aluminum and aluminum products	-239	-340	-587	-912	-1039	-1029	-1074	-1353	-1363
69. Primary nonferrous metals and products, n.e.c.	-775	-1347	-1533	-2847	-3242	-3212	-3436	-4329	-4363
70. Metal containers	-12	-9	-16	-25	-28	-28	-29	-37	-37
71. Heating apparatus and plumbing fixtures	-7	-34	-68	-106	-120	-119	-124	-257	-259
72. Fabricated structural metal products	-24	-48	-80	-124	-142	-140	-148	-187	-188
73. Screw machine products	-62	-114	-173	-269	-306	-303	-317	-399	-402
74. Metal stampings	-55	-63	-61	-95	-108	-107	-112	-142	-143
75. Cutlery, handtools, and general hardware	-124	-160	-301	-468	-533	-528	-558	-703	-708
76. Fabricated metal products, n.e.c.	-128	-288	-577	-701	-799	-791	-924	-1164	-1173
77. Engines, turbines, and generators	-39	-116	-248	-479	-545	-541	-629	-792	-798
78. Farm machinery	-241	-401	-456	-509	-807	-800	-634	-1251	-1261
79. Construction, mining, and oilfield machinery	-35	-127	-177	-379	-432	-428	-494	-622	-627
80. Material handling equipment	-15	-32	-128	-219	-249	-247	-280	-352	-355
81. Metalworking machinery	-91	-407	-297	-462	-526	-521	-551	-694	-699
82. Special industry machinery	-184	-507	-875	-1360	-1548	-1534	-1619	-2039	-2055
83. General industrial machinery	-65	-304	-534	-1275	-1452	-1438	-1588	-2001	-2016
84. Nonelectrical machinery, n.e.c.	-1	-3	-7	-10	-11	-11	-12	-16	-16
85. Computers and peripheral equipment	-72	-183	-548	-982	-1119	-1108	-1254	-1581	-1593
86. Typewriters and other office equipment	-55	-93	-186	-345	-392	-389	-522	-657	-662
87. Service industry machines	-3	-18	-77	-242	-276	-273	-402	-507	-510
88. Electric transmission equipment	-28	-151	-316	-657	-748	-742	-871	-1097	-1106
89. Electrical industrial apparatus	-51	-110	-224	-348	-396	-393	-415	-523	-527
90. Household appliances	-89	-182	-505	-1048	-1193	-1182	-1387	-1747	-1761
91. Electric lighting and wiring	-79	-120	-172	-352	-401	-397	-400	-503	-507
92. Radio and television receiving sets	-225	-594	-2132	-5253	-5982	-5927	-7541	-9501	-9575
93. Telephone and telegraph apparatus	-25	-47	-97	-259	-295	-292	-341	-429	-433
94. Radio and communication equipment	-59	-197	-288	-695	-792	-784	-955	-1203	-1212
95. Electronic components	-61	-178	-572	-1253	-1427	-1414	-2086	-2628	-2649
96. Electrical machinery and equipment, n.e.c.	-75	-140	-321	-732	-834	-826	-991	-1248	-1258
97. Motor vehicles	-731	-2963	-8459	-16364	-18634	-18463	-17199	-21670	-21839
98. Aircraft	-129	-384	-562	-1263	-1210	-1199	-1874	-1794	-1808
99. Ship and boat building and repair	-14	-73	-171	-341	-388	-384	-419	-528	-532
100. Railroad equipment	-2	-9	-26	-95	-108	-107	-172	-217	-218
101. Motorcycles, bicycles, and parts	-121	-217	-1112	-1810	-2061	-2042	-2005	-2526	-2545
102. Transportation equipment, n.e.c.	-6	-49	-146	-227	-258	-256	-271	-341	-344
103. Scientific and controlling instruments	-37	-77	-119	-286	-326	-323	-387	-488	-492
104. Medical and dental instruments	-13	-28	-66	-176	-201	-199	-246	-310	-312
105. Optical and ophthalmic equipment	-58	-118	-225	-528	-601	-596	-697	-878	-885
106. Photographic equipment and supplies	-101	-164	-383	-937	-1067	-1057	-1307	-1647	-1660
107. Watches, clocks, and clock-operated devices	-120	-219	-289	-353	-402	-398	-481	-606	-611
108. Jewelry and silverware	-310	-412	-564	-876	-998	-989	-1045	-1317	-1328
109. Musical instruments and sporting goods	-218	-363	-705	-1593	-1814	-1798	-1969	-2480	-2500
110. Manufactured products, n.e.c.	-143	-366	-513	-843	-960	-951	-1093	-1378	-1388
111. Railroad transportation	-44	-29	-57	-89	-101	-100	-104	-132	-133
112. Local transit and intercity buses	0	0	0	0	0	0	0	0	0
113. Truck transportation	0	0	0	0	0	0	0	0	0
114. Water transportation	-85	-110	-148	-230	-262	-260	-274	-346	-348
115. Air transportation	-477	-801	-947	-1418	-1615	-1600	-1617	-2037	-2053
116. Pipeline transportation	0	0	0	0	0	0	0	0	0
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	0	0	0	0	0	0	0	0	0
120. Electric utilities, public and private	-9	-19	-67	-139	-158	-157	-176	-222	-224

See footnotes at end of table.

Table A-10. Imports, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	-131	-168	-347	-719	-819	-812	-884	-1114	-1123
122. Water and sanitary services, excluding public	0	0	0	0	0	0	0	0	0
123. Wholesale trade	1520	2336	2993	5762	6561	6501	7425	9354	9427
124. Eating and drinking places	0	0	0	0	0	0	0	0	0
125. Retail trade, except eating and drinking places	0	0	0	0	0	0	0	0	0
126. Banking	0	0	0	0	0	0	0	0	0
127. Credit agencies and financial brokers	0	0	0	0	0	0	0	0	0
128. Insurance	-73	-122	-165	-256	-292	-289	-304	-383	-386
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	0	0	0	0	0	0	0	0	0
131. Hotels and lodging places	0	0	0	0	0	0	0	0	0
132. Personal and repair services	0	0	0	0	0	0	0	0	0
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	-1	-1	-2	-3	-3	-3	-3	-4	-4
135. Advertising	-6	-8	-10	-16	-18	-18	-19	-24	-24
136. Professional services, n.e.c.	0	0	0	0	0	0	0	0	0
137. Automobile repair	0	0	0	0	0	0	0	0	0
138. Motion pictures	-1	-1	-12	-15	-17	-17	-18	-23	-23
139. Amusements and recreation services	0	0	0	0	0	0	0	0	0
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	0	0	0	0	0	0	0	0	0
144. Nonprofit organizations	-13	-20	-30	-38	-43	-43	-46	-58	-58
145. Post office	0	0	0	0	0	0	0	0	0
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
150. Noncomparable imports	-11499	-14166	-15843	-22848	-26016	-25778	-31151	-38901	-39205
151. Scrap, used and secondhand goods	-606	-1128	-1130	-2785	-3172	-3143	-4300	-5418	-5460
152. Construction industry	0	0	0	0	0	0	0	0	0
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	-1480	-2268	-3521	-10137	-11543	-11437	-14989	-18884	-19032
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-11. Government purchases, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	197379	247969	252817	318653	318297	316617	338332	339410	340667
1. Dairy and poultry products	44	55	72	62	63	63	68	71	71
2. Meat animals and livestock	5	7	4	9	9	9	9	9	9
3. Cotton	492	-874	22	337	328	313	343	334	318
4. Food and feed grains	-541	-535	-799	-415	-404	-384	-585	-569	-541
5. Agricultural products, n.e.c.	-31	437	13	402	405	398	470	483	474
6. Forestry and fishery products	-749	-809	-525	-483	-470	-448	-561	-546	-519
7. Agricultural, forestry, and fishery services	49	76	79	64	63	63	67	68	68
8. Iron and ferroalloy ores mining	7	-70	-25	-15	-15	-15	-23	-22	-23
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	385	156	-7	0	0	0	0	0	0
11. Coal mining	85	99	70	87	85	85	89	86	88
12. Crude petroleum and natural gas	0	0	0	97	94	90	165	161	153
13. Stone and clay mining and quarrying	462	589	586	572	575	574	573	604	605
14. Chemical and fertilizer mineral mining	36	41	47	38	38	38	31	34	34
15. Maintenance and repair construction	7218	7878	9422	10096	10164	10109	10971	11393	11439
16. Ordnance	1349	4547	2108	1804	1761	1769	1990	1873	1976
17. Complete guided missiles and space vehicles	4437	5130	3652	4725	4595	4545	4788	4537	4656
18. Meat products	356	478	853	837	857	855	939	993	992
19. Dairy products	354	911	652	589	606	601	661	704	698
20. Canned and frozen foods	242	297	415	406	426	426	452	492	491
21. Grain mill products	55	123	104	133	133	131	157	160	158
22. Bakery products	110	131	160	153	164	163	182	202	202
23. Sugar	8	10	19	13	14	14	15	16	16
24. Confectionery products	53	57	70	61	67	67	68	76	76
25. Alcoholic beverages	-5	3	-7	-9	-9	-9	-7	-8	-8
26. Soft drinks and flavorings	44	52	56	53	59	59	66	74	73
27. Food products, n.e.c.	134	147	222	221	237	235	240	267	267
28. Tobacco manufacturing	1	2	1	-1	-2	-2	-1	-2	-2
29. Fabric, yarn, and thread mills	75	125	83	158	160	160	173	179	182
30. Floor covering mills	41	61	82	65	64	64	74	74	75
31. Textile mill products, n.e.c.	22	18	14	19	20	20	26	27	27
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	166	227	215	374	462	460	407	506	511
34. Fabricated textile products, n.e.c.	99	392	195	213	211	211	249	244	252
35. Logging	0	0	1	0	0	0	0	0	0
36. Sawmills and planing mills	290	270	112	98	98	98	101	104	105
37. Millwork, plywood, and wood products, n.e.c.	396	700	423	381	382	381	378	390	391
38. Wooden containers	6	33	13	16	16	16	19	18	18
39. Household furniture	65	148	108	151	149	146	168	167	165
40. Furniture and fixtures, except household	363	594	622	828	826	821	920	947	945
41. Paper products	362	556	679	813	822	815	825	856	853
42. Paperboard	35	70	58	60	63	63	62	66	66
43. Newspaper printing and publishing	4	8	3	5	5	5	5	5	5
44. Periodical and book printing, publishing	673	973	1033	1137	1112	1111	1309	1319	1321
45. Printing and publishing, n.e.c.	546	782	1189	1376	1374	1365	1461	1505	1504
46. Industrial inorganic and organic chemicals	1169	1049	937	1395	1364	1355	1769	1706	1748
47. Agricultural chemicals	91	114	107	147	148	147	146	152	151
48. Chemical products, n.e.c.	279	950	429	684	669	669	714	680	708
49. Plastic materials and synthetic rubber	19	-9	21	25	24	24	23	21	23
50. Synthetic fibers	17	31	15	55	53	54	62	58	61
51. Drugs	379	654	1040	2281	2291	2287	2679	2803	2807
52. Cleaning and toilet preparations	158	281	223	309	309	307	345	352	352
53. Paints and allied products	143	150	171	190	188	187	205	207	208
54. Petroleum refining and related products	1916	2578	2599	2588	3197	3193	2677	3408	3475
55. Tires and inner tubes	156	239	130	199	210	208	212	228	228
56. Rubber products, except tires and tubes	108	337	267	333	353	352	353	375	383
57. Plastic products	168	257	244	343	347	345	373	383	387
58. Leather tanning and industrial leather	1	4	1	2	2	2	3	3	3
59. Leather products, including footwear	10	25	18	19	21	21	22	24	25
60. Glass	82	157	184	205	208	207	226	235	236

See footnotes at end of table.

Table A-11. Government purchases, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	1761	2132	2245	1908	1923	1918	1839	1933	1934
62. Structural clay products	172	166	134	132	132	131	137	141	142
63. Pottery and related products	46	55	48	57	59	58	63	65	65
64. Stone and clay products, n.e.c.	332	393	333	333	336	335	355	363	367
65. Blast furnaces and basic steel products	1064	840	447	437	439	438	433	440	449
66. Iron and steel foundries and forgings	155	202	520	498	499	499	477	494	500
67. Primary copper and copper products	590	705	402	418	414	409	439	439	440
68. Primary aluminum and aluminum products	30	50	26	39	38	38	45	42	44
69. Primary nonferrous metals and products, n.e.c.	-234	-196	-38	-22	-21	-22	-35	-31	-37
70. Metal containers	14	23	18	16	16	16	17	17	17
71. Heating apparatus and plumbing fixtures	180	191	154	134	136	136	150	154	155
72. Fabricated structural metal products	2413	3199	2797	3393	3392	3379	3565	3670	3685
73. Screw machine products	51	191	84	139	135	133	170	163	165
74. Metal stampings	41	44	36	43	15	14	54	24	24
75. Cutlery, handtools, and general hardware	117	255	250	303	303	302	363	363	369
76. Fabricated metal products, n.e.c.	367	661	638	689	672	669	687	676	688
77. Engines, turbines, and generators	314	621	413	553	541	535	615	596	607
78. Farm machinery	46	75	58	88	93	93	98	104	105
79. Construction, mining, and oilfield machinery	461	635	292	431	428	427	463	463	473
80. Material handling equipment	145	205	156	180	179	178	196	194	197
81. Metalworking machinery	163	242	160	251	245	242	287	278	282
82. Special industry machinery	37	78	81	137	133	132	159	152	156
83. General industrial machinery	434	454	304	411	407	404	471	458	469
84. Nonelectrical machinery, n.e.c.	177	290	237	257	262	262	291	302	306
85. Computers and peripheral equipment	497	486	598	1748	1702	1679	2498	2390	2441
86. Typewriters and other office equipment	199	360	379	531	522	509	625	620	608
87. Service industry machines	273	425	493	656	659	659	759	778	786
88. Electric transmission equipment	459	602	550	931	916	916	1180	1141	1183
89. Electrical industrial apparatus	311	546	313	477	467	465	653	629	649
90. Household appliances	47	75	73	103	106	106	116	122	123
91. Electric lighting and wiring	486	556	493	467	470	467	503	515	517
92. Radio and television receiving sets	98	154	124	206	201	198	260	253	253
93. Telephone and telegraph apparatus	173	250	205	306	297	297	341	322	334
94. Radio and communication equipment	5839	6759	5414	7877	7674	7671	8847	8359	8729
95. Electronic components	388	696	646	1167	1143	1139	1319	1255	1304
96. Electrical machinery and equipment, n.e.c.	209	331	173	393	391	390	478	470	483
97. Motor vehicles	2162	2581	1788	3241	3296	3293	3775	3835	3925
98. Aircraft	11481	10475	8050	13881	12911	12946	15507	13908	14634
99. Ship and boat building and repair	1485	1870	1622	2203	2146	2140	2679	2529	2632
100. Railroad equipment	65	80	107	86	86	86	93	98	98
101. Motorcycles, bicycles, and parts	6	9	19	7	13	13	6	12	12
102. Transportation equipment, n.e.c.	10	13	21	24	25	25	26	28	28
103. Scientific and controlling instruments	665	744	687	1366	1344	1342	1568	1519	1570
104. Medical and dental instruments	144	275	232	491	491	487	565	575	577
105. Optical and ophthalmic equipment	40	79	124	205	200	194	283	275	270
106. Photographic equipment and supplies	312	565	610	852	849	845	929	929	944
107. Watches, clocks, and clock-operated devices	9	117	37	62	60	60	79	74	78
108. Jewelry and silverware	5	12	-3	9	10	11	18	19	20
109. Musical instruments and sporting goods	77	96	180	169	169	169	180	187	188
110. Manufactured products, n.e.c.	209	327	453	513	485	480	562	540	540
111. Railroad transportation	638	897	631	711	704	702	730	724	739
112. Local transit and intercity buses	435	657	726	650	642	642	684	694	696
113. Truck transportation	1798	2813	2325	2465	2452	2445	2671	2655	2713
114. Water transportation	391	881	610	920	900	904	1054	1001	1053
115. Air transportation	690	1541	1140	1693	1670	1666	1875	1825	1881
116. Pipeline transportation	25	37	36	46	47	47	49	49	50
117. Transportation services	1	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	859	1283	2082	3392	3410	3399	3888	3931	4004
120. Electric utilities, public and private	1284	1879	2322	2345	2362	2364	2453	2518	2552

See footnotes at end of table.

Table A-11. Government purchases, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	353	367	687	725	726	725	768	787	790
122. Water and sanitary services, excluding public	18	85	104	148	151	151	162	158	163
123. Wholesale trade	3459	4441	3968	4677	4726	4710	5118	5228	5293
124. Eating and drinking places	-1155	-1224	-1323	-1328	-1254	-1256	-1597	-1593	-1568
125. Retail trade, except eating and drinking places	546	726	618	553	565	562	555	600	593
126. Banking	1780	1787	2514	3575	3584	3550	3584	3758	3720
127. Credit agencies and financial brokers	152	178	159	141	171	171	127	173	173
128. Insurance	445	487	514	608	613	613	642	670	672
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	937	1274	2079	2610	2630	2613	2709	2830	2821
131. Hotels and lodging places	723	843	701	1161	1178	1173	1133	1153	1179
132. Personal and repair services	327	340	618	639	634	633	697	716	718
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	4005	4727	5139	8732	8695	8660	9983	9983	10160
135. Advertising	288	323	492	524	524	525	543	569	571
136. Professional services, n.e.c.	2924	2785	4149	5023	5056	5038	5414	5588	5610
137. Automobile repair	285	454	601	603	627	625	628	670	674
138. Motion pictures	108	163	128	202	200	200	229	222	230
139. Amusements and recreation services	-435	-391	-429	-361	-351	-349	-368	-378	-368
140. Doctors' and dentists' services	368	691	1630	2567	2580	2576	2690	2818	2823
141. Hospitals	701	1428	2645	4500	4521	4517	4878	5108	5123
142. Medical services, except hospitals	546	1206	3344	4616	4652	4646	5149	5446	5441
143. Educational services	1872	2347	1662	2031	2043	1985	2189	2183	2158
144. Nonprofit organizations	7	11	10	22	22	22	24	25	25
145. Post office	409	718	983	1198	1201	1190	1268	1295	1299
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	4	13	3	6	6	6	8	8	8
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	62	52	59	64	67	67	63	68	68
150. Noncomparable imports	2593	4029	3508	4045	3934	3926	3404	3211	3340
151. Scrap, used and secondhand goods	1065	1022	1400	1303	1284	1295	1637	1595	1687
152. Construction industry	12850	16933	13577	14356	14518	14449	14531	15255	15275
153. Government industry	100232	121953	131948	161167	161167	159998	167585	167585	165869
154. Rest of the world industry	-1172	-501	-203	-785	-764	-728	-1167	-1137	-1083
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-12. Federal Government purchases, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	101953	124885	102125	128416	126218	124537	139910	134910	136166
1. Dairy and poultry products	3	4	2	3	3	3	2	2	2
2. Meat animals and livestock	4	4	2	3	3	3	3	3	3
3. Cotton	492	-874	22	337	328	313	343	334	318
4. Food and feed grains	-551	-549	-820	-427	-415	-396	-596	-581	-554
5. Agricultural products, n.e.c.	-146	312	-179	151	147	140	207	201	192
6. Forestry and fishery products	-752	-813	-533	-491	-478	-456	-570	-556	-529
7. Agricultural, forestry, and fishery services	27	21	16	19	19	19	19	18	19
8. Iron and ferroalloy ores mining	7	-70	-25	-15	-15	-15	-23	-22	-23
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	385	156	-7	0	0	0	0	0	0
11. Coal mining	68	71	47	61	59	59	61	58	60
12. Crude petroleum and natural gas	0	0	0	97	94	90	165	161	153
13. Stone and clay mining and quarrying	131	125	61	70	68	66	71	68	68
14. Chemical and fertilizer mineral mining	0	0	-2	-1	-1	-1	-4	-4	-4
15. Maintenance and repair construction	2235	2396	2079	3043	2960	2905	3533	3364	3409
16. Ordnance	1340	4537	2090	1796	1745	1753	1983	1859	1962
17. Complete guided missiles and space vehicles	4437	5130	3652	4725	4595	4545	4788	4537	4656
18. Meat products	17	65	28	47	46	44	57	55	53
19. Dairy products	105	629	192	120	117	111	143	139	133
20. Canned and frozen foods	9	23	11	18	17	16	21	21	20
21. Grain mill products	17	79	39	72	70	68	91	88	86
22. Bakery products	5	9	4	7	7	7	8	8	8
23. Sugar	1	1	1	1	1	1	1	1	1
24. Confectionery products	0	1	1	1	1	1	1	1	1
25. Alcoholic beverages	1	1	1	1	1	1	1	1	1
26. Soft drinks and flavorings	3	5	2	4	4	4	6	6	6
27. Food products, n.e.c.	39	32	32	38	38	36	30	29	29
28. Tobacco manufacturing	0	0	0	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	41	82	25	46	44	44	57	53	56
30. Floor covering mills	5	11	13	21	21	21	26	25	26
31. Textile mill products, n.e.c.	10	15	8	14	14	13	21	20	20
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	101	162	131	201	196	193	231	220	225
34. Fabricated textile products, n.e.c.	83	369	145	147	142	142	178	168	175
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	53	28	17	19	18	18	24	22	23
37. Millwork, plywood, and wood products, n.e.c.	49	93	84	102	100	98	107	102	103
38. Wooden containers	6	33	13	16	16	16	19	18	18
39. Household furniture	28	90	65	95	93	90	108	104	102
40. Furniture and fixtures, except household	75	144	131	173	169	164	182	175	173
41. Paper products	127	217	142	203	197	191	227	218	215
42. Paperboard	14	42	19	22	22	21	21	20	20
43. Newspaper printing and publishing	0	2	1	2	2	2	2	2	2
44. Periodical and book printing, publishing	107	62	38	78	76	75	99	94	96
45. Printing and publishing, n.e.c.	243	377	349	390	380	371	410	393	393
46. Industrial inorganic and organic chemicals	1080	948	701	1110	1079	1070	1449	1371	1413
47. Agricultural chemicals	19	31	16	29	28	27	37	36	35
48. Chemical products, n.e.c.	203	858	332	626	608	608	655	616	644
49. Plastic materials and synthetic rubber	18	-10	20	24	24	24	22	21	22
50. Synthetic fibers	17	31	15	55	53	54	62	58	61
51. Drugs	91	141	154	262	254	250	320	305	308
52. Cleaning and toilet preparations	44	91	49	97	94	92	122	116	117
53. Paints and allied products	52	-24	21	52	51	50	68	64	65
54. Petroleum refining and related products	1056	1420	905	988	1544	1541	997	1587	1654
55. Tires and inner tubes	71	126	70	99	96	94	107	103	103
56. Rubber products, except tires and tubes	17	228	144	204	198	197	217	205	212
57. Plastic products	37	87	71	132	128	127	150	143	146
58. Leather tanning and industrial leather	0	4	1	2	2	2	3	3	3
59. Leather products, including footwear	6	21	8	12	12	12	16	15	15
60. Glass	21	31	36	48	46	45	55	52	53

See footnotes at end of table.

Table A-12. Federal Government purchases, total, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	335	276	202	235	229	224	264	252	253
62. Structural clay products	5	6	13	25	25	24	33	31	32
63. Pottery and related products	2	4	11	16	16	16	20	19	19
64. Stone and clay products, n.e.c.	75	76	56	102	99	98	129	122	126
65. Blast furnaces and basic steel products	618	464	139	186	181	181	195	184	192
66. Iron and steel foundries and forgings	11	89	91	118	114	115	118	110	116
67. Primary copper and copper products	152	118	166	227	220	215	250	239	240
68. Primary aluminum and aluminum products	23	47	24	38	37	37	43	40	43
69. Primary nonferrous metals and products, n.e.c.	-234	-196	-39	-22	-21	-22	-35	-31	-37
70. Metal containers	9	16	8	10	10	10	10	10	10
71. Heating apparatus and plumbing fixtures	10	12	25	40	39	39	55	52	53
72. Fabricated structural metal products	341	514	604	849	825	812	955	908	923
73. Screw machine products	39	181	72	129	126	123	159	152	153
74. Metal stampings	20	25	9	16	16	16	20	20	20
75. Cutlery, handtools, and general hardware	27	103	74	147	143	142	203	192	198
76. Fabricated metal products, n.e.c.	94	278	230	367	357	354	386	365	377
77. Engines, turbines, and generators	262	547	327	458	445	439	516	490	501
78. Farm machinery	15	36	14	26	26	25	39	37	38
79. Construction, mining, and oilfield machinery	267	445	140	217	211	210	250	235	245
80. Material handling equipment	101	134	85	123	120	119	141	134	137
81. Metalworking machinery	134	203	119	205	199	196	238	227	230
82. Special industry machinery	29	62	65	120	117	116	141	133	138
83. General industrial machinery	349	390	222	357	347	344	419	397	408
84. Nonelectrical machinery, n.e.c.	78	143	59	90	87	87	102	96	100
85. Computers and peripheral equipment	453	412	509	1417	1378	1356	2147	2036	2087
86. Typewriters and other office equipment	104	203	190	324	315	302	400	387	375
87. Service industry machines	53	118	82	151	146	146	190	179	187
88. Electric transmission equipment	286	437	313	677	658	657	919	863	905
89. Electrical industrial apparatus	255	488	237	374	364	361	544	513	533
90. Household appliances	18	18	14	24	24	24	31	29	30
91. Electric lighting and wiring	67	83	100	141	137	134	168	160	162
92. Radio and television receiving sets	71	106	71	145	141	138	191	182	183
93. Telephone and telegraph apparatus	173	250	204	305	297	296	340	321	334
94. Radio and communication equipment	5724	6612	5260	7643	7430	7426	8542	8035	8405
95. Electronic components	374	673	625	1145	1113	1109	1298	1224	1272
96. Electrical machinery and equipment, n.e.c.	169	282	125	264	256	255	347	327	341
97. Motor vehicles	1281	1523	644	1712	1664	1660	2181	2053	2143
98. Aircraft	11479	10473	8046	13879	12907	12942	15506	13905	14631
99. Ship and boat building and repair	1479	1863	1604	2194	2133	2127	2671	2517	2620
100. Railroad equipment	8	8	3	9	9	9	13	13	13
101. Motorcycles, bicycles, and parts	1	1	1	1	1	1	1	1	1
102. Transportation equipment, n.e.c.	4	4	3	10	10	10	14	14	14
103. Scientific and controlling instruments	519	561	499	1065	1036	1034	1237	1164	1215
104. Medical and dental instruments	75	164	105	191	186	182	242	230	233
105. Optical and ophthalmic equipment	28	56	101	177	172	166	252	244	238
106. Photographic equipment and supplies	185	363	280	441	429	426	518	490	505
107. Watches, clocks, and clock-operated devices	3	112	29	55	53	53	71	67	70
108. Jewelry and silverware	-3	-2	-22	-4	-4	-4	3	2	3
109. Musical instruments and sporting goods	5	11	5	11	11	11	16	16	16
110. Manufactured products, n.e.c.	86	173	103	189	184	180	239	229	229
111. Railroad transportation	309	545	323	435	423	421	456	431	445
112. Local transit and intercity buses	36	43	39	52	50	50	55	52	54
113. Truck transportation	922	1771	1147	1389	1351	1344	1621	1529	1587
114. Water transportation	334	821	513	816	793	797	950	890	941
115. Air transportation	507	1231	827	1246	1211	1207	1418	1336	1391
116. Pipeline transportation	15	23	16	26	25	25	29	28	29
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	409	647	858	1666	1620	1609	2106	1988	2061
120. Electric utilities, public and private	216	294	508	622	605	607	695	652	686

See footnotes at end of table.

Table A-12. Federal Government purchases, total, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	65	53	80	93	91	90	109	103	105
122. Water and sanitary services, excluding public	49	53	56	94	91	91	111	104	109
123. Wholesale trade	1819	2272	1367	1957	1903	1887	2242	2121	2186
124. Eating and drinking places	290	310	368	575	559	557	685	646	671
125. Retail trade, except eating and drinking places	-8	-56	11	5	5	3	-2	1	-6
126. Banking	733	680	756	734	715	681	832	811	773
127. Credit agencies and financial brokers	-10	6	-20	-17	-16	-16	-12	-11	-11
128. Insurance	93	67	-3	44	42	42	79	75	77
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	356	528	445	597	581	564	649	625	616
131. Hotels and lodging places	616	887	609	810	788	783	837	791	817
132. Personal and repair services	36	-10	92	87	85	84	109	104	106
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	2570	2919	3015	4727	4597	4562	5595	5287	5464
135. Advertising	12	8	18	30	30	30	31	30	31
136. Professional services, n.e.c.	939	1238	658	1195	1163	1145	1491	1419	1441
137. Automobile repair	53	101	129	144	140	138	176	167	171
138. Motion pictures	81	121	97	150	146	146	172	162	170
139. Amusements and recreation services	76	98	47	63	62	64	67	60	70
140. Doctors' and dentists' services	94	67	204	260	253	249	299	284	289
141. Hospitals	190	256	321	484	471	467	552	523	538
142. Medical services, except hospitals	62	59	92	119	116	110	127	123	118
143. Educational services	1846	2299	1669	1953	1900	1843	2131	2049	2024
144. Nonprofit organizations	1	1	1	2	2	2	2	2	2
145. Post office	206	432	424	546	531	520	595	568	572
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	4	13	3	6	6	6	8	8	8
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	31	13	17	26	25	24	24	23	23
150. Noncomparable imports	2587	4021	3496	4039	3927	3918	3397	3202	3332
151. Scrap, used and secondhand goods	-120	-456	363	619	601	612	1001	923	1015
152. Construction industry	2977	2347	2164	3044	2962	2892	3588	3427	3447
153. Government industry	47515	55716	49329	48987	48987	47818	49785	49785	48068
154. Rest of the world industry	-1172	-501	-203	-785	-764	-728	-1167	-1137	-1083
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-13. Federal Government purchases, defense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	80558	98238	73512	92913	91214	92297	102903	98405	102772
1. Dairy and poultry products	0	0	0	0	0	0	0	0	0
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	0	0	0	0	0	0	0	0	0
5. Agricultural products, n.e.c.	2	4	3	5	5	5	8	7	7
6. Forestry and fishery products	-1	7	-1	1	1	1	3	3	3
7. Agricultural, forestry, and fishery services	25	19	12	15	15	15	15	14	15
8. Iron and ferroalloy ores mining	17	-70	-25	-15	-15	-15	-23	-22	-23
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	372	89	-8	1	1	1	-2	-2	-2
11. Coal mining	55	59	36	49	47	48	50	46	49
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	32	13	11	27	27	27	40	37	39
14. Chemical and fertilizer mineral mining	0	0	-2	-1	-1	-1	-4	-4	-4
15. Maintenance and repair construction	1553	1330	981	1637	1591	1601	2056	1924	2039
16. Ordnance	1302	4482	2068	1730	1681	1692	1912	1789	1896
17. Complete guided missiles and space vehicles	3158	3004	2336	3233	3142	3162	3347	3133	3319
18. Meat products	8	9	4	6	6	6	7	7	7
19. Dairy products	0	0	0	0	0	0	0	0	0
20. Canned and frozen foods	0	0	0	0	0	0	0	0	0
21. Grain mill products	6	6	5	17	17	17	26	25	26
22. Bakery products	0	0	0	0	0	0	0	0	0
23. Sugar	0	0	0	0	0	0	0	0	0
24. Confectionery products	0	0	0	0	0	0	0	0	0
25. Alcoholic beverages	1	1	1	1	1	1	1	1	1
26. Soft drinks and flavorings	0	0	0	0	0	0	0	0	0
27. Food products, n.e.c.	0	13	-5	10	10	10	12	12	12
28. Tobacco manufacturing	0	0	0	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	41	82	24	45	43	44	56	52	55
30. Floor covering mills	3	7	8	15	15	15	19	18	19
31. Textile mill products, n.e.c.	6	7	-1	4	4	4	10	10	10
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	54	105	82	133	129	130	155	145	154
34. Fabricated textile products, n.e.c.	72	349	125	123	119	120	154	144	153
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	12	10	10	12	12	12	19	17	18
37. Millwork, plywood, and wood products, n.e.c.	16	33	42	61	59	59	64	60	63
38. Wooden containers	6	26	9	10	10	10	12	12	12
39. Household furniture	12	30	15	27	27	27	33	31	33
40. Furniture and fixtures, except household	23	48	46	62	60	60	63	59	62
41. Paper products	52	89	33	59	57	57	73	68	72
42. Paperboard	11	33	10	12	12	12	10	10	10
43. Newspaper printing and publishing	0	1	1	1	1	1	1	1	1
44. Periodical and book printing, publishing	53	36	16	49	47	48	69	65	68
45. Printing and publishing, n.e.c.	270	225	148	167	163	164	184	172	182
46. Industrial inorganic and organic chemicals	937	600	507	804	781	786	1072	1003	1063
47. Agricultural chemicals	4	6	6	8	8	8	9	9	9
48. Chemical products, n.e.c.	147	763	285	550	534	538	573	537	568
49. Plastic materials and synthetic rubber	18	-10	20	24	24	24	22	21	22
50. Synthetic fibers	17	31	15	55	53	54	62	58	61
51. Drugs	16	87	80	146	142	143	183	172	182
52. Cleaning and toilet preparations	34	48	27	47	45	46	56	52	55
53. Paints and allied products	4	5	12	27	27	27	37	34	36
54. Petroleum refining and related products	823	1053	703	741	1303	1312	740	1336	1416
55. Tires and inner tubes	59	82	37	50	48	49	51	47	50
56. Rubber products, except tires and tubes	9	211	120	164	159	160	171	160	170
57. Plastic products	31	69	42	90	88	88	104	98	103
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0
59. Leather products, including footwear	5	17	6	7	7	7	10	9	9
60. Glass	11	13	18	24	23	23	29	27	29

See footnotes at end of table.

Table A-13. Federal Government purchases, defense, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
61. Cement and concrete products	59	38	77	113	110	111	133	124	132
62. Structural clay products	1	1	8	17	17	17	23	22	23
63. Pottery and related products	1	2	3	6	6	6	7	7	7
64. Stone and clay products, n.e.c.	73	57	34	72	70	70	95	89	94
65. Blast furnaces and basic steel products	420	450	105	154	150	151	170	159	169
66. Iron and steel foundries and forgings	7	85	88	112	109	110	112	105	111
67. Primary copper and copper products	109	29	63	102	99	99	117	110	116
68. Primary aluminum and aluminum products	23	47	23	38	37	37	43	40	43
69. Primary nonferrous metals and products, n.e.c.	-29	-24	-76	-46	-44	-45	-74	-69	-73
70. Metal containers	9	16	8	10	10	10	10	10	10
71. Heating apparatus and plumbing fixtures	5	6	18	30	29	29	42	39	42
72. Fabricated structural metal products	82	247	310	494	480	483	587	550	582
73. Screw machine products	31	121	41	73	71	71	90	84	89
74. Metal stampings	15	18	4	8	8	8	11	10	11
75. Cutlery, handtools, and general hardware	10	59	37	99	96	97	152	142	151
76. Fabricated metal products, n.e.c.	47	228	152	268	261	262	291	272	288
77. Engines, turbines, and generators	215	450	191	293	284	286	344	322	341
78. Farm machinery	13	29	9	18	18	18	29	28	29
79. Construction, mining, and oilfield machinery	230	414	114	182	176	178	211	198	209
80. Material handling equipment	87	99	52	84	81	82	97	91	96
81. Metalworking machinery	93	135	66	117	114	115	146	137	145
82. Special industry machinery	13	39	44	91	89	89	109	102	109
83. General industrial machinery	305	298	160	255	248	249	296	277	294
84. Nonelectrical machinery, n.e.c.	71	127	46	73	71	72	86	80	85
85. Computers and peripheral equipment	332	221	248	828	805	810	1475	1381	1463
86. Typewriters and other office equipment	20	22	21	43	41	42	57	53	56
87. Service industry machines	51	107	63	126	122	123	163	153	162
88. Electric transmission equipment	236	343	251	592	576	579	827	774	820
89. Electrical industrial apparatus	225	408	169	278	270	272	438	410	434
90. Household appliances	10	12	9	18	18	18	23	22	23
91. Electric lighting and wiring	33	43	52	75	73	73	95	89	94
92. Radio and television receiving sets	36	58	29	66	64	64	90	84	89
93. Telephone and telegraph apparatus	155	220	178	257	250	251	281	263	278
94. Radio and communication equipment	5155	5793	4427	6693	6504	6545	7515	7034	7451
95. Electronic components	329	555	456	922	896	902	1067	999	1058
96. Electrical machinery and equipment, n.e.c.	136	240	92	210	204	205	290	271	287
97. Motor vehicles	1181	1236	455	1438	1398	1407	1874	1753	1858
98. Aircraft	9968	9434	7422	13012	12063	12138	14551	12974	13745
99. Ship and boat building and repair	1343	1599	1408	1834	1783	1794	2223	2081	2204
100. Railroad equipment	6	4	1	6	6	6	10	10	10
101. Motorcycles, bicycles, and parts	1	1	1	1	1	1	1	1	1
102. Transportation equipment, n.e.c.	1	2	1	6	6	6	10	10	10
103. Scientific and controlling instruments	392	461	368	903	878	883	1063	995	1054
104. Medical and dental instruments	38	112	44	97	95	95	134	125	133
105. Optical and ophthalmic equipment	15	20	29	47	46	46	63	59	63
106. Photographic equipment and supplies	108	300	206	327	318	320	382	357	378
107. Watches, clocks, and clock-operated devices	1	111	26	52	50	51	68	64	67
108. Jewelry and silverware	3	2	3	8	8	8	11	10	11
109. Musical instruments and sporting goods	5	7	3	7	7	7	10	10	10
110. Manufactured products, n.e.c.	54	76	41	82	80	80	107	100	106
111. Railroad transportation	210	404	245	335	326	328	350	328	347
112. Local transit and intercity buses	19	33	29	42	40	41	45	42	44
113. Truck transportation	675	1348	913	1089	1059	1065	1307	1224	1296
114. Water transportation	323	820	505	802	780	784	935	875	927
115. Air transportation	389	1020	645	1025	996	1002	1193	1117	1183
116. Pipeline transportation	13	18	12	20	19	20	22	21	22
117. Transportation services	0	0	0	0	0	0	0	0	0
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	349	443	607	1263	1228	1235	1682	1574	1668
120. Electric utilities, public and private	401	284	404	592	576	579	650	609	645

See footnotes at end of table.

Table A-13. Federal Government purchases, defense, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
121. Gas utilities, excluding public	44	38	54	65	63	64	77	72	76
122. Water and sanitary services, excluding public	34	39	52	83	81	82	96	90	95
123. Wholesale trade	1458	1715	899	1428	1388	1396	1662	1556	1648
124. Eating and drinking places	218	234	274	465	452	454	559	523	554
125. Retail trade, except eating and drinking places	-91	-130	-32	-49	-47	-48	-65	-61	-64
126. Banking	5	3	3	6	6	6	8	8	8
127. Credit agencies and financial brokers	0	0	0	0	0	0	0	0	0
128. Insurance	42	25	12	36	35	36	55	51	54
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	108	159	154	195	190	191	208	194	206
131. Hotels and lodging places	417	634	462	622	604	608	638	597	633
132. Personal and repair services	15	12	51	55	53	54	71	66	70
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	2044	1877	2047	3518	3419	3441	4274	4000	4237
135. Advertising	6	3	17	29	29	29	30	29	30
136. Professional services, n.e.c.	404	518	394	715	695	699	892	835	885
137. Automobile repair	32	80	87	92	90	90	117	109	116
138. Motion pictures	73	112	85	135	132	132	158	147	156
139. Amusements and recreation services	92	129	70	111	108	109	129	120	128
140. Doctors' and dentists' services	15	52	122	152	148	149	184	173	183
141. Hospitals	67	101	217	345	335	337	401	376	398
142. Medical services, except hospitals	40	5	3	7	7	7	10	10	10
143. Educational services	791	818	390	620	602	606	721	675	715
144. Nonprofit organizations	1	1	1	2	2	2	2	2	2
145. Post office	149	312	209	275	267	269	311	291	308
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	2	9	3	3	3	3	4	4	4
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	21	8	13	13	13	13	10	10	10
150. Noncomparable imports	2186	3413	2919	3413	3317	3338	2815	2635	2791
151. Scrap, used and secondhand goods	-241	-297	20	753	732	736	1358	1271	1347
152. Construction industry	1358	775	636	1360	1322	1330	1832	1715	1816
153. Government industry	37898	45842	35552	32473	32473	33190	32719	32719	33185
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-14. Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	21395	26647	28613	35503	35004	32240	37007	36506	33395
1. Dairy and poultry products	3	4	2	3	3	3	2	2	2
2. Meat animals and livestock	4	4	2	3	3	3	3	3	3
3. Cotton	492	-874	22	337	328	313	343	334	318
4. Food and feed grains	-551	-549	-820	-427	-415	-396	-596	-581	-554
5. Agricultural products, n.e.c.	-148	308	-182	146	142	135	199	194	185
6. Forestry and fishery products	-751	-820	-532	-492	-479	-457	-573	-558	-532
7. Agricultural, forestry, and fishery services	2	2	4	4	4	4	4	4	4
8. Iron and ferroalloy ores mining	-10	-1	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	14	67	1	-1	-1	-1	2	2	2
11. Coal mining	13	12	11	13	12	12	12	11	11
12. Crude petroleum and natural gas	0	0	0	97	94	90	165	161	153
13. Stone and clay mining and quarrying	99	112	50	43	42	40	32	31	29
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	682	1067	1098	1406	1369	1305	1477	1439	1371
16. Ordnance	38	56	22	66	64	61	71	70	66
17. Complete guided missiles and space vehicles	1279	2127	1316	1492	1453	1384	1441	1404	1337
18. Meat products	9	56	24	41	40	38	49	48	46
19. Dairy products	105	629	192	120	117	111	143	139	133
20. Canned and frozen foods	9	23	11	18	17	16	21	21	20
21. Grain mill products	12	73	35	55	54	51	65	63	60
22. Bakery products	5	9	4	7	7	7	8	8	8
23. Sugar	1	1	1	1	1	1	1	1	1
24. Confectionery products	0	1	1	1	1	1	1	1	1
25. Alcoholic beverages	0	0	0	0	0	0	0	0	0
26. Soft drinks and flavorings	3	5	2	4	4	4	6	6	6
27. Food products, n.e.c.	39	19	37	28	28	26	18	17	17
28. Tobacco manufacturing	0	0	0	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	0	0	1	1	1	1	1	1	1
30. Floor covering mills	2	4	4	6	6	6	7	7	7
31. Textile mill products, n.e.c.	4	7	10	10	10	10	11	10	10
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	46	58	49	69	67	64	77	75	71
34. Fabricated textile products, n.e.c.	11	20	20	24	23	22	24	24	22
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	41	18	7	6	6	6	5	5	5
37. Millwork, plywood, and wood products, n.e.c.	33	60	42	42	41	39	43	42	40
38. Wooden containers	0	6	5	6	6	6	6	6	6
39. Household furniture	17	60	50	68	66	63	75	73	69
40. Furniture and fixtures, except household	53	96	85	112	109	104	120	117	111
41. Paper products	76	127	110	144	140	134	154	150	143
42. Paperboard	3	9	9	10	10	10	11	10	10
43. Newspaper printing and publishing	0	1	1	1	1	1	1	1	1
44. Periodical and book printing, publishing	54	26	22	29	28	27	30	30	28
45. Printing and publishing, n.e.c.	-27	152	201	223	217	207	227	221	211
46. Industrial inorganic and organic chemicals	144	349	194	306	298	284	377	368	350
47. Agricultural chemicals	15	25	9	21	20	19	28	28	26
48. Chemical products, n.e.c.	56	95	47	76	74	71	82	80	76
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	75	54	74	116	113	107	136	133	127
52. Cleaning and toilet preparations	10	43	22	50	49	47	66	64	61
53. Paints and allied products	48	-29	9	25	24	23	31	30	29
54. Petroleum refining and related products	233	368	202	247	241	229	257	251	239
55. Tires and inner tubes	13	44	33	49	48	45	57	55	53
56. Rubber products, except tires and tubes	9	17	24	40	39	37	46	45	43
57. Plastic products	6	18	29	42	41	39	46	45	43
58. Leather tanning and industrial leather	0	4	1	2	2	2	3	3	3

See footnotes at end of table.

Table A-14. Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	1	4	3	5	5	5	6	6	6
60. Glass	10	18	19	24	23	22	26	26	24
61. Cement and concrete products	276	238	125	122	119	113	131	128	122
62. Structural clay products	4	5	5	8	8	8	9	9	9
63. Pottery and related products	1	3	8	10	10	10	13	12	12
64. Stone and clay products, n.e.c.	3	19	22	30	30	28	34	33	31
65. Blast furnaces and basic steel products	199	14	35	32	32	30	25	25	23
66. Iron and steel foundries and forgings	4	4	4	5	5	5	5	5	5
67. Primary copper and copper products	43	89	103	125	122	116	133	130	124
68. Primary aluminum and aluminum products	0	0	0	0	0	0	0	0	0
69. Primary nonferrous metals and products, n.e.c.	-205	-173	38	24	23	22	39	38	36
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	5	6	8	10	10	10	13	12	12
72. Fabricated structural metal products	259	267	294	355	345	329	367	358	341
73. Screw machine products	8	60	31	56	55	52	69	68	64
74. Metal stampings	5	7	5	8	8	8	9	9	9
75. Cutlery, handtools, and general hardware	17	44	37	48	47	45	51	50	48
76. Fabricated metal products, n.e.c.	47	50	79	99	97	92	96	93	89
77. Engines, turbines, and generators	48	97	136	165	161	153	172	168	160
78. Farm machinery	2	7	5	8	8	8	9	9	9
79. Construction, mining, and oilfield machinery	38	31	26	36	35	33	39	38	36
80. Material handling equipment	14	34	34	40	39	37	44	43	41
81. Metalworking machinery	41	68	52	88	85	81	92	90	86
82. Special industry machinery	16	23	21	29	28	27	32	31	29
83. General industrial machinery	44	92	62	102	100	95	123	120	114
84. Nonelectrical machinery, n.e.c.	7	16	13	17	16	16	17	16	16
85. Computers and peripheral equipment	121	191	261	589	573	546	672	655	624
86. Typewriters and other office equipment	84	181	170	281	274	261	343	334	318
87. Service industry machines	2	12	19	25	24	23	27	27	25
88. Electric transmission equipment	50	94	62	85	82	78	91	89	85
89. Electrical industrial apparatus	31	80	68	96	94	89	106	103	98
90. Household appliances	8	6	4	6	6	6	7	7	7
91. Electric lighting and wiring	34	40	48	66	64	61	73	72	68
92. Radio and television receiving sets	35	48	42	79	77	74	101	98	94
93. Telephone and telegraph apparatus	17	30	27	48	47	45	60	58	56
94. Radio and communication equipment	570	820	833	950	925	881	1027	1001	954
95. Electronic components	44	118	169	223	217	207	231	225	214
96. Electrical machinery and equipment, n.e.c.	33	42	33	54	53	50	58	56	54
97. Motor vehicles	100	287	189	273	266	254	307	300	285
98. Aircraft	1511	1039	624	867	844	804	955	931	886
99. Ship and boat building and repair	136	264	197	360	350	334	448	437	416
100. Railroad equipment	2	4	2	3	3	3	3	3	3
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	3	2	3	4	4	4	4	4	4
103. Scientific and controlling instruments	127	100	132	162	158	151	174	169	161
104. Medical and dental instruments	38	52	61	94	91	87	108	105	100
105. Optical and ophthalmic equipment	13	36	72	130	126	120	189	185	176
106. Photographic equipment and supplies	77	63	74	114	111	106	136	133	126
107. Watches, clocks, and clock-operated devices	1	1	3	3	3	3	3	3	3
108. Jewelry and silverware	-6	-5	-25	-13	-12	-12	-8	-8	-8
109. Musical instruments and sporting goods	0	4	2	4	4	4	6	6	6
110. Manufactured products, n.e.c.	32	96	62	107	105	100	132	129	123
111. Railroad transportation	99	141	78	100	98	93	105	103	98
112. Local transit and intercity buses	16	11	10	10	10	10	11	10	10
113. Truck transportation	248	422	234	300	293	279	314	306	291
114. Water transportation	11	0	9	14	13	13	16	15	15
115. Air transportation	118	211	182	221	215	205	225	219	208
116. Pipeline transportation	2	5	3	6	6	6	7	7	7
117. Transportation services	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-14. Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	61	204	251	403	392	374	424	413	394
120. Electric utilities, public and private	-185	10	104	30	29	28	45	44	42
121. Gas utilities, excluding public	21	16	26	28	28	26	32	31	29
122. Water and sanitary services, excluding public	15	14	4	10	10	10	15	14	14
123. Wholesale trade	361	557	468	529	515	491	580	565	539
124. Eating and drinking places	72	76	94	111	108	103	126	123	117
125. Retail trade, except eating and drinking places	83	74	43	54	53	50	63	61	59
126. Banking	729	677	754	728	709	675	824	804	765
127. Credit agencies and financial brokers	-10	6	-21	-17	-16	-16	-12	-11	-11
128. Insurance	50	42	-15	7	7	7	24	24	22
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	248	370	291	402	391	373	442	431	410
131. Hotels and lodging places	200	253	147	189	184	175	199	194	184
132. Personal and repair services	22	-22	41	33	32	30	38	37	36
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	526	1042	968	1209	1177	1121	1321	1288	1226
135. Advertising	7	6	1	1	1	1	1	1	1
136. Professional services, n.e.c.	535	720	264	481	468	446	599	584	556
137. Automobile repair	22	22	41	52	51	48	60	58	56
138. Motion pictures	8	9	12	15	14	14	15	14	14
139. Amusements and recreation services	-16	-30	-23	-48	-47	-45	-62	-60	-58
140. Doctors' and dentists' services	79	14	82	109	106	101	114	112	106
141. Hospitals	123	155	104	140	136	130	151	147	140
142. Medical services, except hospitals	22	54	89	112	109	104	117	114	108
143. Educational services	1055	1481	1279	1333	1298	1237	1410	1375	1309
144. Nonprofit organizations	0	0	0	0	0	0	0	0	0
145. Post office	57	120	216	271	264	252	284	277	264
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	2	4	1	3	3	3	4	4	4
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	10	5	4	13	12	12	14	13	13
150. Noncomparable imports	402	607	577	626	609	581	582	568	541
151. Scrap, used and secondhand goods	121	-159	343	-134	-131	-124	-357	-348	-331
152. Construction industry	1620	1572	1528	1684	1639	1562	1756	1712	1631
153. Government industry	9617	9874	13777	16514	16514	14628	17066	17066	14883
154. Rest of the world industry	-1172	-501	-203	-785	-764	-728	-1167	-1137	-1083
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-15. State and local government purchases, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	95427	123085	150693	190238	192080	192080	198423	204500	204500
1. Dairy and poultry products	41	51	70	59	60	60	66	69	69
2. Meat animals and livestock	1	3	2	6	6	6	6	6	6
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	9	14	20	12	12	12	12	12	12
5. Agricultural products, n.e.c.	115	125	192	251	258	258	263	282	282
6. Forestry and fishery products	3	4	7	8	8	8	9	9	9
7. Agricultural, forestry, and fishery services	23	54	63	45	44	44	48	49	49
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	17	28	22	26	26	26	28	29	28
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	331	465	525	502	507	507	502	536	536
14. Chemical and fertilizer mineral mining	36	41	49	39	39	39	35	38	38
15. Maintenance and repair construction	4983	5482	7342	7053	7203	7203	7439	8030	8030
16. Ordnance	9	10	18	8	16	16	7	14	14
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	339	413	825	790	812	812	882	939	939
19. Dairy products	249	282	461	469	489	489	518	565	565
20. Canned and frozen foods	234	274	404	388	409	409	431	471	471
21. Grain mill products	38	44	64	61	63	63	66	72	72
22. Bakery products	105	122	157	146	156	156	173	194	194
23. Sugar	8	9	18	12	13	13	14	15	15
24. Confectionery products	53	56	70	60	66	66	67	75	75
25. Alcoholic beverages	-6	2	-9	-10	-10	-10	-8	-9	-9
26. Soft drinks and flavorings	41	47	55	49	55	55	60	68	68
27. Food products, n.e.c.	94	116	190	183	199	199	210	238	238
28. Tobacco manufacturing	0	2	1	-1	-2	-2	-1	-2	-2
29. Fabric, yarn, and thread mills	34	43	58	112	116	116	116	126	126
30. Floor covering mills	36	50	69	43	43	43	48	49	49
31. Textile mill products, n.e.c.	12	4	5	5	6	6	5	7	7
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	66	65	84	173	266	266	175	287	287
34. Fabricated textile products, n.e.c.	15	23	49	67	69	69	71	77	77
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	236	242	95	79	80	80	77	81	81
37. Millwork, plywood, and wood products, n.e.c.	347	607	339	278	283	283	271	288	288
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	37	58	43	56	57	57	60	63	63
40. Furniture and fixtures, except household	287	450	491	655	657	657	737	771	771
41. Paper products	235	339	537	610	624	624	598	638	638
42. Paperboard	20	29	40	38	41	41	41	47	47
43. Newspaper printing and publishing	3	6	2	3	3	3	3	4	4
44. Periodical and book printing, publishing	566	911	995	1059	1036	1036	1210	1225	1225
45. Printing and publishing, n.e.c.	302	405	839	986	994	994	1050	1112	1112
46. Industrial inorganic and organic chemicals	89	100	236	285	285	285	320	335	335
47. Agricultural chemicals	72	83	91	118	120	120	108	116	116
48. Chemical products, n.e.c.	76	92	97	58	60	60	59	64	64
49. Plastic materials and synthetic rubber	1	1	1	0	0	0	1	1	1
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	287	514	886	2020	2037	2037	2360	2499	2499
52. Cleaning and toilet preparations	114	190	174	213	215	215	223	235	235
53. Paints and allied products	91	174	150	138	137	137	137	143	143
54. Petroleum refining and related products	860	1158	1694	1600	1653	1653	1680	1821	1821
55. Tires and inner tubes	84	113	60	100	114	114	105	126	126
56. Rubber products, except tires and tubes	91	109	123	130	155	155	135	170	170
57. Plastic products	131	170	172	211	219	219	223	240	240
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-15. State and local government purchases, total, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	4	4	9	6	9	9	6	9	9
60. Glass	61	127	148	157	161	161	171	183	183
61. Cement and concrete products	1426	1855	2043	1672	1694	1694	1575	1681	1681
62. Structural clay products	167	160	120	106	107	107	105	110	110
63. Pottery and related products	44	51	36	41	43	43	43	47	47
64. Stone and clay products, n.e.c.	256	316	278	231	236	236	226	241	241
65. Blast furnaces and basic steel products	446	376	308	250	258	258	237	257	257
66. Iron and steel foundries and forgings	145	113	429	381	385	385	360	383	383
67. Primary copper and copper products	438	588	236	191	194	194	189	200	200
68. Primary aluminum and aluminum products	7	4	3	2	2	2	2	2	2
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	5	7	10	6	6	6	7	7	7
71. Heating apparatus and plumbing fixtures	170	179	129	94	97	97	95	102	102
72. Fabricated structural metal products	2072	2686	2193	2545	2567	2567	2610	2762	2762
73. Screw machine products	12	10	12	10	10	10	11	11	11
74. Metal stampings	21	19	27	27	-1	-1	33	5	5
75. Cutlery, handtools, and general hardware	90	152	176	156	160	160	160	170	170
76. Fabricated metal products, n.e.c.	273	382	408	321	315	315	301	311	311
77. Engines, turbines, and generators	52	74	86	95	96	96	99	106	106
78. Farm machinery	32	39	44	61	67	67	59	68	68
79. Construction, mining, and oilfield machinery	193	190	152	214	217	217	214	228	228
80. Material handling equipment	44	71	71	56	59	59	55	60	60
81. Metalworking machinery	29	39	42	46	46	46	49	51	51
82. Special industry machinery	8	16	16	16	16	16	19	19	19
83. General industrial machinery	85	64	82	54	60	60	52	62	62
84. Nonelectrical machinery, n.e.c.	99	147	179	168	175	175	188	206	206
85. Computers and peripheral equipment	43	74	89	331	324	324	351	354	354
86. Typewriters and other office equipment	95	156	188	208	207	207	225	233	233
87. Service industry machines	220	307	411	506	513	513	568	599	599
88. Electric transmission equipment	173	165	237	254	258	258	261	277	277
89. Electrical industrial apparatus	55	58	76	103	104	104	109	116	116
90. Household appliances	29	57	59	78	82	82	85	93	93
91. Electric lighting and wiring	419	473	393	327	333	333	334	355	355
92. Radio and television receiving sets	27	48	53	61	60	60	69	70	70
93. Telephone and telegraph apparatus	1	0	1	1	1	1	1	1	1
94. Radio and communication equipment	115	146	153	234	245	245	305	324	324
95. Electronic components	14	22	21	21	30	30	21	31	31
96. Electrical machinery and equipment, n.e.c.	40	48	48	130	134	134	131	143	143
97. Motor vehicles	881	1058	1143	1529	1632	1632	1594	1782	1782
98. Aircraft	2	2	4	2	4	4	2	3	3
99. Ship and boat building and repair	6	7	17	9	13	13	8	12	12
100. Railroad equipment	57	72	104	77	77	77	80	86	86
101. Motorcycles, bicycles, and parts	6	8	18	6	12	12	5	11	11
102. Transportation equipment, n.e.c.	6	9	18	14	15	15	12	14	14
103. Scientific and controlling instruments	146	183	188	301	308	308	331	355	355
104. Medical and dental instruments	69	111	127	300	305	305	323	344	344
105. Optical and ophthalmic equipment	12	23	23	28	28	28	31	32	32
106. Photographic equipment and supplies	127	202	331	411	419	419	412	439	439
107. Watches, clocks, and clock-operated devices	6	5	8	7	7	7	8	8	8
108. Jewelry and silverware	8	14	19	14	14	14	15	17	17
109. Musical instruments and sporting goods	72	85	176	157	158	158	164	172	172
110. Manufactured products, n.e.c.	123	154	350	324	301	301	323	311	311
111. Railroad transportation	329	352	308	276	281	281	275	293	293
112. Local transit and intercity buses	399	614	687	598	592	592	629	642	642
113. Truck transportation	876	1043	1178	1076	1101	1102	1050	1126	1126
114. Water transportation	57	61	97	104	107	107	104	111	111
115. Air transportation	183	310	313	448	459	459	457	490	490
116. Pipeline transportation	10	15	20	20	21	21	20	22	22
117. Transportation services	1	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-15. State and local government purchases, total, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	450	636	1224	1725	1790	1790	1782	1943	1943
120. Electric utilities, public and private	1068	1585	1814	1723	1758	1758	1758	1865	1865
121. Gas utilities, excluding public	288	313	607	632	635	635	660	685	685
122. Water and sanitary services, excluding public	-32	32	49	54	60	60	51	54	54
123. Wholesale trade	1640	2169	2601	2721	2823	2823	2876	3107	3107
124. Eating and drinking places	-1445	-1534	-1691	-1903	-1813	-1813	-2282	-2239	-2239
125. Retail trade, except eating and drinking places	554	782	606	548	559	559	557	599	599
126. Banking	1047	1107	1758	2841	2869	2869	2752	2947	2947
127. Credit agencies and financial brokers	162	172	179	158	187	187	138	184	184
128. Insurance	352	420	516	565	571	571	564	595	595
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	581	746	1634	2013	2049	2049	2060	2205	2205
131. Hotels and lodging places	107	-44	92	351	390	390	296	362	362
132. Personal and repair services	291	351	526	551	549	549	588	612	612
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	1435	1809	2124	4005	4098	4098	4389	4696	4696
135. Advertising	276	315	474	493	495	495	511	540	540
136. Professional services, n.e.c.	1985	1547	3492	3827	3893	3893	3923	4169	4169
137. Automobile repair	232	352	472	459	486	486	452	503	503
138. Motion pictures	27	42	31	52	54	54	57	60	60
139. Amusements and recreation services	-511	-489	-476	-424	-413	-413	-435	-438	-438
140. Doctors' and dentists' services	274	624	1426	2307	2327	2327	2391	2534	2534
141. Hospitals	511	1172	2324	4015	4050	4050	4326	4585	4585
142. Medical services, except hospitals	484	1147	3252	4497	4536	4536	5022	5323	5323
143. Educational services	26	48	-7	78	143	143	58	134	134
144. Nonprofit organizations	6	10	9	20	20	20	22	23	23
145. Post office	203	286	558	652	669	669	673	727	727
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	31	39	42	38	42	42	40	45	45
150. Noncomparable imports	6	8	12	6	7	7	6	8	8
151. Scrap, used and secondhand goods	1185	1478	1038	684	683	683	636	672	672
152. Construction industry	9873	14586	11413	11312	11556	11556	10943	11828	11828
153. Government industry	52717	66237	82619	112180	112180	112180	117800	117800	117801
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-16. State and local government purchases, education, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	39328	52486	63816	70798	70402	70402	72083	72105	72105
1. Dairy and poultry products	30	36	42	35	34	34	39	39	39
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	3	5	8	3	3	3	3	3	3
5. Agricultural products, n.e.c.	45	51	103	75	73	73	95	95	95
6. Forestry and fishery products	2	2	3	3	3	3	3	3	3
7. Agricultural, forestry, and fishery services	8	29	34	23	22	22	27	27	27
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	11	21	10	15	14	14	17	17	17
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	25	22	45	31	30	30	38	38	38
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	935	1022	2220	1805	1754	1754	1972	1975	1975
16. Ordnance	1	0	1	0	0	0	1	1	1
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	228	250	538	453	440	440	496	497	497
19. Dairy products	194	202	320	270	262	262	295	295	295
20. Canned and frozen foods	175	189	254	194	189	189	218	218	218
21. Grain mill products	29	32	44	36	35	35	40	40	40
22. Bakery products	79	87	111	86	84	84	106	106	106
23. Sugar	5	5	11	9	9	9	10	10	10
24. Confectionery products	48	50	62	46	45	45	52	52	52
25. Alcoholic beverages	1	1	1	1	1	1	2	2	2
26. Soft drinks and flavorings	31	33	33	23	23	23	32	32	32
27. Food products, n.e.c.	63	70	112	79	77	77	95	95	95
28. Tobacco manufacturing	1	1	1	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	8	13	14	9	9	9	11	11	11
30. Floor covering mills	34	44	54	30	29	29	35	35	35
31. Textile mill products, n.e.c.	9	4	2	1	1	1	1	1	1
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	4	4	4	6	5	5	6	6	6
34. Fabricated textile products, n.e.c.	6	7	9	7	7	7	8	8	8
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	55	80	31	26	25	25	28	28	28
37. Millwork, plywood, and wood products, n.e.c.	107	218	111	94	91	91	102	103	103
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	20	37	28	31	30	30	35	36	36
40. Furniture and fixtures, except household	173	321	307	377	366	366	457	458	458
41. Paper products	108	182	254	215	209	209	235	235	235
42. Paperboard	10	16	20	14	14	14	16	16	16
43. Newspaper printing and publishing	3	6	1	2	2	2	2	2	2
44. Periodical and book printing, publishing	528	814	890	910	884	884	1047	1049	1049
45. Printing and publishing, n.e.c.	106	167	323	273	265	265	300	301	301
46. Industrial inorganic and organic chemicals	36	46	91	73	71	71	84	84	84
47. Agricultural chemicals	10	18	26	14	14	14	16	16	16
48. Chemical products, n.e.c.	9	15	23	10	9	9	11	11	11
49. Plastic materials and synthetic rubber	1	1	1	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	22	51	64	61	59	59	71	71	71
52. Cleaning and toilet preparations	74	124	83	80	78	78	87	87	87
53. Paints and allied products	31	44	63	51	50	50	56	56	56
54. Petroleum refining and related products	146	256	404	322	313	313	391	391	391
55. Tires and inner tubes	3	5	7	9	9	9	11	11	11
56. Rubber products, except tires and tubes	13	10	22	12	11	11	13	13	13
57. Plastic products	56	71	68	65	63	63	71	71	71
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-16. State and local government purchases, education, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	0	0	0	0	0	0	0	0	0
60. Glass	28	65	59	37	36	36	43	43	43
61. Cement and concrete products	294	469	257	210	204	204	231	231	231
62. Structural clay products	91	81	39	33	32	32	36	36	36
63. Pottery and related products	18	20	11	14	14	14	17	17	17
64. Stone and clay products, n.e.c.	109	138	89	75	72	72	81	81	81
65. Blast furnaces and basic steel products	89	54	52	40	39	39	44	44	44
66. Iron and steel foundries and forgings	18	15	15	12	12	12	13	13	13
67. Primary copper and copper products	123	152	87	70	68	68	77	77	77
68. Primary aluminum and aluminum products	5	3	2	1	1	1	1	1	1
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	5	7	10	6	6	6	7	7	7
71. Heating apparatus and plumbing fixtures	108	110	55	30	29	29	35	35	35
72. Fabricated structural metal products	657	921	691	676	657	657	743	744	744
73. Screw machine products	2	4	8	6	6	6	7	7	7
74. Metal stampings	29	32	49	41	40	40	45	45	45
75. Cutlery, handtools, and general hardware	53	79	102	80	78	78	88	88	88
76. Fabricated metal products, n.e.c.	61	138	44	35	34	34	38	38	38
77. Engines, turbines, and generators	0	0	0	0	0	0	0	0	0
78. Farm machinery	6	14	13	14	14	14	16	16	16
79. Construction, mining, and oilfield machinery	5	1	4	4	4	4	4	4	4
80. Material handling equipment	11	13	16	9	9	9	11	11	11
81. Metalworking machinery	15	20	20	19	18	18	22	22	22
82. Special industry machinery	8	15	15	15	15	15	18	18	18
83. General industrial machinery	41	11	21	11	11	11	13	13	13
84. Nonelectrical machinery, n.e.c.	78	128	141	120	117	117	130	130	130
85. Computers and peripheral equipment	33	63	61	287	279	279	307	308	308
86. Typewriters and other office equipment	55	100	111	99	96	96	115	115	115
87. Service industry machines	158	219	208	182	177	177	210	210	210
88. Electric transmission equipment	65	71	79	65	64	64	70	70	70
89. Electrical industrial apparatus	11	20	19	18	17	17	20	20	20
90. Household appliances	12	31	30	25	24	24	28	28	29
91. Electric lighting and wiring	187	220	147	124	120	120	144	144	144
92. Radio and television receiving sets	24	44	45	48	46	46	57	57	57
93. Telephone and telegraph apparatus	0	0	0	0	0	0	0	0	0
94. Radio and communication equipment	40	80	91	181	176	176	252	253	253
95. Electronic components	3	6	6	6	6	6	7	7	7
96. Electrical machinery and equipment, n.e.c.	4	10	9	7	7	7	8	8	8
97. Motor vehicles	145	224	218	227	221	221	263	263	263
98. Aircraft	0	0	0	0	0	0	0	0	0
99. Ship and boat building and repair	0	0	0	0	0	0	0	0	0
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	5	8	17	12	12	12	10	10	10
103. Scientific and controlling instruments	63	71	45	36	35	35	41	41	41
104. Medical and dental instruments	4	10	11	12	11	11	13	13	13
105. Optical and ophthalmic equipment	11	18	17	19	18	18	22	22	22
106. Photographic equipment and supplies	43	77	121	98	95	95	102	102	102
107. Watches, clocks, and clock-operated devices	4	4	4	3	3	3	4	4	4
108. Jewelry and silverware	7	12	16	10	10	10	11	11	12
109. Musical instruments and sporting goods	43	43	127	77	75	75	89	89	89
110. Manufactured products, n.e.c.	76	126	215	180	174	174	198	198	198
111. Railroad transportation	90	112	88	62	61	61	74	74	74
112. Local transit and intercity buses	334	508	560	454	441	441	501	502	502
113. Truck transportation	263	251	323	273	265	265	300	300	300
114. Water transportation	9	12	20	13	12	12	15	15	15
115. Air transportation	64	129	100	111	107	107	128	128	128
116. Pipeline transportation	2	4	3	4	4	4	4	4	4
117. Transportation services	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-16. State and local government purchases, education, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	95	185	319	260	253	253	286	286	286
120. Electric utilities, public and private	539	914	873	785	763	763	875	876	876
121. Gas utilities, excluding public	178	201	415	404	392	392	467	468	468
122. Water and sanitary services, excluding public	52	99	141	171	167	167	184	185	185
123. Wholesale trade	587	914	952	790	767	767	976	977	977
124. Eating and drinking places	-1650	-1753	-1999	-2374	-2307	-2307	-2715	-2719	-2719
125. Retail trade, except eating and drinking places	-17	-19	-25	-20	-19	-19	-20	-20	-20
126. Banking	22	26	19	15	14	14	16	17	17
127. Credit agencies and financial brokers	1	2	1	1	1	1	1	1	1
128. Insurance	151	209	221	187	182	182	204	205	205
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	106	123	349	287	279	279	306	306	306
131. Hotels and lodging places	-96	-304	-289	-330	-321	-321	-368	-369	-369
132. Personal and repair services	109	121	195	178	173	173	191	191	191
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	393	469	801	799	777	777	1010	1012	1012
135. Advertising	100	116	153	119	116	116	127	127	127
136. Professional services, n.e.c.	432	556	1231	1060	1030	1030	1164	1166	1166
137. Automobile repair	59	79	80	64	62	62	74	74	74
138. Motion pictures	18	33	25	31	30	30	36	36	36
139. Amusements and recreation services	-500	-486	-424	-375	-364	-364	-381	-382	-382
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	-3	-7	-7	-8	-8	-8	-9	-9	-9
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	-20	-24	-33	-50	-49	-49	-65	-65	-65
144. Nonprofit organizations	2	2	3	3	3	3	4	4	4
145. Post office	20	40	48	38	36	36	43	43	43
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	11	20	23	17	16	16	19	19	19
150. Noncomparable imports	2	3	6	1	1	1	2	2	2
151. Scrap, used and secondhand goods	228	127	61	52	51	51	56	56	56
152. Construction industry	2200	3982	2223	1944	1890	1890	1562	1565	1565
153. Government industry	29215	37241	47116	56688	56688	56688	56690	56690	56690
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-17. State and local government purchases, health, welfare, and sanitation, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	13335	18620	29124	48215	48446	48446	52790	54525	54525
1. Dairy and poultry products	9	14	26	23	24	24	26	28	28
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	1	1	2	2	2	2	3	3	3
5. Agricultural products, n.e.c.	9	13	29	37	38	38	42	45	45
6. Forestry and fishery products	1	2	4	5	5	5	6	6	6
7. Agricultural, forestry, and fishery services	1	3	4	4	4	4	4	4	4
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	1	2	3	3	3	3	4	4	4
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	8	9	34	45	45	45	48	50	50
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	477	207	284	276	278	278	334	354	354
16. Ordnance	0	0	0	0	0	0	0	0	0
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	88	137	249	305	308	308	356	377	377
19. Dairy products	45	68	127	174	176	176	195	207	207
20. Canned and frozen foods	49	73	133	170	172	172	190	201	201
21. Grain mill products	5	7	14	14	14	14	15	16	16
22. Bakery products	14	22	38	48	48	48	53	57	57
23. Sugar	2	3	6	3	3	3	3	3	3
24. Confectionery products	2	3	6	7	7	7	8	9	9
25. Alcoholic beverages	-2	-2	1	2	2	2	2	3	3
26. Soft drinks and flavorings	6	9	18	20	20	20	22	24	24
27. Food products, n.e.c.	26	40	71	87	88	88	97	103	103
28. Tobacco manufacturing	0	0	0	0	0	0	0	0	0
29. Fabric, yarn, and thread mills	22	23	38	99	100	100	101	107	107
30. Floor covering mills	0	1	2	3	3	3	4	4	4
31. Textile mill products, n.e.c.	1	1	1	1	1	1	1	1	1
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	21	16	29	69	70	70	76	81	81
34. Fabricated textile products, n.e.c.	10	16	28	44	44	44	47	50	50
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	17	17	11	11	11	11	11	11	11
37. Millwork, plywood, and wood products, n.e.c.	52	54	29	30	31	31	30	31	31
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	2	3	4	10	10	10	11	11	11
40. Furniture and fixtures, except household	9	13	32	57	58	58	64	68	68
41. Paper products	30	49	95	158	160	160	157	167	167
42. Paperboard	6	9	14	18	18	18	20	21	21
43. Newspaper printing and publishing	0	0	0	0	0	0	0	0	0
44. Periodical and book printing, publishing	8	8	20	56	56	57	65	69	69
45. Printing and publishing, n.e.c.	20	32	66	153	154	154	179	190	190
46. Industrial inorganic and organic chemicals	23	33	75	123	124	124	138	146	146
47. Agricultural chemicals	1	2	3	3	3	3	3	4	4
48. Chemical products, n.e.c.	9	12	24	24	24	24	25	27	27
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	262	460	818	1953	1970	1970	2283	2420	2420
52. Cleaning and toilet preparations	17	27	54	76	77	77	83	88	88
53. Paints and allied products	5	10	10	13	13	13	14	14	14
54. Petroleum refining and related products	58	89	129	131	132	132	139	147	147
55. Tires and inner tubes	2	4	6	18	18	18	23	24	24
56. Rubber products, except tires and tubes	22	40	54	81	82	82	87	92	92
57. Plastic products	39	44	50	78	79	79	89	94	94
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-17. State and local government purchases, health, welfare, and sanitation, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	1	1	2	3	3	3	4	4	4
60. Glass	26	44	71	111	112	112	120	127	127
61. Cement and concrete products	84	102	256	264	267	267	257	272	272
62. Structural clay products	21	17	39	40	40	40	39	41	41
63. Pottery and related products	4	4	3	6	6	6	8	9	9
64. Stone and clay products, n.e.c.	33	32	64	61	61	61	59	63	63
65. Blast furnaces and basic steel products	89	70	40	42	42	42	40	43	43
66. Iron and steel foundries and forgings	47	30	175	180	182	182	175	185	185
67. Primary copper and copper products	114	127	25	26	26	26	25	27	27
68. Primary aluminum and aluminum products	0	0	0	0	0	0	0	0	0
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	12	11	32	33	33	33	32	34	34
72. Fabricated structural metal products	234	251	180	186	188	188	181	191	191
73. Screw machine products	5	2	2	2	2	2	2	2	2
74. Metal stampings	4	4	5	8	8	8	9	10	10
75. Cutlery, handtools, and general hardware	7	11	25	31	31	31	31	33	33
76. Fabricated metal products, n.e.c.	33	54	17	19	19	19	19	20	20
77. Engines, turbines, and generators	0	0	0	0	0	0	0	0	0
78. Farm machinery	2	3	3	7	7	7	8	9	9
79. Construction, mining, and oilfield machinery	18	29	33	63	64	64	71	75	75
80. Material handling equipment	8	14	21	22	22	22	21	23	23
81. Metalworking machinery	3	3	3	7	7	7	8	9	9
82. Special industry machinery	0	0	0	0	0	0	0	0	0
83. General industrial machinery	10	1	12	12	12	12	11	12	12
84. Nonelectrical machinery, n.e.c.	1	1	1	2	2	2	3	3	3
85. Computers and peripheral equipment	2	3	4	19	19	19	22	23	23
86. Typewriters and other office equipment	5	10	15	49	49	49	54	58	58
87. Service industry machines	23	36	130	265	268	268	305	323	323
88. Electric transmission equipment	16	10	35	37	37	37	36	38	38
89. Electrical industrial apparatus	4	4	3	7	7	7	8	9	9
90. Household appliances	9	14	16	43	44	44	48	51	51
91. Electric lighting and wiring	34	54	30	36	36	36	36	38	38
92. Radio and television receiving sets	1	3	6	10	10	10	9	10	10
93. Telephone and telegraph apparatus	0	0	0	0	0	0	0	0	0
94. Radio and communication equipment	9	6	3	5	5	5	5	6	6
95. Electronic components	1	1	1	2	2	2	2	2	2
96. Electrical machinery and equipment, n.e.c.	13	18	21	56	57	57	63	66	66
97. Motor vehicles	26	50	66	279	282	282	340	361	361
98. Aircraft	0	0	0	0	0	0	0	0	0
99. Ship and boat building and repair	0	0	0	0	0	0	0	0	0
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	0	0	0	0	0	0	0	0	0
103. Scientific and controlling instruments	36	54	67	194	196	196	223	236	236
104. Medical and dental instruments	61	98	108	281	283	283	303	321	321
105. Optical and ophthalmic equipment	1	5	6	10	10	10	9	10	10
106. Photographic equipment and supplies	51	76	123	208	210	210	224	238	238
107. Watches, clocks, and clock-operated devices	1	1	1	2	2	2	2	2	2
108. Jewelry and silverware	1	2	3	3	3	3	3	4	4
109. Musical instruments and sporting goods	0	1	5	3	3	3	3	3	3
110. Manufactured products, n.e.c.	5	9	27	35	35	35	32	34	34
111. Railroad transportation	25	30	38	49	49	49	50	53	53
112. Local transit and intercity buses	10	17	32	46	46	46	43	46	46
113. Truck transportation	84	114	249	307	310	310	296	314	314
114. Water transportation	12	15	21	51	51	51	52	55	55
115. Air transportation	18	32	37	103	103	103	107	114	114
116. Pipeline transportation	1	2	2	3	3	3	4	4	4
117. Transportation services	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-17. State and local government purchases, health, welfare, and sanitation, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	34	65	130	229	231	231	234	247	247
120. Electric utilities, public and private	51	87	103	233	235	235	240	254	254
121. Gas utilities, excluding public	19	20	51	66	66	66	64	68	68
122. Water and sanitary services, excluding public	-10	-15	-40	-21	-21	-21	-24	-25	-25
123. Wholesale trade	201	303	533	734	741	741	802	850	850
124. Eating and drinking places	50	53	75	131	132	132	123	130	130
125. Retail trade, except eating and drinking places	115	182	264	386	390	390	408	433	433
126. Banking	4	7	9	10	10	10	9	10	10
127. Credit agencies and financial brokers	0	1	1	1	1	1	1	1	1
128. Insurance	35	64	123	185	186	186	179	190	190
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	75	153	335	565	570	570	593	629	629
131. Hotels and lodging places	31	58	101	222	224	224	229	242	242
132. Personal and repair services	181	229	331	371	374	374	394	418	418
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	178	291	511	1562	1575	1575	1756	1861	1861
135. Advertising	23	24	32	39	39	39	42	45	45
136. Professional services, n.e.c.	233	293	734	1416	1428	1428	1489	1578	1578
137. Automobile repair	23	43	31	93	94	94	94	99	99
138. Motion pictures	0	0	1	1	1	1	1	1	1
139. Amusements and recreation services	0	1	1	1	1	1	2	2	2
140. Doctors' and dentists' services	274	624	1426	2307	2327	2327	2391	2534	2534
141. Hospitals	514	1179	2331	4023	4058	4058	4335	4594	4594
142. Medical services, except hospitals	484	1147	3252	4497	4536	4536	5022	5323	5323
143. Educational services	1	2	2	6	6	6	6	7	7
144. Nonprofit organizations	3	5	2	11	11	11	11	12	12
145. Post office	51	102	218	292	295	295	304	322	322
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	2	2	4	4	4	4	5	5	5
150. Noncomparable imports	1	1	2	1	1	1	1	1	1
151. Scrap, used and secondhand goods	22	26	29	24	24	24	25	27	27
152. Construction industry	839	1082	1455	1734	1749	1749	1796	1903	1903
153. Government industry	7325	9550	12386	21430	21430	21430	23799	23799	23799
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-18. State and local government purchases, safety, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	7246	8894	11621	15805	17468	17468	16664	18515	18515
1. Dairy and poultry products	1	2	2	1	3	3	1	3	3
2. Meat animals and livestock	0	0	0	0	0	0	0	0	0
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	0	0	0	0	0	0	0	0	0
5. Agricultural products, n.e.c.	5	6	4	7	14	14	6	14	14
6. Forestry and fishery products	0	0	0	0	0	0	0	0	0
7. Agricultural, forestry, and fishery services	0	0	0	0	0	0	0	0	0
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	0	0	0	0	0	0	0	0	0
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	1	1	3	2	4	4	2	3	3
14. Chemical and fertilizer mineral mining	0	0	0	0	0	0	0	0	0
15. Maintenance and repair construction	54	102	132	146	299	299	173	389	389
16. Ordnance	7	9	16	7	15	15	6	13	13
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	23	26	37	30	62	62	28	62	62
19. Dairy products	10	12	14	25	51	51	28	63	63
20. Canned and frozen foods	10	11	16	24	49	49	23	52	52
21. Grain mill products	1	1	1	3	6	6	3	7	7
22. Bakery products	12	13	8	12	25	25	14	31	31
23. Sugar	1	1	1	1	1	1	1	1	1
24. Confectionery products	3	3	2	7	14	14	7	15	15
25. Alcoholic beverages	0	0	0	0	0	0	0	0	0
26. Soft drinks and flavorings	5	5	4	6	12	12	5	11	11
27. Food products, n.e.c.	5	6	8	17	35	35	18	40	40
28. Tobacco manufacturing	-1	-1	-1	-2	-3	-3	-2	-3	-3
29. Fabric, yarn, and thread mills	0	2	4	3	5	5	3	6	6
30. Floor covering mills	0	0	1	1	1	1	0	1	1
31. Textile mill products, n.e.c.	-1	-2	1	1	3	3	2	4	4
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	33	38	47	90	183	183	85	192	192
34. Fabricated textile products, n.e.c.	-7	-7	2	2	3	3	2	4	4
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	1	2	2	1	2	2	1	2	2
37. Millwork, plywood, and wood products, n.e.c.	3	7	10	5	10	10	4	9	9
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	2	3	7	2	4	4	2	3	3
40. Furniture and fixtures, except household	12	10	16	10	20	20	12	27	27
41. Paper products	15	19	17	16	33	33	13	29	29
42. Paperboard	3	3	4	4	8	8	3	7	7
43. Newspaper printing and publishing	0	0	0	0	0	0	0	0	0
44. Periodical and book printing, publishing	2	3	2	2	4	4	2	5	5
45. Printing and publishing, n.e.c.	10	15	9	9	17	17	8	18	18
46. Industrial inorganic and organic chemicals	0	0	0	0	0	0	0	0	0
47. Agricultural chemicals	0	0	1	1	2	2	1	2	2
48. Chemical products, n.e.c.	2	3	3	2	4	4	2	4	4
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	1	1	1	2	4	4	2	3	3
52. Cleaning and toilet preparations	4	5	3	3	7	7	3	6	6
53. Paints and allied products	0	0	0	0	0	0	0	0	0
54. Petroleum refining and related products	37	47	73	48	98	98	43	96	96
55. Tires and inner tubes	13	18	16	13	26	26	12	28	28
56. Rubber products, except tires and tubes	37	44	42	23	48	48	23	52	52
57. Plastic products	3	4	6	7	15	15	7	15	15
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-18. State and local government purchases, safety, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	2	2	7	3	6	6	2	5	5
60. Glass	3	4	10	4	8	8	3	7	7
61. Cement and concrete products	11	19	26	14	28	28	10	23	23
62. Structural clay products	4	3	3	1	2	2	1	2	2
63. Pottery and related products	2	2	1	2	4	4	2	4	4
64. Stone and clay products, n.e.c.	5	6	12	6	12	12	5	10	10
65. Blast furnaces and basic steel products	6	5	10	6	13	13	5	11	11
66. Iron and steel foundries and forgings	1	1	2	1	2	2	1	1	1
67. Primary copper and copper products	5	6	7	4	8	8	3	7	7
68. Primary aluminum and aluminum products	0	0	0	0	0	0	0	0	0
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	4	4	6	3	7	7	3	6	6
72. Fabricated structural metal products	28	40	43	22	45	45	17	39	39
73. Screw machine products	0	0	0	0	0	0	0	0	0
74. Metal stampings	-17	-19	-28	-26	-53	-53	-24	-53	-53
75. Cutlery, handtools, and general hardware	5	7	8	6	12	12	5	11	11
76. Fabricated metal products, n.e.c.	-5	-2	-2	-8	-16	-16	-7	-16	-16
77. Engines, turbines, and generators	0	0	0	0	0	0	0	0	0
78. Farm machinery	4	5	5	6	12	12	5	11	11
79. Construction, mining, and oilfield machinery	0	0	0	0	1	1	0	1	1
80. Material handling equipment	3	4	5	3	5	5	2	5	5
81. Metalworking machinery	0	0	0	0	0	0	0	0	0
82. Special industry machinery	0	0	0	0	0	0	0	0	0
83. General industrial machinery	8	9	11	6	12	12	5	12	12
84. Nonelectrical machinery, n.e.c.	2	5	8	10	20	20	11	25	25
85. Computers and peripheral equipment	0	0	0	0	0	0	0	0	0
86. Typewriters and other office equipment	1	1	2	1	2	2	1	2	2
87. Service industry machines	6	7	13	9	18	18	7	16	16
88. Electric transmission equipment	3	4	7	4	7	7	3	6	6
89. Electrical industrial apparatus	1	1	1	0	1	1	0	1	1
90. Household appliances	3	4	5	5	9	9	4	9	9
91. Electric lighting and wiring	10	11	9	8	16	16	6	14	14
92. Radio and television receiving sets	0	0	0	0	0	0	0	0	0
93. Telephone and telegraph apparatus	0	0	0	0	0	0	0	0	0
94. Radio and communication equipment	16	21	32	14	29	29	13	29	29
95. Electronic components	9	12	7	8	17	17	7	17	17
96. Electrical machinery and equipment, n.e.c.	3	5	4	4	8	8	3	7	7
97. Motor vehicles	93	114	176	95	193	193	83	185	185
98. Aircraft	2	2	4	2	4	4	2	3	3
99. Ship and boat building and repair	4	5	15	4	7	7	3	7	7
100. Railroad equipment	0	0	0	0	0	0	0	0	0
101. Motorcycles, bicycles, and parts	6	8	18	6	12	12	5	11	11
102. Transportation equipment, n.e.c.	1	1	2	2	4	4	2	4	4
103. Scientific and controlling instruments	6	7	12	6	11	11	4	10	10
104. Medical and dental instruments	2	3	4	3	5	5	2	5	5
105. Optical and ophthalmic equipment	0	0	0	0	0	0	0	0	0
106. Photographic equipment and supplies	6	7	9	9	17	17	7	15	15
107. Watches, clocks, and clock-operated devices	0	0	0	0	0	0	0	0	0
108. Jewelry and silverware	1	1	1	1	2	2	1	2	2
109. Musical instruments and sporting goods	2	2	2	3	5	5	2	5	5
110. Manufactured products, n.e.c.	-18	-20	-18	-19	-39	-39	-18	-39	-39
111. Railroad transportation	6	7	9	5	10	10	4	9	9
112. Local transit and intercity buses	6	7	6	5	9	9	4	8	8
113. Truck transportation	28	28	39	26	52	52	21	48	48
114. Water transportation	2	2	2	2	4	4	2	4	4
115. Air transportation	10	13	11	11	22	22	9	20	20
116. Pipeline transportation	1	1	2	1	2	2	1	2	2
117. Transportation services	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-18. State and local government purchases, safety, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	44	54	55	56	114	114	48	109	109
120. Electric utilities, public and private	43	49	50	46	95	95	39	88	88
121. Gas utilities, excluding public	15	13	16	13	26	26	10	22	22
122. Water and sanitary services, excluding public	5	6	7	11	23	23	11	24	24
123. Wholesale trade	98	126	95	104	211	211	88	198	198
124. Eating and drinking places	7	8	12	18	37	37	16	35	35
125. Retail trade, except eating and drinking places	10	11	12	6	12	12	5	11	11
126. Banking	1	1	2	1	2	2	1	2	2
127. Credit agencies and financial brokers	18	20	22	27	55	55	31	70	70
128. Insurance	8	11	8	7	15	15	6	14	14
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	26	16	36	27	56	56	22	50	50
131. Hotels and lodging places	20	26	19	23	46	46	19	43	43
132. Personal and repair services	0	0	0	0	0	0	0	0	0
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	80	94	62	83	170	170	73	163	163
135. Advertising	1	1	1	1	3	3	1	3	3
136. Professional services, n.e.c.	37	47	71	69	140	140	56	126	126
137. Automobile repair	24	30	58	25	51	51	21	48	48
138. Motion pictures	2	3	3	2	4	4	2	4	4
139. Amusements and recreation services	1	1	1	1	2	2	1	2	2
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	26	30	10	60	122	122	57	128	128
144. Nonprofit organizations	0	0	0	0	0	0	0	0	0
145. Post office	12	15	12	13	26	26	11	24	24
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	4	5	5	4	9	9	4	8	8
150. Noncomparable imports	1	1	1	1	2	2	1	3	3
151. Scrap, used and secondhand goods	-29	-3	-43	-6	-11	-11	-4	-10	-10
152. Construction industry	102	173	193	204	417	417	201	452	452
153. Government industry	6104	7391	9891	14207	14207	14207	15177	15177	15178
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Table A-19. State and local government purchases, other, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
Total	35518	43086	46132	55420	55764	55764	56887	59355	59355
1. Dairy and poultry products	0	0	0	0	0	0	0	0	0
2. Meat animals and livestock	1	3	2	6	6	6	5	6	6
3. Cotton	0	0	0	0	0	0	0	0	0
4. Food and feed grains	5	7	11	6	7	7	6	6	6
5. Agricultural products, n.e.c.	56	56	56	132	133	133	120	129	129
6. Forestry and fishery products	0	0	0	0	0	0	0	0	0
7. Agricultural, forestry, and fishery services	14	23	26	18	18	18	17	18	18
8. Iron and ferroalloy ores mining	0	0	0	0	0	0	0	0	0
9. Copper ore mining	0	0	0	0	0	0	0	0	0
10. Nonferrous metal ores mining, except copper	0	0	0	0	0	0	0	0	0
11. Coal mining	5	5	9	8	8	8	7	8	8
12. Crude petroleum and natural gas	0	0	0	0	0	0	0	0	0
13. Stone and clay mining and quarrying	297	433	444	424	428	428	415	444	444
14. Chemical and fertilizer mineral mining	36	41	49	39	39	39	35	38	38
15. Maintenance and repair construction	3517	4151	4706	4826	4873	4873	4959	5311	5311
16. Ordnance	1	0	0	0	0	0	0	0	0
17. Complete guided missiles and space vehicles	0	0	0	0	0	0	0	0	0
18. Meat products	1	1	1	2	2	2	2	2	2
19. Dairy products	0	0	0	0	0	0	0	0	0
20. Canned and frozen foods	0	0	0	0	0	0	0	0	0
21. Grain mill products	4	4	5	8	8	8	8	8	8
22. Bakery products	0	0	0	0	0	0	0	0	0
23. Sugar	0	0	0	0	0	0	0	0	0
24. Confectionery products	0	0	0	0	0	0	0	0	0
25. Alcoholic beverages	-4	3	-10	-13	-13	-13	-12	-13	-13
26. Soft drinks and flavorings	0	0	0	0	0	0	0	0	0
27. Food products, n.e.c.	0	0	0	0	0	0	0	0	0
28. Tobacco manufacturing	1	2	1	1	1	1	1	1	1
29. Fabric, yarn, and thread mills	4	4	1	2	2	2	2	2	2
30. Floor covering mills	2	6	12	10	10	10	9	10	10
31. Textile mill products, n.e.c.	3	1	2	1	1	1	1	1	1
32. Hosiery and knit goods	0	0	0	0	0	0	0	0	0
33. Apparel	8	7	4	8	8	8	8	9	9
34. Fabricated textile products, n.e.c.	7	7	10	15	15	15	14	15	15
35. Logging	0	0	0	0	0	0	0	0	0
36. Sawmills and planing mills	163	143	51	41	41	41	37	40	40
37. Millwork, plywood, and wood products, n.e.c.	185	328	189	149	151	151	136	145	145
38. Wooden containers	0	0	0	0	0	0	0	0	0
39. Household furniture	12	14	5	13	13	13	12	13	13
40. Furniture and fixtures, except household	93	107	136	211	213	213	204	219	219
41. Paper products	82	89	171	221	223	223	193	206	206
42. Paperboard	1	1	2	2	2	2	2	2	2
43. Newspaper printing and publishing	0	0	1	1	1	1	1	1	1
44. Periodical and book printing, publishing	29	87	83	91	92	92	95	102	102
45. Printing and publishing, n.e.c.	168	191	441	552	557	557	563	603	603
46. Industrial inorganic and organic chemicals	29	22	70	89	90	90	98	105	105
47. Agricultural chemicals	61	64	61	100	101	101	88	94	94
48. Chemical products, n.e.c.	56	63	48	23	23	23	21	22	22
49. Plastic materials and synthetic rubber	0	0	0	0	0	0	0	0	0
50. Synthetic fibers	0	0	0	0	0	0	0	0	0
51. Drugs	1	1	3	4	4	4	4	4	4
52. Cleaning and toilet preparations	20	34	35	54	54	54	51	54	54
53. Paints and allied products	55	120	77	74	74	74	68	73	73
54. Petroleum refining and related products	619	767	1089	1099	1109	1109	1108	1187	1187
55. Tires and inner tubes	67	87	30	61	61	61	59	63	63
56. Rubber products, except tires and tubes	19	15	5	14	14	14	13	14	14
57. Plastic products	33	52	49	62	62	62	56	60	60
58. Leather tanning and industrial leather	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-19. State and local government purchases, other, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
59. Leather products, including footwear	0	0	0	0	0	0	0	0	0
60. Glass	5	14	8	6	6	6	6	6	6
61. Cement and concrete products	1037	1266	1503	1184	1196	1196	1078	1154	1154
62. Structural clay products	52	60	41	32	33	33	29	31	31
63. Pottery and related products	20	25	22	18	18	18	16	17	17
64. Stone and clay products, n.e.c.	111	140	114	90	91	91	82	88	88
65. Blast furnaces and basic steel products	261	247	207	163	165	165	148	159	159
66. Iron and steel foundries and forgings	78	67	238	188	190	190	171	183	183
67. Primary copper and copper products	197	303	116	92	92	92	83	89	89
68. Primary aluminum and aluminum products	2	1	1	1	1	1	1	1	1
69. Primary nonferrous metals and products, n.e.c.	0	0	0	0	0	0	0	0	0
70. Metal containers	0	0	0	0	0	0	0	0	0
71. Heating apparatus and plumbing fixtures	46	54	36	28	29	29	26	28	28
72. Fabricated structural metal products	1154	1474	1279	1661	1677	1677	1670	1758	1788
73. Screw machine products	5	4	3	2	2	2	2	2	2
74. Metal stampings	6	2	1	4	4	4	3	4	4
75. Cutlery, handtools, and general hardware	24	56	41	39	39	39	36	38	38
76. Fabricated metal products, n.e.c.	184	193	349	276	278	278	251	269	269
77. Engines, turbines, and generators	52	74	86	95	96	96	99	106	106
78. Farm machinery	19	18	24	35	35	35	30	32	32
79. Construction, mining, and oilfield machinery	170	160	115	148	149	149	138	148	148
80. Material handling equipment	22	40	29	23	23	23	21	22	22
81. Metalworking machinery	12	16	18	20	20	20	20	21	21
82. Special industry machinery	0	0	1	1	1	1	1	1	1
83. General industrial machinery	27	43	39	25	25	25	22	24	24
84. Nonelectrical machinery, n.e.c.	19	14	29	36	36	36	45	48	48
85. Computers and peripheral equipment	9	8	23	25	25	25	22	24	24
86. Typewriters and other office equipment	33	45	61	59	59	59	55	59	59
87. Service industry machines	33	44	60	50	51	51	46	49	49
88. Electric transmission equipment	89	81	116	149	150	150	153	163	163
89. Electrical industrial apparatus	39	35	53	78	78	78	81	86	86
90. Household appliances	5	8	8	6	6	6	5	6	6
91. Electric lighting and wiring	189	189	207	159	161	161	148	159	159
92. Radio and television receiving sets	1	2	3	4	4	4	3	4	4
93. Telephone and telegraph apparatus	1	0	1	1	1	1	1	1	1
94. Radio and communication equipment	49	40	28	34	35	35	35	37	37
95. Electronic components	2	4	8	5	5	5	5	5	5
96. Electrical machinery and equipment, n.e.c.	21	16	15	62	63	63	57	61	61
97. Motor vehicles	617	670	683	928	937	937	908	973	973
98. Aircraft	0	0	0	0	0	0	0	0	0
99. Ship and boat building and repair	2	2	2	5	5	5	5	5	5
100. Railroad equipment	57	72	104	77	77	77	80	86	86
101. Motorcycles, bicycles, and parts	0	0	0	0	0	0	0	0	0
102. Transportation equipment, n.e.c.	0	0	0	0	0	0	0	0	0
103. Scientific and controlling instruments	40	51	64	66	67	67	63	67	67
104. Medical and dental instruments	2	2	3	5	5	5	5	5	5
105. Optical and ophthalmic equipment	0	0	0	0	0	0	0	0	0
106. Photographic equipment and supplies	27	42	77	96	97	97	79	84	84
107. Watches, clocks, and clock-operated devices	1	1	2	2	2	2	2	2	2
108. Jewelry and silverware	0	0	0	0	0	0	0	0	0
109. Musical instruments and sporting goods	27	39	42	75	76	76	70	75	75
110. Manufactured products, n.e.c.	61	39	126	129	130	130	111	119	119
111. Railroad transportation	209	203	173	160	161	161	146	157	157
112. Local transit and intercity buses	50	82	89	95	96	96	81	86	86
113. Truck transportation	501	650	568	470	475	475	433	464	464
114. Water transportation	34	32	53	39	39	39	35	38	38
115. Air transportation	92	136	166	224	226	226	213	228	228
116. Pipeline transportation	6	8	14	12	13	13	11	12	12
117. Transportation services	0	0	0	0	0	0	0	0	0

See footnotes at end of table.

Table A-19. State and local government purchases, other, selected historical and projected years, 1963 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1963	1967	1972	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
118. Radio and television broadcasting	0	0	0	0	0	0	0	0	0
119. Communications, except radio and television	277	333	720	1181	1192	1192	1215	1301	1301
120. Electric utilities, public and private	435	534	787	659	666	666	604	647	647
121. Gas utilities, excluding public	77	80	125	150	151	151	119	127	127
122. Water and sanitary services, excluding public	-78	-58	-59	-107	-108	-108	-120	-129	-129
123. Wholesale trade	755	826	1021	1093	1104	1104	1010	1082	1082
124. Eating and drinking places	148	158	221	322	325	325	294	315	315
125. Retail trade, except eating and drinking places	446	609	355	176	177	177	164	175	175
126. Banking	1020	1073	1727	2816	2843	2843	2725	2919	2919
127. Credit agencies and financial brokers	142	149	155	128	130	130	105	112	112
128. Insurance	158	138	164	186	187	187	174	186	186
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	374	453	915	1134	1144	1144	1139	1220	1220
131. Hotels and lodging places	151	176	261	437	441	441	417	446	446
132. Personal and repair services	1	1	1	2	2	2	3	3	3
133. Barber and beauty shops	0	0	0	0	0	0	0	0	0
134. Business services, n.e.c.	785	956	750	1561	1576	1576	1550	1660	1660
135. Advertising	152	174	289	334	337	337	341	365	365
136. Professional services, n.e.c.	1284	652	1455	1283	1296	1296	1215	1301	1301
137. Automobile repair	126	200	303	277	280	280	263	282	282
138. Motion pictures	7	5	3	18	18	18	18	19	19
139. Amusements and recreation services	-12	-4	-53	-52	-52	-52	-57	-61	-61
140. Doctors' and dentists' services	0	0	0	0	0	0	0	0	0
141. Hospitals	0	0	0	0	0	0	0	0	0
142. Medical services, except hospitals	0	0	0	0	0	0	0	0	0
143. Educational services	19	41	13	63	64	64	60	64	64
144. Nonprofit organizations	2	3	4	6	6	6	7	7	7
145. Post office	120	130	281	309	312	312	316	338	338
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	0	0	0	0	0	0	0	0	0
148. Local government passenger transit	0	0	0	0	0	0	0	0	0
149. State and local government enterprises, n.e.c.	14	11	10	13	13	13	12	13	13
150. Noncomparable imports	2	3	4	2	2	2	2	2	2
151. Scrap, used and secondhand goods	964	1328	991	613	619	619	559	598	598
152. Construction industry	6731	9350	7543	7429	7501	7501	7384	7908	7908
153. Government industry	10073	12055	13226	19855	19855	19855	22134	22134	22134
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	0	0	0	0	0	0	0	0	0
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

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

Appendix B. Domestic Output, Employment, and Hours, Selected Historical and Projected Years, 1959 to 1990

Table B-1. Domestic output, selected historical and projected years, 1959 to 1990

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
1. Dairy and poultry products	10,786	11,219	13,765	16,285	17,016	16,958	18,313	19,689	19,943
2. Meat animals and livestock	23,509	28,150	33,730	35,635	37,195	37,024	38,965	42,068	42,411
3. Cotton	2,629	1,967	2,772	3,146	3,318	3,266	3,490	3,891	3,819
4. Food and feed grains	11,573	15,969	21,130	25,591	26,892	26,519	28,745	31,768	31,184
5. Agricultural products, n.e.c.	11,510	15,104	21,458	22,771	23,930	23,598	25,878	28,268	27,748
6. Forestry and fishery products	1,927	1,401	3,190	3,255	3,401	3,387	3,601	3,791	3,773
7. Agricultural, forestry, and fishery services	2,498	3,272	4,799	5,041	5,379	5,340	5,754	6,439	6,446
8. Iron and ferroalloy ores mining	653	1,330	1,216	1,731	1,845	1,823	2,012	2,299	2,227
9. Copper ore mining	800	1,497	1,554	1,410	1,509	1,494	1,498	1,735	1,702
10. Nonferrous metal ores mining, except copper	553	611	787	685	736	729	763	851	823
11. Coal mining	3,987	5,202	7,115	11,383	12,193	11,984	13,557	15,314	14,919
12. Crude petroleum and natural gas	12,062	17,091	16,127	17,713	18,807	18,727	17,450	18,898	18,756
13. Stone and clay mining and quarrying	2,041	2,711	3,716	3,620	3,780	3,755	3,952	4,347	4,325
14. Chemical and fertilizer mineral mining	474	734	961	1,258	1,326	1,300	1,447	1,600	1,538
15. Maintenance and repair construction	31,064	34,502	42,349	48,098	51,351	51,142	54,653	61,420	61,752
16. Ordnance	1,257	6,837	2,540	3,301	3,434	3,407	3,755	3,999	4,053
17. Complete guided missiles and space vehicles	3,626	5,800	4,394	5,443	5,384	5,327	5,712	5,662	5,767
18. Meat products	21,584	28,919	36,250	38,956	40,622	40,480	43,182	46,320	46,845
19. Dairy products	13,296	13,466	17,958	20,597	21,521	21,452	22,300	23,947	24,291
20. Canned and frozen foods	7,249	11,064	14,738	16,252	16,964	16,904	17,836	19,122	19,361
21. Grain mill products	9,062	12,010	15,334	17,266	18,052	17,937	19,408	20,970	21,055
22. Bakery products	7,503	8,364	8,530	8,663	9,076	9,056	8,977	9,664	9,829
23. Sugar	2,422	3,079	3,217	3,813	3,861	3,856	3,932	4,062	4,128
24. Confectionery products	2,470	3,194	3,735	3,917	4,085	4,073	4,253	4,546	4,611
25. Alcoholic beverages	6,606	10,423	15,110	16,793	17,252	17,198	19,472	20,263	20,314
26. Soft drinks and flavorings	3,032	5,262	8,836	9,923	10,389	10,353	11,934	12,836	13,020
27. Food products, n.e.c.	8,819	11,943	14,507	15,723	16,448	16,323	17,683	19,115	19,103
28. Tobacco manufacturing	8,319	8,658	9,111	9,517	9,773	9,670	9,649	10,068	9,890
29. Fabric, yarn, and thread mills	12,617	16,476	21,359	23,668	25,575	25,476	26,994	30,234	30,314
30. Floor covering mills	747	2,342	4,263	4,943	5,345	5,305	5,672	6,532	6,537
31. Textile mill products, n.e.c.	1,762	2,696	3,438	3,834	4,135	4,102	4,255	4,865	4,823
32. Hosiery and knit goods	2,706	5,430	7,555	8,567	9,288	9,303	9,695	10,651	10,778
33. Apparel	15,734	21,327	23,557	28,329	30,612	30,678	32,578	35,664	36,129
34. Fabricated textile products, n.e.c.	2,335	4,457	5,651	6,071	6,735	6,691	6,869	8,188	8,267
35. Logging	3,000	4,168	6,702	5,933	6,267	6,188	6,705	7,359	7,215
36. Sawmills and planing mills	6,161	6,062	7,200	7,812	8,178	8,126	8,489	9,029	8,990
37. Millwork, plywood, and wood products, n.e.c.	4,386	7,033	11,542	12,524	13,214	13,151	13,430	15,003	15,051
38. Wooden containers	535	602	331	399	427	423	446	504	500
39. Household furniture	4,391	5,851	8,159	9,308	10,078	10,029	10,296	12,039	12,317
40. Furniture and fixtures, except household	1,889	3,422	4,716	4,817	5,550	5,542	5,521	7,244	7,258
41. Paper products	12,052	18,802	24,370	26,392	28,151	27,937	30,260	33,937	33,802
42. Paperboard	4,592	7,492	9,970	10,855	11,618	11,549	12,402	14,009	14,033
43. Newspaper printing and publishing	6,110	7,777	9,092	10,776	11,843	11,767	12,351	14,105	14,176
44. Periodical and book printing, publishing	5,952	8,849	10,416	12,577	13,499	13,409	14,643	16,760	16,808
45. Printing and publishing, n.e.c.	8,043	12,000	15,492	18,237	19,524	19,418	20,908	23,733	23,816
46. Industrial inorganic and organic chemicals	8,077	14,313	20,751	25,480	27,114	26,727	29,819	33,530	32,780
47. Agricultural chemicals	1,862	3,553	5,030	5,854	6,162	6,051	6,905	7,621	7,384
48. Chemical products, n.e.c.	2,704	4,364	5,302	6,319	6,733	6,662	7,245	8,162	8,065
49. Plastic materials and synthetic rubber	2,464	5,218	7,736	8,893	9,588	9,460	10,632	12,291	12,059
50. Synthetic fibers	1,493	3,619	7,377	7,649	8,235	8,169	9,062	10,140	10,044
51. Drugs	2,949	6,363	11,898	14,471	14,861	14,817	16,966	18,457	18,314
52. Cleaning and toilet preparations	4,211	7,568	10,705	11,868	12,608	12,492	13,431	15,176	15,222
53. Paints and allied products	2,534	3,261	3,956	4,698	5,044	5,012	5,370	6,160	6,154
54. Petroleum refining and related products	19,893	29,246	40,330	35,320	38,422	38,214	33,951	38,383	38,275
55. Tires and inner tubes	3,226	5,111	6,041	7,318	8,104	8,074	8,228	9,907	9,839
56. Rubber products, except tires and tubes	2,775	4,292	2,917	5,513	5,962	5,930	6,363	7,360	7,334
57. Plastic products	3,428	8,208	17,192	18,637	20,082	19,883	23,352	27,096	26,930
58. Leather tanning and industrial leather	1,217	1,094	1,018	1,068	1,118	1,115	1,158	1,211	1,206
59. Leather products, including footwear	4,726	5,071	4,158	4,648	4,915	4,926	5,035	5,359	5,425
60. Glass	3,496	5,041	6,702	7,733	8,275	8,214	9,090	10,313	10,277
61. Cement and concrete products	6,112	7,998	9,582	10,076	10,492	10,459	10,744	11,824	11,885
62. Structural clay products	1,053	1,142	1,239	1,298	1,355	1,348	1,401	1,474	1,475

Table B-1. Domestic output, selected historical and projected years, 1959 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
63. Pottery and related products	644	857	896	919	957	944	1,024	1,116	1,110
64. Stone and clay products, n.e.c.	2,986	3,903	5,526	5,649	6,037	5,996	6,356	7,294	7,263
65. Blast furnaces and basic steel products	24,022	32,317	31,388	34,166	37,218	36,948	35,638	42,015	41,494
66. Iron and steel foundries and forgings	5,274	8,127	8,258	9,831	10,983	10,896	10,751	13,183	13,008
67. Primary copper and copper products	6,772	10,633	13,570	14,216	15,334	15,198	16,109	18,887	18,657
68. Primary aluminum and aluminum products	4,022	7,170	9,706	11,283	12,264	12,146	13,227	15,546	15,305
69. Primary nonferrous metals and products, n.e.c.	3,440	5,513	4,943	6,494	6,862	6,787	7,376	8,403	8,149
70. Metal containers	3,091	4,665	5,132	6,124	6,418	6,384	6,851	7,424	7,449
71. Heating apparatus and plumbing fixtures	1,835	2,350	2,261	2,440	2,591	2,575	2,725	2,997	2,993
72. Fabricated structural metal products	7,639	12,322	16,488	17,128	18,202	18,122	18,789	21,768	21,790
73. Screw machine products	2,837	3,417	3,545	4,096	4,519	4,482	4,650	5,589	5,534
74. Metal stampings	5,513	8,082	9,946	10,896	12,189	12,076	12,199	14,792	14,572
75. Cutlery, handtools, and general hardware	2,978	4,612	5,908	6,627	7,218	7,160	7,569	8,869	8,809
76. Fabricated metal products, n.e.c.	5,679	9,028	12,240	12,828	13,917	13,802	14,688	17,283	17,130
77. Engines, turbines, and generators	2,681	4,878	7,022	7,947	8,917	8,808	9,110	11,328	11,093
78. Farm machinery	3,641	4,590	8,220	9,537	10,770	10,720	11,499	14,736	14,627
79. Construction, mining, and oilfield machinery	5,132	7,273	11,477	13,938	15,814	15,569	17,272	22,129	21,475
80. Material handling equipment	1,484	2,934	3,461	4,094	4,720	4,697	5,047	6,671	6,632
81. Metalworking machinery	5,118	8,602	9,253	10,494	12,073	11,983	12,233	15,959	15,774
82. Special industry machinery	3,751	5,914	6,023	6,647	7,692	7,628	7,156	9,401	9,235
83. General industrial machinery	5,167	8,368	10,649	12,146	13,708	13,575	14,634	18,610	18,314
84. Nonelectrical machinery, n.e.c.	2,645	4,642	5,908	6,449	7,107	7,049	7,522	9,024	8,925
85. Computers and peripheral equipment	1,736	6,084	16,010	23,727	26,997	26,572	35,901	46,082	44,824
86. Typewriters and other office equipment	770	1,489	2,608	3,221	3,705	3,679	3,882	5,088	5,046
87. Service industry machines	2,394	6,115	10,294	11,342	12,650	12,578	12,985	15,969	15,911
88. Electric transmission equipment	2,933	4,661	6,863	7,690	8,646	8,594	9,261	11,654	11,584
89. Electrical industrial apparatus	3,234	5,602	7,260	8,009	8,937	8,854	9,735	12,043	11,896
90. Household appliances	3,408	6,146	7,797	8,186	8,996	8,940	9,331	10,890	11,066
91. Electric lighting and wiring	3,237	5,112	6,347	7,083	7,669	7,614	8,263	9,637	9,602
92. Radio and television receiving sets	1,397	3,902	5,571	7,544	8,851	8,685	7,790	11,238	11,237
93. Telephone and telegraph apparatus	1,466	3,752	5,863	6,923	8,056	8,031	8,422	11,234	11,226
94. Radio and communication equipment	3,874	11,225	13,256	15,052	15,762	15,657	18,087	20,205	20,348
95. Electronic components	2,673	7,452	18,085	20,734	22,707	22,283	27,435	33,145	32,183
96. Electrical machinery and equipment, n.e.c.	2,200	3,730	6,122	6,583	7,390	7,339	7,918	9,676	9,578
97. Motor vehicles	32,900	58,796	83,710	86,974	101,956	101,872	102,124	130,214	129,675
98. Aircraft	18,389	26,226	26,116	32,006	32,647	32,171	37,519	39,981	39,297
99. Ship and boat building and repair	2,619	3,926	5,470	6,384	6,962	6,900	7,628	9,080	9,139
100. Railroad equipment	1,386	2,767	4,938	4,073	4,753	4,733	4,987	6,774	6,743
101. Motorcycles, bicycles, and parts	177	388	859	915	1,082	1,057	1,082	1,521	1,537
102. Transportation equipment, n.e.c.	716	2,748	3,963	4,561	5,030	5,011	4,999	5,958	5,984
103. Scientific and controlling instruments	3,182	3,561	5,639	6,481	7,162	7,098	7,497	9,108	9,015
104. Medical and dental instruments	897	2,101	3,802	4,620	5,116	5,089	5,592	7,003	6,970
105. Optical and ophthalmic equipment	917	1,112	2,002	2,500	2,711	2,699	3,157	3,856	3,829
106. Photographic equipment and supplies	1,483	4,383	8,036	9,920	11,204	11,092	11,830	14,747	14,573
107. Watches, clocks, and clock-operated devices	554	1,097	1,529	1,867	1,996	1,990	2,083	2,403	2,388
108. Jewelry and silverware	1,458	2,502	2,793	2,957	3,003	3,005	3,173	3,583	3,557
109. Musical instruments and sporting goods	2,070	3,260	4,463	5,290	6,117	6,058	5,894	7,209	7,243
110. Manufactured products, n.e.c.	3,053	4,800	5,986	7,073	7,629	7,577	7,958	9,146	9,133
111. Railroad transportation	12,034	15,107	16,862	19,120	20,560	20,386	21,492	24,556	24,382
112. Local transit and intercity buses	6,603	6,341	5,683	6,601	6,969	6,955	7,325	7,964	7,957
113. Truck transportation	17,796	25,788	33,948	38,106	41,215	40,928	43,907	50,573	50,476
114. Water transportation	7,035	5,888	10,128	10,742	11,400	11,165	12,412	13,787	13,271
115. Air transportation	4,245	12,860	18,618	21,745	23,435	23,226	27,219	31,265	30,911
116. Pipeline transportation	775	1,402	1,911	1,987	2,151	2,133	2,085	2,342	2,311
117. Transportation services	868	1,395	1,729	2,303	2,475	2,442	2,752	3,150	3,079
118. Radio and television broadcasting	5,275	4,556	3,554	5,659	6,114	6,081	6,547	7,513	7,534
119. Communications, except radio and television	12,337	25,545	54,461	78,575	83,582	83,116	108,161	119,993	119,324
120. Electric utilities, public and private	13,382	26,363	43,213	51,301	54,942	54,576	61,459	69,147	69,632
121. Gas utilities, excluding public	10,250	18,582	18,783	18,976	19,698	19,614	19,736	21,321	21,190
122. Water and sanitary services, excluding public	1,754	2,335	2,937	3,395	3,558	3,545	3,927	4,316	4,345
123. Wholesale trade	51,805	87,369	125,277	138,230	150,516	149,508	160,490	187,564	187,177
124. Eating and drinking places	33,547	45,502	55,323	66,257	70,755	70,604	75,854	83,359	84,355

Table B-1. Domestic output, selected historical and projected years, 1959 to 1990—Continued

(Millions of 1972 dollars)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
125. Retail trade, except eating and drinking places	71,149	99,834	136,492	141,694	156,380	156,012	166,930	194,271	196,755
126. Banking	13,526	22,177	33,212	38,899	40,686	40,471	44,862	48,701	48,972
127. Credit agencies and financial brokers	9,340	13,575	16,383	19,255	22,836	23,062	21,677	26,699	27,030
128. Insurance	24,979	31,867	49,717	53,989	56,421	56,355	64,211	72,472	72,950
129. Owner-occupied real estate	41,966	66,891	112,752	116,740	129,850	130,088	135,401	157,740	160,714
130. Real estate	43,508	77,142	124,874	134,598	145,865	145,363	154,421	176,464	177,440
131. Hotels and lodging places	5,166	7,824	9,995	12,371	13,496	13,413	14,235	15,763	15,981
132. Personal and repair services	12,711	17,474	17,443	19,312	22,076	22,103	20,909	25,620	26,130
133. Barber and beauty shops	3,447	4,399	4,045	4,133	4,495	4,504	4,067	4,873	5,024
134. Business services, n.e.c.	16,293	34,518	58,042	62,431	66,775	66,377	73,683	83,500	83,669
135. Advertising	2,326	2,917	4,138	4,893	5,286	5,258	5,654	6,487	6,502
136. Professional services, n.e.c.	17,249	25,801	39,607	42,359	45,097	44,886	49,671	56,847	57,433
137. Automobile repair	16,119	22,259	32,324	34,989	37,859	37,695	41,435	48,144	48,010
138. Motion pictures	4,228	3,774	7,550	8,647	9,715	9,581	9,965	12,055	12,000
139. Amusements and recreation services	5,375	7,730	11,957	14,967	16,282	16,132	18,439	21,435	21,834
140. Doctors' and dentists' services	13,215	20,384	28,906	35,334	36,889	37,022	41,531	47,321	47,996
141. Hospitals	8,543	17,474	31,404	38,019	39,649	39,400	46,203	53,745	54,211
142. Medical services, except hospitals	3,608	7,282	13,507	16,061	16,928	16,880	18,772	22,870	23,063
143. Educational services	12,210	14,189	13,671	15,023	15,689	15,789	16,542	17,791	18,022
144. Nonprofit organizations	9,615	14,157	20,315	21,752	23,492	23,571	25,288	29,857	30,420
145. Post office	5,542	7,918	8,375	9,794	10,456	10,402	10,958	12,361	12,457
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	1,834	2,811	3,070	3,449	3,796	3,780	4,020	4,633	4,656
148. Local government passenger transit	1,196	1,460	1,645	2,030	2,142	2,138	2,250	2,443	2,441
149. State and local government enterprises, n.e.c.	5,068	7,528	8,546	10,527	11,167	11,116	12,082	13,504	13,519
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. Construction industry	90,256	120,220	111,341	138,298	147,652	147,342	146,050	167,728	168,946
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	6,716	5,784	4,106	3,986	4,068	4,065	3,961	4,004	4,013
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

Table B-2. Total employment, selected historical and projected years, 1959 to 1990

(Thousands of jobs)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
1. Dairy and poultry products	1,551	814	511	440	496	497	355	396	411
2. Meat animals and livestock	979	756	528	504	567	568	453	506	524
3. Cotton	565	178	142	136	150	150	122	137	135
4. Food and feed grains	960	635	639	646	716	715	592	675	661
5. Agricultural products, n.e.c.	1,436	1,111	995	896	993	992	814	920	903
6. Forestry and fishery products	47	41	76	76	78	74	79	83	76
7. Agricultural, forestry, and fishery services	261	296	447	514	544	515	543	593	543
8. Iron and ferroalloy ores mining	33	30	30	34	37	34	35	38	33
9. Copper ore mining	23	34	33	32	33	32	35	37	36
10. Nonferrous metal ores mining, except copper	31	25	39	39	41	39	40	43	40
11. Coal mining	201	138	265	389	418	390	412	473	412
12. Crude petroleum and natural gas	200	157	211	271	279	270	311	325	307
13. Stone and clay mining and quarrying	105	99	103	104	109	102	104	109	100
14. Chemical and fertilizer mineral mining	19	18	25	29	30	29	32	34	32
15. Maintenance and repair construction	662	792	1,292	1,297	1,360	1,314	1,424	1,532	1,460
16. Ordnance	50	175	75	94	100	89	102	111	98
17. Complete guided missiles and space vehicles	94	107	81	76	79	82	70	73	77
18. Meat products	324	344	364	374	390	365	380	404	372
19. Dairy products	326	260	189	180	188	167	159	169	147
20. Canned and frozen foods	249	291	306	287	300	317	289	307	323
21. Grain mill products	139	137	146	153	160	149	155	166	151
22. Bakery products	313	286	240	218	228	221	204	218	209
23. Sugar	38	36	30	35	36	34	34	35	33
24. Confectionery products	79	87	79	72	75	74	71	75	73
25. Alcoholic beverages	107	97	88	69	71	72	62	65	65
26. Soft drinks and flavorings	111	142	151	153	160	148	157	167	152
27. Food products, n.e.c.	144	151	163	155	162	160	148	158	156
28. Tobacco manufacturing	95	83	70	69	73	70	65	68	67
29. Fabric, yarn, and thread mills	619	616	532	565	588	561	534	546	529
30. Floor covering mills	39	58	60	66	71	68	62	69	64
31. Textile mill products, n.e.c.	74	82	70	77	82	75	75	83	73
32. Hosiery and knit goods	221	251	229	247	267	246	238	262	232
33. Apparel	1,100	1,244	1,132	1,202	1,304	1,227	1,190	1,320	1,205
34. Fabricated textile products, n.e.c.	143	182	200	227	239	229	234	251	236
35. Logging	143	138	148	117	123	117	114	121	108
36. Sawmills and planing mills	305	230	237	228	238	224	222	231	215
37. Millwork, plywood, and wood products, n.e.c.	261	310	386	357	373	378	344	370	374
38. Wooden containers	43	36	25	21	22	22	21	22	22
39. Household furniture	259	316	331	363	383	369	379	409	390
40. Furniture and fixtures, except household	124	153	176	180	197	188	180	215	194
41. Paper products	415	483	493	529	535	528	547	548	545
42. Paperboard	175	231	215	214	223	219	222	234	230
43. Newspaper printing and publishing	328	376	435	472	505	486	506	549	526
44. Periodical and book printing, publishing	156	210	230	269	284	266	303	329	305
45. Printing and publishing, n.e.c.	446	550	641	643	676	657	664	717	693
46. Industrial inorganic and organic chemicals	260	296	323	398	407	402	418	427	425
47. Agricultural chemicals	54	65	70	71	72	68	74	76	71
48. Chemical products, n.e.c.	82	124	100	104	107	109	114	118	122
49. Plastic materials and synthetic rubber	81	108	101	103	110	107	97	108	106
50. Synthetic fibers	79	132	118	103	110	109	93	101	102
51. Drugs	106	143	194	217	227	217	229	247	232
52. Cleaning and toilet preparations	89	123	140	139	149	141	146	162	152
53. Paints and allied products	62	72	69	70	71	69	71	75	69
54. Petroleum refining and related products	217	182	210	185	198	185	184	202	184
55. Tires and inner tubes	105	119	122	124	129	126	126	129	126
56. Rubber products, except tires and tubes	178	162	167	193	197	198	180	182	183
57. Plastic products	94	320	493	549	561	541	659	669	645
58. Leather tanning and industrial leather	36	29	20	18	18	18	15	16	15
59. Leather products, including footwear	341	316	234	228	238	229	212	226	214
60. Glass	153	188	205	226	233	227	240	252	242
61. Cement and concrete products	209	228	254	256	266	260	254	268	261
62. Structural clay products	78	64	52	49	51	48	44	45	43

Table B-2. Total employment, selected historical and projected years, 1959 to 1990—Continued

(Thousands of jobs)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
63. Pottery and related products	49	45	51	56	58	54	57	60	55
64. Stone and clay products, n.e.c.	125	140	164	167	176	172	172	187	181
65. Blast furnaces and basic steel products	588	644	569	597	605	597	584	586	583
66. Iron and steel foundries and forgings	269	312	324	363	374	361	376	387	377
67. Primary copper and copper products	137	160	159	160	167	161	164	171	165
68. Primary aluminum and aluminum products	111	153	169	169	178	167	174	181	170
69. Primary nonferrous metals and products, n.e.c.	78	93	90	107	110	105	112	114	108
70. Metal containers	75	87	81	92	97	94	92	100	95
71. Heating apparatus and plumbing fixtures	71	76	76	95	100	99	101	106	103
72. Fabricated structural metal products	344	440	538	551	583	555	583	640	601
73. Screw machine products	88	114	117	128	133	128	140	151	143
74. Metal stampings	189	255	243	258	272	264	266	290	277
75. Cutlery, handtools, and general hardware	135	165	186	216	227	215	227	241	227
76. Fabricated metal products, n.e.c.	231	315	378	414	433	425	443	472	461
77. Engines, turbines, and generators	90	112	145	147	162	153	149	175	160
78. Farm machinery	128	141	183	200	211	204	217	239	224
79. Construction, mining, and oilfield machinery	162	202	283	332	358	335	369	474	369
80. Material handling equipment	65	95	109	136	146	137	149	183	150
81. Metalworking machinery	251	347	379	405	473	416	411	548	424
82. Special industry machinery	164	206	205	221	228	223	228	235	231
83. General industrial machinery	221	291	329	371	390	371	394	430	390
84. Nonelectrical machinery, n.e.c.	166	246	309	329	352	342	345	382	373
85. Computers and peripheral equipment	111	224	350	443	467	445	552	614	555
86. Typewriters and other office equipment	28	52	48	71	76	66	78	90	73
87. Service industry machines	97	147	188	198	214	203	200	226	208
88. Electric transmission equipment	157	207	219	236	254	241	237	278	247
89. Electrical industrial apparatus	176	223	251	292	313	298	307	356	315
90. Household appliances	157	187	180	181	186	180	193	198	190
91. Electric lighting and wiring	134	205	226	273	289	280	310	336	324
92. Radio and television receiving sets	114	156	115	116	129	123	99	121	116
93. Telephone and telegraph apparatus	105	146	169	186	204	203	202	232	229
94. Radio and communication equipment	252	409	357	398	407	393	424	433	418
95. Electronic components	213	394	525	576	577	578	666	670	669
96. Electrical machinery and equipment, n.e.c.	111	125	180	160	185	163	174	211	176
97. Motor vehicles	696	912	996	899	986	920	922	1,049	940
98. Aircraft	722	805	632	720	758	730	768	839	779
99. Ship and boat building and repair	151	193	228	241	260	244	271	306	279
100. Railroad equipment	41	51	74	59	67	69	66	81	81
101. Motorcycles, bicycles, and parts	9	14	20	22	24	26	24	31	32
102. Transportation equipment, n.e.c.	23	89	105	115	129	116	120	147	121
103. Scientific and controlling instruments	166	195	218	228	242	228	253	296	246
104. Medical and dental instruments	45	82	141	168	178	163	189	225	183
105. Optical and ophthalmic equipment	85	75	82	90	95	92	92	102	97
106. Photographic equipment and supplies	69	111	134	140	153	144	144	166	152
107. Watches, clocks, and clock-operated devices	30	35	28	29	30	30	26	29	25
108. Jewelry and silverware	67	78	93	90	88	89	91	92	91
109. Musical instruments and sporting goods	116	149	145	160	171	169	165	176	175
110. Manufactured products, n.e.c.	229	233	244	261	267	261	264	270	262
111. Railroad transportation	930	651	561	503	524	508	463	493	468
112. Local transit and intercity buses	311	315	303	337	346	330	355	364	349
113. Truck transportation	1,001	1,214	1,558	1,747	1,823	1,731	1,922	2,053	1,906
114. Water transportation	239	234	223	207	213	197	197	205	183
115. Air transportation	184	357	442	456	474	460	494	525	497
116. Pipeline transportation	24	18	20	21	22	21	23	23	22
117. Transportation services	70	111	192	218	227	221	241	262	246
118. Radio and television broadcasting	90	131	193	234	241	234	267	278	267
119. Communications, except radio and television	749	919	1,121	1,213	1,295	1,225	1,280	1,454	1,300
120. Electric utilities, public and private	430	460	606	640	698	643	650	758	654
121. Gas utilities, excluding public	215	220	223	227	242	222	243	275	235
122. Water and sanitary services, excluding public	61	88	93	102	111	106	109	128	114
123. Wholesale trade	3,349	4,163	5,501	6,028	6,327	5,997	6,367	6,964	6,412
124. Eating and drinking places	1,960	2,812	4,924	5,990	6,211	6,000	6,836	7,179	6,843

Table B-2. Total employment, selected historical and projected years, 1959 to 1990—Continued

(Thousands of jobs)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
125. Retail trade, except eating and drinking places	7,936	9,729	11,952	12,851	13,612	12,964	13,830	15,088	14,190
126. Banking	644	987	1,492	1,724	1,756	1,727	1,982	2,014	1,957
127. Credit agencies and financial brokers	389	652	898	918	1,043	1,041	1,174	1,330	1,303
128. Insurance	1,137	1,370	1,753	1,969	1,999	1,972	2,121	2,194	2,133
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	753	855	1,371	1,486	1,629	1,512	1,732	1,927	1,716
131. Hotels and lodging places	868	1,065	1,543	1,738	1,918	1,857	1,887	2,126	2,035
132. Personal and repair services	1,157	1,232	1,278	1,260	1,440	1,341	1,282	1,556	1,424
133. Barber and beauty shops	538	634	613	660	725	698	650	771	733
134. Business services, n.e.c.	814	1,691	3,144	3,574	3,789	3,650	4,315	4,757	4,509
135. Advertising	121	134	166	186	198	186	192	214	198
136. Professional services, n.e.c.	746	1,046	1,720	1,933	2,041	1,962	2,179	2,413	2,292
137. Automobile repair	422	569	837	978	1,004	971	1,168	1,208	1,148
138. Motion pictures	228	248	308	294	303	293	316	329	306
139. Amusements and recreation services	372	497	761	881	890	875	1,029	1,042	1,019
140. Doctors' and dentists' services	605	806	1,317	1,703	1,752	1,683	1,897	1,983	1,875
141. Hospitals	974	1,776	2,621	3,431	3,528	3,372	3,968	4,207	3,954
142. Medical services, except hospitals	283	652	1,403	1,814	1,885	1,866	2,312	2,553	2,403
143. Educational services	839	1,229	1,683	1,864	1,931	1,895	2,099	2,150	2,075
144. Nonprofit organizations	1,331	1,764	2,244	2,343	2,471	2,404	2,638	2,839	2,722
145. Post office	574	732	661	668	680	670	675	700	680
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	104	152	153	174	194	178	202	236	207
148. Local government passenger transit	71	87	130	159	168	167	185	200	190
149. State and local government enterprises, n.e.c.	225	351	492	606	640	610	695	775	701
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. Construction industry	3,163	3,594	4,605	5,451	5,720	5,496	5,497	5,978	5,643
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	2,574	2,322	1,723	1,586	1,619	1,592	1,576	1,593	1,587
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

Table B-3. Total hours, all employees, selected historical and projected years, 1959 to 1990

(Millions of hours)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
1. Dairy and poultry products	3,649	1,912	1,212	1,002	1,120	1,125	782	859	893
2. Meat animals and livestock	2,303	1,776	1,252	1,144	1,279	1,283	996	1,097	1,137
3. Cotton	1,329	418	337	314	348	348	277	313	309
4. Food and feed grains	2,259	1,492	1,515	1,499	1,667	1,664	1,341	1,542	1,512
5. Agricultural products, n.e.c.	3,379	2,609	2,359	2,074	2,308	2,303	1,842	2,100	2,060
6. Forestry and fishery products	94	81	162	149	154	146	154	162	149
7. Agricultural, forestry, and fishery services	508	561	983	973	1,040	980	1,021	1,130	1,032
8. Iron and ferroalloy ores mining	63	64	67	76	79	76	79	85	78
9. Copper ore mining	52	81	71	69	72	69	74	81	77
10. Nonferrous metal ores mining, except copper	68	55	85	88	93	89	92	98	92
11. Coal mining	376	287	562	826	893	838	881	1,023	904
12. Crude petroleum and natural gas	435	351	479	595	615	593	683	716	673
13. Stone and clay mining and quarrying	241	230	247	247	258	245	244	258	242
14. Chemical and fertilizer mineral mining	43	42	58	67	70	68	75	79	76
15. Maintenance and repair construction	1,273	1,560	2,481	2,510	2,665	2,566	2,771	3,043	2,896
16. Ordnance	105	363	158	200	211	186	216	231	201
17. Complete guided missiles and space vehicles	199	226	169	160	163	170	147	150	157
18. Meat products	692	735	754	783	812	745	797	830	746
19. Dairy products	699	553	401	390	405	351	344	359	305
20. Canned and frozen foods	498	593	621	578	600	631	583	607	633
21. Grain mill products	311	311	321	342	355	325	348	364	325
22. Bakery products	652	595	489	454	473	450	426	446	418
23. Sugar	84	75	62	74	75	70	72	73	67
24. Confectionery products	164	177	160	150	156	148	147	153	144
25. Alcoholic beverages	221	200	183	145	149	149	132	135	132
26. Soft drinks and flavorings	233	291	310	321	334	302	328	342	305
27. Food products, n.e.c.	313	323	336	271	282	325	259	271	312
28. Tobacco manufacturing	192	162	139	135	141	135	125	132	125
29. Fabric, yarn, and thread mills	1,318	1,323	1,128	1,199	1,234	1,241	1,153	1,187	1,215
30. Floor covering mills	83	129	128	142	155	149	133	152	142
31. Textile mill products, n.e.c.	155	179	149	165	179	161	159	181	157
32. Hosiery and knit goods	445	503	457	487	532	482	472	519	454
33. Apparel	2,086	2,336	2,286	2,195	2,408	2,260	2,182	2,424	2,207
34. Fabricated textile products, n.e.c.	289	366	401	452	478	454	461	496	462
35. Logging	293	310	325	261	273	255	251	265	232
36. Sawmills and planing mills	631	480	497	480	499	469	464	480	444
37. Millwork, plywood, and wood products, n.e.c.	561	664	802	743	777	785	712	761	763
38. Wooden containers	91	76	50	43	45	44	42	45	43
39. Household furniture	547	660	666	737	789	754	767	850	809
40. Furniture and fixtures, except household	269	327	364	372	413	391	369	453	405
41. Paper products	920	1,071	1,066	1,172	1,194	1,170	1,201	1,211	1,191
42. Paperboard	376	496	458	460	488	475	474	514	502
43. Newspaper printing and publishing	650	741	850	907	972	935	966	1,044	996
44. Periodical and book printing, publishing	313	421	480	577	608	550	644	697	621
45. Printing and publishing, n.e.c.	931	1,145	1,294	1,273	1,341	1,311	1,304	1,405	1,361
46. Industrial inorganic and organic chemicals	551	633	675	827	841	827	863	865	855
47. Agricultural chemicals	118	141	151	152	154	144	158	158	147
48. Chemical products, n.e.c.	174	261	211	220	226	228	240	244	249
49. Plastic materials and synthetic rubber	174	234	218	223	235	228	210	229	224
50. Synthetic fibers	165	278	252	219	232	229	198	212	212
51. Drugs	221	298	406	456	474	450	479	507	470
52. Cleaning and toilet preparations	185	258	291	290	309	292	303	330	308
53. Paints and allied products	131	150	145	143	147	142	145	154	142
54. Petroleum refining and related products	457	392	461	407	433	402	409	439	397
55. Tires and inner tubes	223	266	262	267	280	273	274	286	276
56. Rubber products, except tires and tubes	378	339	347	397	410	407	372	386	382
57. Plastic products	201	670	1,031	1,133	1,175	1,125	1,370	1,430	1,365
58. Leather tanning and industrial leather	74	60	40	37	39	37	32	34	32
59. Leather products, including footwear	673	614	454	460	484	462	437	462	436
60. Glass	320	400	431	483	501	486	520	551	524
61. Cement and concrete products	461	509	552	557	579	561	549	580	559
62. Structural clay products	164	134	110	102	106	102	93	95	90

Table B-3. Total hours, all employees, selected historical and projected years, 1959 to 1990—Continued

(Millions of hours)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
63. Pottery and related products	98	93	106	114	119	112	117	122	114
64. Stone and clay products, n.e.c.	271	302	351	361	383	369	371	404	385
65. Blast furnaces and basic steel products	1,217	1,372	1,210	1,279	1,315	1,285	1,255	1,288	1,264
66. Iron and steel foundries and forgings	560	674	687	784	820	788	815	859	828
67. Primary copper and copper products	295	347	347	341	360	346	351	375	358
68. Primary aluminum and aluminum products	235	329	360	359	381	354	370	396	364
69. Primary nonferrous metals and products, n.e.c.	170	210	197	226	235	223	237	248	231
70. Metal containers	163	194	182	206	218	208	205	222	209
71. Heating apparatus and plumbing fixtures	148	160	157	195	205	202	207	218	212
72. Fabricated structural metal products	721	936	1,126	1,156	1,227	1,162	1,223	1,347	1,254
73. Screw machine products	192	251	255	284	297	287	313	334	324
74. Metal stampings	409	554	511	562	594	580	582	625	611
75. Cutlery, handtools, and general hardware	284	348	386	438	467	439	459	501	467
76. Fabricated metal products, n.e.c.	490	672	800	858	912	887	918	1,005	970
77. Engines, turbines, and generators	188	238	306	309	339	318	310	358	324
78. Farm machinery	268	295	395	426	453	436	468	511	488
79. Construction, mining, and oilfield machinery	344	438	595	720	781	737	799	1,026	830
80. Material handling equipment	137	205	231	289	314	299	320	390	340
81. Metalworking machinery	551	780	842	917	1,032	965	950	1,238	1,036
82. Special industry machinery	351	447	435	455	480	465	462	496	481
83. General industrial machinery	469	627	700	801	839	813	867	956	893
84. Nonelectrical machinery, n.e.c.	372	557	670	728	779	753	766	846	818
85. Computers and peripheral equipment	233	475	739	958	964	914	1,168	1,280	1,200
86. Typewriters and other office equipment	61	110	101	144	156	134	164	186	155
87. Service industry machines	205	311	392	422	461	434	422	486	442
88. Electric transmission equipment	330	439	457	495	538	510	502	603	531
89. Electrical industrial apparatus	369	475	528	614	664	627	651	773	677
90. Household appliances	328	393	372	367	377	363	389	398	379
91. Electric lighting and wiring	282	424	470	547	585	563	621	687	656
92. Radio and television receiving sets	235	316	232	232	258	246	196	240	229
93. Telephone and telegraph apparatus	223	313	359	379	416	411	408	470	461
94. Radio and communication equipment	528	855	748	825	845	809	872	892	853
95. Electronic components	443	809	1,089	1,229	1,233	1,227	1,450	1,468	1,447
96. Electrical machinery and equipment, n.e.c.	237	264	378	343	386	358	380	449	400
97. Motor vehicles	1,476	1,957	2,113	1,917	2,166	2,010	1,968	2,345	2,080
98. Aircraft	1,513	1,714	1,331	1,502	1,571	1,506	1,596	1,707	1,573
99. Ship and boat building and repair	313	410	469	488	525	488	544	607	547
100. Railroad equipment	83	108	158	120	135	140	133	162	162
101. Motorcycles, bicycles, and parts	17	26	43	43	48	53	48	60	65
102. Transportation equipment, n.e.c.	50	186	211	230	257	229	235	286	232
103. Scientific and controlling instruments	262	327	461	482	523	486	551	652	555
104. Medical and dental instruments	95	171	289	347	376	346	403	485	409
105. Optical and ophthalmic equipment	179	160	177	193	202	194	198	215	201
106. Photographic equipment and supplies	146	237	285	301	328	308	311	350	319
107. Watches, clocks, and clock-operated devices	62	71	57	61	64	62	55	62	55
108. Jewelry and silverware	140	162	188	172	169	174	172	174	173
109. Musical instruments and sporting goods	240	299	292	312	336	332	318	340	338
110. Manufactured products, n.e.c.	482	486	508	539	554	531	537	550	523
111. Railroad transportation	2,002	1,494	1,281	1,126	1,176	1,139	1,020	1,089	1,030
112. Local transit and intercity buses	706	658	563	605	624	605	626	645	630
113. Truck transportation	2,269	2,705	3,290	3,713	3,887	3,656	4,020	4,301	3,955
114. Water transportation	515	403	407	369	381	354	346	360	323
115. Air transportation	425	706	885	889	927	900	947	1,010	956
116. Pipeline transportation	51	39	44	43	45	44	45	46	44
117. Transportation services	151	221	377	410	430	425	446	487	466
118. Radio and television broadcasting	179	260	385	476	490	475	548	571	549
119. Communications, except radio and television	1,537	1,929	2,338	2,538	2,755	2,597	2,708	3,047	2,828
120. Electric utilities, public and private	918	996	1,279	1,405	1,480	1,412	1,444	1,602	1,471
121. Gas utilities, excluding public	456	467	471	484	502	488	525	572	526
122. Water and sanitary services, excluding public	138	203	204	225	236	242	243	272	267
123. Wholesale trade	7,187	8,834	11,211	11,828	12,455	11,765	12,153	13,304	12,211
124. Eating and drinking places	4,225	4,809	6,823	8,252	8,582	8,234	9,146	9,612	9,102

Table B-3. Total hours, all employees, selected historical and projected years, 1959 to 1990—Continued

(Millions of hours)

Sector	Actual			Projected					
	1959	1969	1979	1985 alternatives			1990 alternatives		
				Low	High I	High II	Low	High I	High II
125. Retail trade, except eating and drinking places	16,394	18,235	20,717	21,491	22,835	21,747	22,502	24,565	23,104
126. Banking	1,250	1,914	2,824	3,284	3,358	3,296	3,775	3,845	3,730
127. Credit agencies and financial brokers	771	1,289	1,738	1,770	2,020	2,008	2,263	2,570	2,508
128. Insurance	2,311	2,672	3,443	3,859	3,931	3,870	4,157	4,311	4,182
129. Owner-occupied real estate	0	0	0	0	0	0	0	0	0
130. Real estate	1,534	1,710	2,753	2,832	3,116	2,885	3,246	3,619	3,215
131. Hotels and lodging places	1,945	2,097	2,713	2,813	3,114	3,092	2,910	3,283	3,220
132. Personal and repair services	2,523	2,515	2,307	2,181	2,503	2,275	2,111	2,568	2,295
133. Barber and beauty shops	1,224	1,304	1,102	1,160	1,279	1,195	1,091	1,295	1,196
134. Business services, n.e.c.	1,413	2,800	5,412	6,108	6,502	6,249	7,229	7,990	7,557
135. Advertising	236	247	319	348	372	357	353	393	372
136. Professional services, n.e.c.	1,697	2,281	3,471	3,888	4,118	3,939	4,296	4,767	4,505
137. Automobile repair	884	1,189	1,727	1,890	1,962	1,893	2,200	2,324	2,202
138. Motion pictures	345	375	465	470	492	473	506	537	497
139. Amusements and recreation services	681	864	1,224	1,494	1,526	1,496	1,743	1,798	1,756
140. Doctors' and dentists' services	1,314	1,554	2,324	2,859	2,951	2,874	3,036	3,175	3,043
141. Hospitals	1,909	3,152	4,663	5,950	6,140	5,788	6,550	6,944	6,431
142. Medical services, except hospitals	590	1,192	2,442	2,957	3,086	3,120	3,582	3,961	3,807
143. Educational services	1,539	2,217	1,955	2,063	2,147	2,111	2,204	2,262	2,188
144. Nonprofit organizations	2,299	3,121	3,651	3,681	3,899	3,742	3,938	4,243	4,012
145. Post office	1,224	1,484	1,392	1,400	1,424	1,405	1,410	1,464	1,438
146. Commodity Credit Corporation	0	0	0	0	0	0	0	0	0
147. Federal enterprises, n.e.c.	222	308	322	359	401	368	419	489	429
148. Local government passenger transit	154	181	270	332	350	349	383	414	393
149. State and local government enterprises, n.e.c.	487	732	1,023	1,267	1,339	1,275	1,454	1,620	1,465
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. Construction industry	6,782	7,734	9,938	11,211	11,808	11,318	11,239	12,251	11,539
153. Government industry	0	0	0	0	0	0	0	0	0
154. Rest of the world industry	0	0	0	0	0	0	0	0	0
155. Households	3,534	3,019	2,097	2,029	2,070	2,037	2,016	2,038	2,030
156. Inventory valuation adjustment	0	0	0	0	0	0	0	0	0

Appendix C. Civilian Labor Force and Labor Force Participation Rates by Age, Sex, and Race, 1982 to 2000

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
Middle growth path								
Total, 16 and over	109,672	111,552	113,301	114,985	65.4	65.8	66.2	66.5
16 to 24	25,214	25,029	24,744	24,446	71.2	72.0	72.7	73.2
20 and over	100,439	102,547	104,578	106,422	65.9	66.3	66.6	67.0
25 to 54	69,523	71,579	73,655	75,679	80.4	81.0	81.6	82.2
55 and over	14,935	14,944	14,902	14,860	32.5	32.2	31.8	31.3
Men, 16 and over	61,848	62,494	63,072	63,600	77.8	77.8	77.8	77.7
16 to 24	13,250	13,063	12,834	12,592	76.3	76.6	76.9	76.9
16 to 19	4,809	4,663	4,491	4,387	62.9	63.2	63.3	63.4
16 and 17	1,986	1,918	1,883	1,886	52.6	53.0	53.4	53.7
18 and 19	2,823	2,745	2,608	2,501	72.9	73.1	73.2	73.4
20 to 24	8,441	8,400	8,343	8,205	86.9	86.9	86.9	86.9
20 and over	57,039	57,831	58,581	59,213	79.4	79.3	79.1	79.0
25 to 54	39,512	40,361	41,214	42,029	94.1	94.1	94.1	94.0
25 to 34	17,092	17,393	17,685	17,976	95.0	94.9	94.8	94.7
25 to 29	8,834	8,992	9,101	9,169	94.3	94.2	94.1	94.0
30 to 34	8,258	8,401	8,584	8,807	95.6	95.6	95.5	95.4
35 to 44	12,604	13,172	13,726	14,252	95.4	95.4	95.4	95.4
35 to 39	6,990	7,217	7,524	7,841	95.7	95.6	95.5	95.4
40 to 44	5,614	5,955	6,202	6,411	95.1	95.2	95.2	95.2
45 to 54	9,816	9,796	9,803	9,801	91.2	91.1	91.0	91.0
45 to 49	4,921	4,967	5,041	5,113	93.0	92.9	92.8	92.7
50 to 54	4,895	4,829	4,762	4,688	89.4	89.4	89.3	89.2
55 and over	9,086	9,070	9,024	8,979	45.1	44.5	43.8	43.1
55 to 64	7,207	7,205	7,168	7,122	71.2	70.7	70.2	69.7
55 to 59	4,349	4,320	4,276	4,247	81.1	80.8	80.5	80.1
60 to 64	2,858	2,885	2,892	2,875	60.1	59.6	59.0	58.5
65 and over	1,879	1,865	1,856	1,857	18.7	18.3	17.9	17.5
65 to 69	1,067	1,052	1,043	1,046	27.7	27.1	26.5	25.9
70 to 74	542	541	540	536	18.7	18.4	18.1	17.9
75 and over	270	272	273	275	8.2	8.0	7.9	7.7
Women, 16 and over	47,824	49,058	50,229	51,385	54.2	55.0	55.8	56.5
16 to 24	11,964	11,966	11,910	11,854	66.3	67.6	68.7	69.7
16 to 19	4,424	4,342	4,232	4,176	57.5	58.4	59.1	59.8
16 and 17	1,781	1,738	1,725	1,745	48.4	49.3	50.2	51.0
18 and 19	2,643	2,604	2,507	2,431	65.8	66.6	67.4	68.3
20 to 24	7,540	7,624	7,678	7,678	72.9	74.2	75.4	76.5
20 and over	43,400	44,716	45,997	47,209	53.8	54.7	55.5	56.2
25 to 54	30,011	31,218	32,441	33,650	67.4	68.7	69.9	71.1
25 to 34	13,415	13,935	14,445	14,955	70.9	72.4	73.8	75.1
25 to 29	7,171	7,475	7,741	7,976	72.8	74.6	76.2	77.8
30 to 34	6,244	6,460	6,704	6,979	68.8	70.0	71.2	72.3
35 to 44	9,716	10,348	10,986	11,617	68.6	70.1	71.5	72.9
35 to 39	5,379	5,677	6,042	6,427	68.7	70.3	71.9	73.4
40 to 44	4,337	4,671	4,944	5,190	68.5	69.8	71.0	72.2
45 to 54	6,880	6,935	7,010	7,078	60.0	60.6	61.1	61.7
45 to 49	3,516	3,594	3,695	3,795	62.4	63.1	63.8	64.5
50 to 54	3,364	3,341	3,315	3,283	57.7	58.0	58.4	58.8
55 and over	5,849	5,874	5,878	5,881	22.7	22.6	22.3	22.1
55 to 64	4,697	4,718	4,713	4,703	41.7	41.7	41.6	41.6
55 to 59	2,866	2,853	2,830	2,817	49.0	49.1	49.2	49.3
60 to 64	1,831	1,865	1,883	1,886	33.9	33.9	33.8	33.8
65 and over	1,152	1,156	1,165	1,178	8.0	7.9	7.8	7.7
65 to 69	719	719	726	738	14.9	14.8	14.7	14.6
70 to 74	287	289	288	286	7.2	7.1	7.1	7.0
75 and over	146	148	151	154	2.6	2.5	2.5	2.5
White								
Total, 16 and over	96,131	97,625	98,995	100,316	65.7	66.1	66.5	66.8
Men, 16 and over	54,916	55,409	55,838	56,228	78.6	78.6	78.6	78.5

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
Middle growth path—Continued								
16 to 24	11,657	11,480	11,268	11,047	78.9	79.4	79.8	80.1
16 to 19	4,283	4,152	3,998	3,910	66.8	67.3	67.7	68.0
20 to 24	7,374	7,328	7,270	7,137	88.2	88.4	88.6	88.7
20 and over	50,633	51,257	51,840	52,318	79.8	79.7	79.6	79.4
25 to 54	34,999	35,690	36,379	37,041	94.8	94.7	94.7	94.6
25 to 34	15,014	15,234	15,450	15,669	95.6	95.5	95.4	95.3
35 to 44	11,248	11,752	12,232	12,685	96.0	96.0	95.9	95.9
45 to 54	8,737	8,704	8,697	8,687	91.9	91.9	91.8	91.7
55 and over	8,260	8,239	8,191	8,140	45.5	44.9	44.2	43.6
55 to 64	6,556	6,547	6,507	6,457	72.0	71.5	71.0	70.5
65 and over	1,704	1,692	1,684	1,683	18.8	18.4	18.0	17.7
Women, 16 and over	41,215	42,216	43,157	44,088	53.8	54.7	55.4	56.2
16 to 24	10,402	10,391	10,331	10,271	68.9	70.3	71.6	72.8
16 to 19	3,914	3,834	3,728	3,675	61.1	62.2	63.1	63.9
20 to 24	6,488	6,557	6,603	6,596	74.6	76.0	77.4	78.8
20 and over	37,301	38,382	39,429	40,413	53.2	54.0	54.8	55.6
25 to 54	25,627	26,627	27,636	28,635	66.9	68.2	69.5	70.8
25 to 34	11,299	11,713	12,123	12,535	70.3	71.8	73.3	74.7
35 to 44	8,359	8,907	9,450	9,983	68.3	69.8	71.2	72.7
45 to 54	5,969	6,007	6,063	6,117	59.8	60.4	61.0	61.6
55 and over	5,186	5,198	5,190	5,182	22.4	22.2	21.9	21.7
55 to 64	4,171	4,180	4,166	4,148	41.5	41.4	41.4	41.4
65 and over	1,015	1,018	1,024	1,034	7.7	7.6	7.5	7.5
Black and other								
Total, 16 and over	13,541	13,927	14,306	14,669	63.3	63.7	64.2	64.4
Men, 16 and over	6,932	7,085	7,234	7,372	71.9	72.0	72.0	71.9
16 to 24	1,593	1,583	1,566	1,545	61.4	61.1	60.8	60.2
16 to 19	526	511	493	477	42.7	42.3	41.7	40.8
20 to 24	1,067	1,072	1,073	1,068	78.3	77.6	77.0	76.3
20 and over	6,406	6,574	6,741	6,895	76.2	76.1	76.0	75.9
25 to 54	4,513	4,671	4,835	4,988	89.5	89.6	89.7	89.8
25 to 34	2,078	2,159	2,235	2,307	90.7	90.8	90.7	90.9
35 to 44	1,356	1,420	1,494	1,567	90.9	91.1	91.3	91.4
45 to 54	1,079	1,092	1,106	1,114	85.5	85.5	85.6	85.6
55 and over	826	831	833	839	41.3	40.7	40.0	39.3
55 to 64	651	658	661	665	64.6	63.9	63.1	62.7
65 and over	175	173	172	174	17.6	17.1	16.6	16.2
Women, 16 and over	6,609	6,842	7,072	7,297	56.3	57.0	57.7	58.3
16 to 24	1,562	1,575	1,579	1,583	53.2	53.8	54.3	54.3
16 to 19	510	508	504	501	39.3	39.9	40.4	40.7
20 to 24	1,052	1,067	1,075	1,082	64.2	64.5	64.8	65.3
20 and over	6,099	6,334	6,568	6,796	58.4	59.0	59.7	60.6
25 to 54	4,384	4,591	4,805	5,015	70.2	71.1	72.1	73.2
25 to 34	2,116	2,222	2,322	2,420	74.2	75.4	76.5	77.1
35 to 44	1,357	1,441	1,536	1,634	71.0	72.1	73.1	74.6
45 to 54	911	928	947	961	61.3	61.6	62.1	62.2
55 and over	663	676	688	699	25.9	25.8	25.7	25.4
55 to 64	526	538	547	555	44.0	43.9	43.8	43.4
65 and over	137	138	141	144	10.0	9.9	9.8	9.9

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Middle growth path—Continued										
Total, 16 and over	116,690	118,376	119,846	121,201	122,375	66.8	67.1	67.4	67.7	67.9
16 to 24	24,091	23,824	23,442	23,011	22,607	73.6	73.8	74.3	74.8	75.3
20 and over	108,108	109,663	111,092	112,533	113,965	67.3	67.5	67.8	68.0	68.2
25 to 54	77,834	79,929	81,924	83,875	85,616	82.8	83.3	83.8	84.2	84.6
55 and over	14,765	14,623	14,480	14,315	14,152	30.9	30.4	29.9	29.4	29.0
Men, 16 and over	64,136	64,678	65,131	65,542	65,880	77.6	77.4	77.3	77.3	77.2
16 to 24	12,318	12,102	11,830	11,542	11,282	76.8	76.5	76.5	76.7	76.8
16 to 19	4,375	4,426	4,426	4,365	4,216	63.4	63.5	64.0	64.6	64.7
16 and 17	1,932	1,989	1,931	1,797	1,733	54.0	54.2	54.3	54.4	54.5
18 and 19	2,443	2,437	2,495	2,568	2,483	73.7	73.9	74.2	74.3	74.3
20 to 24	7,943	7,676	7,404	7,177	7,066	86.8	86.7	86.6	86.5	86.4
20 and over	59,761	60,252	60,705	61,177	61,664	78.8	78.7	78.5	78.4	78.3
25 to 54	42,915	43,781	44,614	45,433	46,147	94.0	93.9	93.9	93.8	93.7
25 to 34	18,230	18,404	18,503	18,537	18,453	94.6	94.5	94.4	94.3	94.3
25 to 29	9,246	9,217	9,156	9,079	8,925	93.9	93.7	93.6	93.5	93.4
30 to 34	8,984	9,187	9,347	9,458	9,528	95.3	95.3	95.2	95.2	95.1
35 to 44	14,780	15,276	15,646	16,133	16,672	95.3	95.3	95.3	95.2	95.2
35 to 39	8,243	8,205	8,341	8,517	8,734	95.4	95.3	95.2	95.1	95.1
40 to 44	6,537	7,071	7,305	7,616	7,938	95.3	95.3	95.3	95.4	95.4
45 to 54	9,905	10,101	10,465	10,763	11,022	90.9	90.9	90.9	90.8	90.8
45 to 49	5,238	5,423	5,741	5,967	6,156	92.6	92.5	92.4	92.3	92.2
50 to 54	4,667	4,678	4,724	4,796	4,866	89.2	89.1	89.1	89.1	89.0
55 and over	8,903	8,795	8,687	8,567	8,451	42.4	41.7	41.0	40.3	39.6
55 to 64	7,049	6,940	6,839	6,728	6,625	69.2	68.8	68.3	67.9	67.5
55 to 59	4,196	4,133	4,064	3,995	3,922	79.8	79.5	79.2	78.9	78.7
60 to 64	2,853	2,807	2,775	2,733	2,703	57.9	57.4	56.9	56.4	55.9
65 and over	1,854	1,855	1,848	1,839	1,826	17.2	16.8	16.5	16.2	15.8
65 to 69	1,046	1,052	1,048	1,038	1,019	25.4	24.8	24.2	23.7	23.2
70 to 74	533	528	524	525	531	17.6	17.3	17.1	16.8	16.6
75 and over	275	275	276	276	276	7.5	7.4	7.3	7.1	7.0
Women, 16 and over	52,554	53,698	54,715	55,659	56,495	57.2	57.9	58.5	59.1	59.6
16 to 24	11,773	11,722	11,612	11,469	11,325	70.5	71.2	72.1	73.1	73.9
16 to 19	4,207	4,287	4,328	4,303	4,194	60.5	61.2	62.2	63.3	63.9
16 and 17	1,807	1,874	1,839	1,734	1,685	51.9	52.7	53.4	54.0	54.7
18 and 19	2,400	2,413	2,489	2,569	2,509	69.2	69.9	70.8	71.5	72.1
20 to 24	7,566	7,435	7,284	7,166	7,131	77.7	78.7	79.7	80.6	81.4
20 and over	48,347	49,411	50,387	51,356	52,301	56.9	57.6	58.2	58.7	59.2
25 to 54	34,919	36,148	37,310	38,442	39,469	72.3	73.3	74.2	75.1	75.9
25 to 34	15,440	15,850	16,180	16,431	16,568	76.4	77.6	78.8	79.8	80.7
25 to 29	8,211	8,351	8,447	8,506	8,493	79.4	80.9	82.2	83.5	84.6
30 to 34	7,229	7,499	7,733	7,925	8,075	73.3	74.3	75.3	76.2	77.0
35 to 44	12,252	12,858	13,359	13,953	14,581	74.2	75.4	76.6	77.7	78.6
35 to 39	6,888	6,993	7,228	7,492	7,779	74.9	76.3	77.5	78.7	79.8
40 to 44	5,364	5,865	6,131	6,461	6,802	73.4	74.5	75.5	76.5	77.3
45 to 54	7,227	7,440	7,771	8,058	8,320	62.2	62.8	63.4	63.8	64.3
45 to 49	3,929	4,106	4,381	4,593	4,780	65.1	65.8	66.4	67.0	67.6
50 to 54	3,298	3,334	3,390	3,465	3,540	59.1	59.5	59.8	60.1	60.4
55 and over	5,862	5,828	5,793	5,748	5,701	21.8	21.6	21.3	21.0	20.7
55 to 64	4,674	4,624	4,579	4,527	4,476	41.6	41.7	41.7	41.7	41.7
55 to 59	2,787	2,753	2,722	2,688	2,650	49.4	49.5	49.5	49.6	49.7
60 to 64	1,887	1,871	1,857	1,839	1,826	33.8	33.8	33.8	33.8	33.8
65 and over	1,188	1,204	1,214	1,221	1,225	7.6	7.6	7.5	7.4	7.3
65 to 69	748	762	771	775	772	14.5	14.4	14.3	14.2	14.1
70 to 74	285	284	283	285	290	6.9	6.8	6.7	6.7	6.6
75 and over	155	158	160	161	163	2.4	2.4	2.4	2.4	2.4
White										
Total, 16 and over	101,646	102,949	104,054	105,039	105,867	67.2	67.5	67.8	68.1	68.3
Men, 16 and over	56,625	57,022	57,334	57,599	57,800	78.4	78.3	78.2	78.2	78.1

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Middle growth path—Continued										
16 to 24	10,800	10,605	10,356	10,085	9,843	80.1	80.1	80.3	80.7	81.0
16 to 19	3,908	3,955	3,951	3,887	3,746	68.3	68.6	69.4	70.2	70.6
20 to 24	6,892	6,650	6,405	6,198	6,097	88.8	88.9	88.9	89.0	89.0
20 and over	52,717	53,067	53,383	53,712	54,054	79.3	79.1	79.0	78.8	78.7
25 to 54	37,762	38,460	39,132	39,786	40,342	94.6	94.5	94.4	94.3	94.3
25 to 34	15,857	15,964	16,007	15,994	15,876	95.2	95.1	95.0	94.9	94.8
35 to 44	13,137	13,561	13,857	14,261	14,709	95.8	95.8	95.8	95.7	95.7
45 to 54	8,768	8,935	9,268	9,531	9,757	91.7	91.6	91.6	91.5	91.5
55 and over	8,063	7,957	7,846	7,728	7,615	42.9	42.1	41.4	40.7	40.0
55 to 64	6,382	6,274	6,170	6,059	5,958	70.1	69.7	69.3	68.9	68.5
65 and over	1,681	1,683	1,676	1,669	1,657	17.3	17.0	16.7	16.4	16.0
Women, 16 and over	45,021	45,927	46,720	47,440	48,067	56.9	57.6	58.2	58.8	59.3
16 to 24	10,188	10,132	10,020	9,874	9,731	73.8	74.7	75.8	76.9	78.0
16 to 19	3,702	3,767	3,794	3,760	3,652	64.7	65.6	66.8	68.1	69.0
20 to 24	6,486	6,365	6,226	6,114	6,079	80.1	81.4	82.6	83.6	84.6
20 and over	41,319	42,160	42,926	43,680	44,415	56.3	57.0	57.6	58.1	58.6
25 to 54	29,680	30,686	31,636	32,556	33,379	72.0	73.0	74.0	74.9	75.7
25 to 34	12,926	13,245	13,494	13,675	13,757	76.0	77.3	78.4	79.4	80.4
35 to 44	10,517	11,026	11,431	11,919	12,438	74.0	75.3	76.5	77.6	78.6
45 to 54	6,237	6,415	6,711	6,962	7,184	62.2	62.7	63.3	63.8	64.3
55 and over	5,153	5,109	5,064	5,010	4,957	21.4	21.1	20.9	20.6	20.3
55 to 64	4,111	4,055	4,003	3,944	3,889	41.4	41.4	41.4	41.4	41.4
65 and over	1,042	1,054	1,061	1,066	1,068	7.4	7.3	7.3	7.2	7.1
Black and other										
Total, 16 and over	15,044	15,427	15,792	16,162	16,508	64.7	65.0	65.2	65.5	65.8
Men, 16 and over	7,511	7,656	7,797	7,943	8,080	71.8	71.6	71.5	71.5	71.5
16 to 24	1,518	1,497	1,474	1,457	1,439	59.3	58.2	57.4	57.0	56.6
16 to 19	467	471	475	478	470	39.9	39.2	38.9	39.0	38.7
20 to 24	1,051	1,026	999	979	969	75.7	74.9	74.3	73.6	73.1
20 and over	7,044	7,185	7,322	7,465	7,610	75.8	75.7	75.6	75.5	75.4
25 to 54	5,153	5,321	5,482	5,647	5,805	89.9	90.0	90.0	90.1	90.2
25 to 34	2,373	2,440	2,496	2,543	2,577	90.9	91.0	91.0	91.1	91.2
35 to 44	1,643	1,715	1,789	1,872	1,963	91.5	91.6	91.7	91.8	91.9
45 to 54	1,137	1,166	1,197	1,232	1,265	85.7	85.7	85.7	85.9	85.9
55 and over	840	838	841	839	836	38.7	37.9	37.3	36.7	35.9
55 to 64	667	666	669	669	667	62.0	61.3	60.8	60.2	59.6
65 and over	173	172	172	170	169	15.8	15.3	14.9	14.4	14.0
Women, 16 and over	7,533	7,771	7,995	8,219	8,428	59.0	59.6	60.1	60.6	61.1
16 to 24	1,585	1,590	1,592	1,595	1,594	55.0	55.1	55.3	55.7	56.1
16 to 19	505	520	534	543	542	40.9	41.2	41.8	42.4	42.9
20 to 24	1,080	1,070	1,058	1,052	1,052	65.6	65.9	66.2	66.5	66.8
20 and over	7,028	7,251	7,461	7,676	7,886	60.9	61.5	62.0	62.5	62.9
25 to 54	5,239	5,462	5,674	5,886	6,090	74.0	74.9	75.7	76.4	77.0
25 to 34	2,514	2,605	2,686	2,756	2,811	78.7	79.7	80.6	81.5	82.3
35 to 44	1,735	1,832	1,928	2,034	2,143	75.3	76.2	77.1	77.8	78.5
45 to 54	990	10,250	1,060	1,096	1,136	62.9	63.3	63.8	64.1	64.5
55 and over	709	719	729	738	744	25.2	25.1	24.8	24.6	24.4
55 to 64	563	569	576	583	587	43.8	43.9	43.8	43.8	43.8
65 and over	146	150	153	155	157	9.5	9.5	9.4	9.3	9.2

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Middle growth path—Continued										
Total, 16 and over	123,532	124,483	125,387	126,423	127,542	68.1	68.2	68.3	68.4	68.6
16 to 24	22,380	22,135	21,983	21,899	21,846	75.7	75.9	76.1	76.4	76.5
20 and over	115,430	116,504	117,338	118,210	119,139	68.4	68.5	68.6	68.7	68.8
25 to 54	87,113	88,389	89,477	90,603	91,779	84.9	85.1	85.2	85.3	85.5
55 and over	14,039	13,959	13,927	13,921	13,917	28.6	28.3	28.1	27.9	27.8
Men, 16 and over	66,244	66,551	66,875	67,223	67,611	77.2	77.1	77.0	76.9	76.8
16 to 24	11,119	10,951	10,839	10,731	10,641	76.8	76.7	76.6	76.4	76.1
16 to 19	4,041	3,963	3,988	4,059	4,144	64.4	64.3	64.5	64.7	64.7
16 and 17	1,746	1,762	1,777	1,829	1,901	54.8	55.1	55.3	55.6	55.8
18 and 19	2,295	2,201	2,211	2,230	2,243	74.2	74.2	74.4	74.7	74.9
20 to 24	7,078	6,988	6,851	6,672	6,497	86.3	86.2	86.1	85.9	85.7
20 and over	62,203	62,588	62,887	63,164	63,467	78.2	78.1	78.0	77.8	77.8
25 to 54	46,762	47,306	47,780	48,259	48,758	93.7	93.6	93.5	93.5	93.4
25 to 34	18,262	17,958	17,616	17,302	17,029	94.2	94.1	94.1	94.0	94.0
25 to 29	8,651	8,372	8,087	7,848	7,727	93.3	93.2	93.1	93.0	92.9
30 to 34	9,611	9,586	9,529	9,454	9,302	95.0	95.0	94.9	94.9	94.9
35 to 44	17,245	17,413	17,712	18,005	18,297	95.2	95.2	95.1	95.1	95.1
35 to 39	8,904	9,099	9,257	9,365	9,434	95.0	95.0	94.9	94.8	94.8
40 to 44	8,341	8,314	8,455	8,640	8,863	95.4	95.4	95.4	95.4	95.5
45 to 54	11,255	11,935	12,452	12,952	13,432	90.7	90.7	90.7	90.6	90.6
45 to 49	6,268	6,769	6,983	7,266	7,563	92.2	92.1	92.1	92.0	91.9
50 to 54	4,987	5,166	5,469	5,686	5,869	89.0	88.9	88.9	88.9	88.9
55 and over	8,363	8,294	8,256	8,233	8,212	39.0	38.5	38.2	37.9	37.6
55 to 64	6,553	6,504	6,482	6,482	6,479	67.1	66.9	66.7	66.6	66.5
55 to 59	3,894	3,895	3,925	3,975	4,025	78.4	78.2	78.0	77.8	77.6
60 to 64	2,659	2,609	2,557	2,507	2,454	55.5	55.0	54.6	54.3	53.9
65 and over	1,810	1,790	1,774	1,751	1,733	15.5	15.2	14.9	14.6	14.3
65 to 69	1,000	973	953	930	913	22.7	22.3	21.9	21.5	21.1
70 to 74	535	543	547	547	543	16.4	16.1	16.0	15.8	15.6
75 and over	275	274	274	274	277	6.8	6.7	6.6	6.5	6.4
Women, 16 and over	57,288	57,932	58,512	59,200	59,931	60.0	60.3	60.5	60.8	61.2
16 to 24	11,261	11,184	11,144	11,168	11,205	74.6	75.2	75.6	76.3	77.0
16 to 19	4,061	4,016	4,061	4,154	4,259	64.2	64.7	65.4	65.9	66.3
16 and 17	1,709	1,739	1,763	1,826	1,908	55.4	56.1	56.8	57.4	58.0
18 and 19	2,352	2,277	2,298	2,328	2,351	72.6	73.2	73.9	74.5	75.1
20 to 24	7,200	7,168	7,083	7,014	6,946	82.1	82.6	83.0	84.2	85.3
20 and over	53,227	53,916	54,451	55,046	55,672	59.7	60.0	60.2	60.5	60.8
25 to 54	40,351	41,083	41,697	42,344	43,021	76.5	76.9	77.3	77.6	78.0
25 to 34	16,566	16,441	16,244	16,085	15,971	81.4	82.1	82.5	83.1	83.7
25 to 29	8,346	8,174	7,972	7,833	7,792	85.6	86.4	87.0	87.8	88.6
30 to 34	8,220	8,267	8,272	8,252	8,179	77.6	78.2	78.7	79.1	79.6
35 to 44	15,239	15,534	15,909	16,281	16,651	79.4	80.1	80.6	81.2	81.7
35 to 39	8,029	8,291	8,502	8,675	8,812	80.7	81.5	82.0	82.6	83.2
40 to 44	7,210	7,243	7,407	7,606	7,839	78.0	78.6	79.1	79.6	80.0
45 to 54	8,546	9,108	9,544	9,978	10,399	64.7	65.2	65.6	65.9	66.2
45 to 49	4,903	5,321	5,525	5,785	6,059	68.1	68.6	69.1	69.5	69.9
50 to 54	3,643	3,787	4,019	4,193	4,340	60.7	61.0	61.2	61.5	61.7
55 and over	5,676	5,665	5,671	5,688	5,705	20.5	20.4	20.3	20.2	20.2
55 to 64	4,452	4,445	4,455	4,480	4,502	41.8	41.9	42.0	42.2	42.3
55 to 59	2,650	2,668	2,701	2,750	2,799	49.8	49.8	49.9	50.0	50.0
60 to 64	1,802	1,777	1,754	1,730	1,703	33.8	33.8	33.8	33.8	33.8
65 and over	1,224	1,220	1,216	1,208	1,203	7.2	7.1	7.0	6.9	6.8
65 to 69	767	757	749	738	731	14.0	14.0	13.9	13.8	13.8
70 to 74	292	297	300	301	300	6.5	6.5	6.4	6.4	6.4
75 and over	165	166	167	169	172	2.3	2.3	2.3	2.3	2.3
White										
Total, 16 and over	106,679	107,304	107,907	108,561	109,292	68.5	68.6	68.7	68.7	68.8
Men, 16 and over	58,023	58,197	58,392	58,614	58,871	78.1	78.0	77.9	77.8	77.7

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Middle growth path—Continued										
16 to 24	9,688	9,529	9,421	9,323	9,242	81.2	81.2	81.3	81.1	80.9
16 to 19	3,588	3,524	3,555	3,628	3,715	70.6	70.6	71.0	71.2	71.3
20 to 24	6,100	6,005	5,866	5,695	5,527	89.1	89.1	89.1	89.1	89.0
20 and over	54,435	54,673	54,837	54,986	55,156	78.6	78.5	78.4	78.3	78.2
25 to 54	40,806	41,208	41,551	41,896	42,256	94.2	94.1	94.0	94.0	93.9
25 to 34	15,666	15,360	15,022	14,712	14,437	94.7	94.6	94.6	94.5	94.4
35 to 44	15,182	15,268	15,492	15,713	15,937	95.7	95.6	95.6	95.6	95.5
45 to 54	9,958	10,580	11,037	11,471	11,882	91.4	91.4	91.3	91.2	91.2
55 and over	7,529	7,460	7,420	7,395	7,373	39.4	39.0	38.6	38.4	38.1
55 to 64	5,887	5,836	5,812	5,808	5,804	68.2	68.0	67.9	67.8	67.8
65 and over	1,642	1,624	1,608	1,587	1,569	15.7	15.4	15.1	14.8	14.5
Women, 16 and over	48,656	49,107	49,515	49,947	50,421	59.7	60.0	60.3	60.5	60.7
16 to 24	9,660	9,573	9,527	9,484	9,453	78.8	79.4	79.9	80.3	80.6
16 to 19	3,527	3,485	3,531	3,617	3,714	69.4	69.9	70.6	71.2	71.6
20 to 24	6,133	6,088	5,996	5,867	5,739	85.4	86.1	86.7	87.2	87.8
20 and over	45,129	45,622	45,984	46,330	46,707	59.1	59.4	59.6	59.8	60.0
25 to 54	34,070	34,629	35,086	35,554	36,052	76.3	76.8	77.1	77.4	77.8
25 to 34	13,718	13,578	13,373	13,188	13,044	81.1	81.7	82.2	82.7	83.2
35 to 44	12,978	13,177	13,465	13,753	14,046	79.5	80.2	80.8	81.3	81.9
45 to 54	7,374	7,874	8,248	8,613	8,962	64.7	65.2	65.6	65.9	66.3
55 and over	4,926	4,905	4,902	4,909	4,916	20.1	19.9	19.8	19.8	19.7
55 to 64	3,861	3,846	3,848	3,864	3,879	41.5	41.6	41.7	41.9	42.1
65 and over	1,065	1,059	1,054	1,045	1,037	7.0	6.9	6.8	6.7	6.6
Black and other										
Total, 16 and over	16,853	17,179	17,480	17,862	18,250	66.0	66.2	66.3	66.6	67.0
Men, 16 and over	8,221	8,354	8,483	8,609	8,740	71.5	71.5	71.5	71.4	71.3
16 to 24	1,431	1,422	1,418	1,408	1,399	56.3	56.0	55.7	55.2	54.5
16 to 19	453	439	433	431	429	38.0	37.3	36.9	36.6	35.9
20 to 24	978	983	985	977	970	72.6	72.1	71.6	71.2	70.8
20 and over	7,768	7,915	8,050	8,178	8,311	75.4	75.3	75.2	75.1	75.1
25 to 54	5,956	6,098	6,229	6,363	6,502	90.3	90.3	90.4	90.4	90.5
25 to 34	2,596	2,598	2,594	2,590	2,592	91.2	91.4	91.4	91.5	91.5
35 to 44	2,063	2,145	2,220	2,292	2,360	92.0	92.1	92.1	92.2	92.3
45 to 54	1,297	1,355	1,415	1,481	1,550	86.0	85.9	86.0	86.0	86.1
55 and over	834	834	836	838	839	35.3	34.8	34.4	33.9	33.5
55 to 64	666	668	670	674	675	59.0	58.6	58.1	57.7	57.4
65 and over	168	166	166	164	164	13.6	13.2	13.0	12.6	12.3
Women, 16 and over	8,632	8,825	8,997	9,253	9,510	61.5	61.8	62.0	62.8	63.5
16 to 24	1,601	1,611	1,617	1,684	1,752	56.5	56.9	57.1	59.5	61.8
16 to 19	534	531	530	537	545	43.1	43.4	43.6	43.9	44.1
20 to 24	1,067	1,080	1,087	1,147	1,207	66.9	67.2	67.3	71.4	75.4
20 and over	8,098	8,294	8,467	8,716	8,965	63.3	63.5	63.7	64.5	65.2
25 to 54	6,281	6,454	6,611	6,790	6,969	77.5	77.9	78.2	78.7	79.2
25 to 34	2,848	2,863	2,871	2,897	2,927	83.0	83.6	84.0	85.0	86.0
35 to 44	2,261	2,357	2,444	2,528	2,605	79.1	79.6	80.0	80.4	80.8
45 to 54	1,172	1,234	1,296	1,365	1,437	64.8	65.1	65.4	65.7	66.0
55 and over	750	760	769	779	789	24.1	24.0	23.9	23.7	23.6
55 to 64	591	599	607	616	623	43.7	43.8	43.7	43.8	43.9
65 and over	159	161	162	163	166	9.1	9.0	8.8	8.7	8.6

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
Middle growth path—Continued										
Total, 16 and over	128,834	130,031	131,345	132,741	134,155	68.7	68.8	68.9	69.0	69.1
16 to 24	21,823	22,176	22,786	23,536	24,276	76.6	76.8	77.2	77.6	78.1
20 and over	120,097	120,896	121,798	122,820	123,946	68.9	69.0	69.1	69.2	69.3
25 to 54	92,927	93,626	93,914	94,240	94,634	85.7	85.8	85.9	86.1	86.2
55 and over	14,084	14,229	14,645	14,965	15,245	27.8	27.9	28.2	28.5	28.7
Men, 16 and over	68,125	68,544	69,064	69,629	70,214	76.7	76.6	76.5	76.5	76.4
16 to 24	10,567	10,687	10,938	11,257	11,569	75.7	75.5	75.4	75.5	75.6
16 to 19	4,301	4,492	4,691	4,873	5,011	64.9	65.1	65.3	65.6	65.8
16 and 17	1,992	2,089	2,168	2,222	2,256	56.1	56.3	56.4	56.6	56.6
18 and 19	2,309	2,403	2,523	2,651	2,755	75.1	75.3	75.5	75.8	75.9
20 to 24	6,266	6,195	6,247	6,384	6,558	85.6	85.4	85.4	85.4	85.4
20 and over	63,824	64,052	64,373	64,756	65,203	77.7	77.6	77.5	77.4	77.4
25 to 54	49,234	49,487	49,518	49,587	49,705	93.4	93.3	93.2	93.2	93.1
25 to 34	16,766	16,400	15,988	15,574	15,279	93.9	93.8	93.8	93.7	93.7
25 to 29	7,739	7,651	7,522	7,343	7,164	92.9	92.8	92.7	92.6	92.6
30 to 34	9,027	8,749	8,466	8,231	8,115	94.8	94.8	94.8	94.7	94.7
35 to 44	18,554	18,727	18,834	18,873	18,797	95.1	95.1	95.1	95.1	95.1
35 to 39	9,514	9,486	9,431	9,356	9,206	94.8	94.7	94.7	94.6	94.6
40 to 44	9,040	9,241	9,403	9,517	9,591	95.5	95.5	95.5	95.5	95.5
45 to 54	13,914	14,360	14,696	15,140	15,629	90.5	90.4	90.4	90.4	90.3
45 to 49	7,939	7,907	8,035	8,205	8,410	91.9	91.8	91.8	91.7	91.7
50 to 54	5,975	6,453	6,661	6,935	7,219	88.8	88.8	88.8	88.8	88.8
55 and over	8,324	8,370	8,608	8,785	8,940	37.6	37.6	38.0	38.3	38.5
55 to 64	6,617	6,688	6,952	7,154	7,328	66.5	66.5	66.6	66.6	66.6
55 to 59	4,184	4,260	4,508	4,681	4,824	77.2	77.3	77.2	77.1	77.0
60 to 64	2,433	2,428	2,444	2,473	2,504	53.6	53.4	53.2	53.0	52.8
65 and over	1,707	1,682	1,656	1,631	1,612	14.0	13.8	13.6	13.4	13.2
65 to 69	891	870	848	828	811	20.8	20.5	20.2	20.0	19.9
70 to 74	538	530	525	518	514	15.4	15.3	15.2	15.1	15.0
75 and over	278	282	283	285	287	6.3	6.3	6.2	6.2	6.1
Women, 16 and over	60,709	61,487	62,281	63,112	63,941	61.5	61.8	62.0	62.3	62.6
16 to 24	11,256	11,489	11,848	12,279	12,707	77.5	78.1	78.9	79.7	80.5
16 to 19	4,436	4,643	4,856	5,048	5,198	66.8	67.3	67.7	68.2	68.5
16 and 17	2,008	2,115	2,203	2,263	2,304	58.5	59.0	59.4	59.7	59.9
18 and 19	2,428	2,528	2,653	2,785	2,894	75.7	76.1	76.6	77.0	77.3
20 to 24	6,820	6,846	6,992	7,231	7,509	86.5	87.8	89.1	90.3	91.5
20 and over	56,273	56,844	57,425	58,064	58,743	61.1	61.4	61.6	61.9	62.1
25 to 54	43,693	44,139	44,396	44,653	44,929	78.4	78.7	79.1	79.3	79.6
25 to 34	15,872	15,677	15,428	15,168	14,992	84.5	85.2	85.8	86.5	87.1
25 to 29	7,875	7,869	7,819	7,714	7,604	89.5	90.4	91.2	92.1	93.0
30 to 34	7,997	7,808	7,609	7,454	7,388	80.0	80.5	80.9	81.4	81.9
35 to 44	16,997	17,276	17,490	17,639	17,693	82.2	82.7	83.2	83.7	84.2
35 to 39	8,952	9,001	9,017	9,007	8,938	83.8	84.4	85.0	85.6	86.2
40 to 44	8,045	8,275	8,473	8,632	8,755	80.5	81.0	81.4	81.9	82.4
45 to 54	10,824	11,186	11,478	11,846	12,244	66.6	66.7	66.9	67.0	67.1
45 to 49	6,395	6,405	6,536	6,692	6,872	70.3	70.6	70.9	71.1	71.3
50 to 54	4,429	4,781	4,942	5,154	5,372	61.9	62.0	62.2	62.3	62.4
55 and over	5,760	5,859	6,037	6,180	6,305	20.2	20.4	20.7	20.9	21.1
55 to 64	4,570	4,681	4,872	5,026	5,160	42.4	42.6	42.8	42.9	43.0
55 to 59	2,870	2,972	3,144	3,269	3,374	50.1	50.1	50.1	50.2	50.2
60 to 64	1,700	1,709	1,728	1,757	1,786	33.8	33.7	33.7	33.7	33.7
65 and over	1,190	1,178	1,165	1,154	1,145	6.7	6.6	6.5	6.5	6.4
65 to 69	719	707	696	686	675	13.7	13.7	13.6	13.6	13.6
70 to 74	298	294	291	288	287	6.3	6.3	6.2	6.2	6.3
75 and over	173	177	178	180	183	2.2	2.2	2.2	2.2	2.2
White										
Total, 16 and over	110,125	110,995	111,915	112,908	113,914	68.9	69.0	69.1	69.2	69.3
Men, 16 and over	59,184	59,533	59,912	60,333	60,771	77.6	77.5	77.5	77.4	77.4

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
Middle growth path—Continued										
16 to 24	9,185	9,307	9,546	9,841	10,129	80.7	80.5	80.5	80.6	80.7
16 to 19	3,865	4,045	4,231	4,401	4,530	71.5	71.7	72.0	72.3	72.5
20 to 24	5,320	5,262	5,315	5,440	5,599	89.0	88.9	88.9	88.9	88.9
20 and over	55,319	55,488	55,681	55,932	56,241	78.1	78.0	77.9	77.8	77.8
25 to 54	42,590	42,721	42,641	42,607	42,620	93.8	93.8	93.7	93.6	93.6
25 to 34	14,165	13,803	13,400	13,002	12,713	94.4	94.3	94.2	94.2	94.2
35 to 44	16,132	16,246	16,300	16,297	16,193	95.5	95.5	95.5	95.5	95.5
45 to 54	12,293	12,672	12,941	13,308	13,714	91.2	91.0	91.0	91.0	90.9
55 and over	7,409	7,505	7,725	7,885	8,022	38.1	38.2	38.7	39.0	39.2
55 to 64	5,865	5,985	6,231	6,415	6,571	67.8	67.8	67.9	68.0	68.0
65 and over	1,544	1,520	1,494	1,470	1,451	14.3	14.0	13.8	13.6	13.5
Women, 16 and over	50,941	51,462	52,003	52,575	53,143	61.0	61.2	61.4	61.7	61.9
16 to 24	9,449	9,610	9,886	10,220	10,548	80.9	81.1	81.5	82.0	82.4
16 to 19	3,875	4,062	4,255	4,430	4,567	72.1	72.5	73.0	73.4	73.8
20 to 24	5,574	5,548	5,631	5,790	5,981	88.3	88.9	89.4	90.0	90.5
20 and over	47,066	47,400	47,748	48,145	48,576	60.2	60.4	60.6	60.8	61.0
25 to 54	36,538	36,819	36,927	37,043	37,183	78.2	78.5	78.8	79.0	79.3
25 to 34	12,907	12,685	12,417	12,143	11,947	83.9	84.5	85.1	85.6	86.2
35 to 44	14,319	14,528	14,679	14,775	14,789	82.4	82.9	83.5	84.0	84.6
45 to 54	9,312	9,606	9,831	10,125	10,447	66.6	66.7	66.9	67.0	67.1
55 and over	4,954	5,033	5,190	5,312	5,412	19.7	19.9	20.2	20.5	20.7
55 to 64	3,931	4,024	4,195	4,329	4,440	42.2	42.4	42.6	42.7	42.8
65 and over	1,023	1,009	995	983	972	6.5	6.4	6.3	6.2	6.2
Black and other										
Total, 16 and over	18,709	19,036	19,430	19,833	20,241	67.3	67.6	67.8	68.1	68.3
Men, 16 and over	8,941	9,011	9,152	9,296	9,443	71.1	71.0	70.9	70.8	70.7
16 to 24	1,382	1,380	1,392	1,416	1,440	53.8	53.1	52.7	52.6	52.5
16 to 19	436	447	460	472	481	35.6	35.4	35.3	35.3	35.3
20 to 24	946	933	932	944	959	70.3	69.9	69.7	69.5	69.4
20 and over	8,505	8,564	8,692	8,824	8,962	75.0	75.0	74.9	74.8	74.7
25 to 54	6,644	6,766	6,877	6,980	7,085	90.4	90.4	90.4	90.4	90.4
25 to 34	2,601	2,597	2,588	2,572	2,566	91.5	91.5	91.5	91.5	91.5
35 to 44	2,422	2,481	2,534	2,576	2,604	92.4	92.4	92.5	92.6	92.6
45 to 54	1,621	1,688	1,755	1,832	1,915	86.1	86.2	86.2	86.2	86.1
55 and over	915	865	883	900	918	34.5	33.2	33.2	33.2	33.1
55 to 64	752	703	721	739	757	57.9	57.1	57.0	56.9	56.8
65 and over	163	162	162	161	161	12.0	11.8	11.6	11.4	11.2
Women, 16 and over	9,768	10,025	10,278	10,537	10,798	64.1	64.7	65.3	65.8	66.4
16 to 24	1,807	1,879	1,962	2,059	2,159	63.8	65.7	67.8	69.9	72.1
16 to 19	561	581	601	618	631	44.3	44.6	44.8	45.0	45.1
20 to 24	1,246	1,298	1,361	1,441	1,528	79.4	83.5	87.6	91.6	95.7
20 and over	9,207	9,444	9,677	9,919	10,167	65.9	66.6	67.2	67.8	68.4
25 to 54	7,155	7,320	7,469	7,610	7,746	79.7	80.1	80.5	80.8	81.2
25 to 34	2,965	2,992	3,011	3,025	3,045	87.1	88.1	89.2	90.2	91.2
35 to 44	2,678	2,748	2,811	2,864	2,904	81.2	81.5	81.9	82.3	82.7
45 to 54	1,512	1,580	1,647	1,721	1,797	66.3	66.5	66.6	66.7	66.7
55 and over	806	826	847	868	893	23.6	23.7	23.7	23.8	23.9
55 to 64	639	657	677	697	720	43.9	44.0	44.1	44.2	44.3
65 and over	167	169	170	171	173	8.5	8.5	8.4	8.3	8.2

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
High growth path								
Total, 16 and over	110,926	113,544	116,090	118,252	66.1	67.0	67.8	68.4
16 to 24	25,505	25,435	25,274	25,108	72.0	73.2	74.3	75.2
20 and over	101,583	104,394	107,186	109,472	66.6	67.5	68.3	68.9
25 to 54	70,187	72,753	75,383	77,636	81.1	82.3	83.5	84.4
55 and over	15,234	15,356	15,433	15,508	33.2	33.1	32.9	32.7
Men, 16 and over	62,435	63,288	64,079	64,825	78.5	78.8	79.0	79.2
16 to 24	13,383	13,244	13,065	12,873	77.1	77.7	78.3	78.7
16 to 19	4,876	4,752	4,603	4,521	63.8	64.4	64.9	65.3
16 and 17	2,021	1,964	1,941	1,957	53.5	54.3	55.0	55.7
18 and 19	2,855	2,788	2,662	2,564	73.7	74.2	74.8	75.3
20 to 24	8,507	8,492	8,462	8,352	87.5	87.8	88.1	88.4
20 and over	57,559	58,536	59,476	60,304	80.1	80.2	80.4	80.4
25 to 54	39,726	40,649	41,577	42,473	94.6	94.8	94.9	95.0
25 to 34	17,217	17,562	17,900	18,239	95.6	95.8	95.9	96.1
25 to 29	8,902	9,083	9,217	9,310	95.0	95.2	95.3	95.4
30 to 34	8,315	8,479	8,683	8,929	96.3	96.5	96.6	96.7
35 to 44	12,651	13,237	13,807	14,353	95.8	95.9	95.9	96.0
35 to 39	7,030	7,274	7,596	7,932	96.2	96.4	96.5	96.6
40 to 44	5,621	5,963	6,211	6,421	95.2	95.3	95.3	95.4
45 to 54	9,858	9,850	9,870	9,881	91.6	91.6	91.7	91.7
45 to 49	4,944	4,997	5,079	5,160	93.4	93.4	93.5	93.5
50 to 54	4,914	4,853	4,791	4,721	89.8	89.8	89.8	89.9
55 and over	9,326	9,395	9,437	9,479	46.3	46.1	45.8	45.5
55 to 64	7,339	7,384	7,394	7,393	72.5	72.5	72.4	72.4
55 to 59	4,405	4,394	4,368	4,357	82.1	82.2	82.2	82.2
60 to 64	2,934	2,990	3,026	3,036	61.7	61.7	61.7	61.7
65 and over	1,987	2,011	2,043	2,086	19.8	19.7	19.7	19.7
65 to 69	1,139	1,147	1,165	1,194	29.6	29.6	29.6	29.6
70 to 74	562	570	577	582	19.4	19.4	19.4	19.4
75 and over	286	294	301	310	8.7	8.7	8.7	8.7
Women, 16 and over	48,491	50,256	52,011	53,427	54.9	56.3	57.7	58.7
16 to 24	12,122	12,191	12,209	12,235	67.2	68.8	70.4	71.9
16 to 19	4,467	4,398	4,301	4,259	58.0	59.2	60.1	61.0
16 and 17	1,800	1,762	1,755	1,782	48.9	49.9	51.0	52.1
18 and 19	2,667	2,636	2,546	2,477	66.4	67.5	68.5	69.6
20 to 24	7,655	7,793	7,908	7,976	74.0	75.8	77.6	79.5
20 and over	44,024	45,858	47,710	49,168	54.6	56.1	57.5	58.5
25 to 54	30,461	32,104	33,806	35,163	68.4	70.6	72.8	74.3
25 to 34	13,654	14,468	15,296	15,870	72.2	75.1	78.1	79.7
25 to 29	7,295	7,727	8,132	8,374	74.1	77.1	80.1	81.7
30 to 34	6,359	6,741	7,164	7,496	70.1	73.0	76.0	77.6
35 to 44	9,879	10,630	11,405	12,094	69.8	72.0	74.2	75.9
35 to 39	5,459	5,819	6,256	6,679	69.8	72.1	74.4	76.3
40 to 44	4,420	4,811	5,149	5,415	69.8	71.9	74.0	75.4
45 to 54	6,928	7,006	7,105	7,199	60.4	61.2	62.0	62.7
45 to 49	3,549	3,642	3,760	3,878	63.0	64.0	64.9	65.9
50 to 54	3,379	3,364	3,345	3,321	57.9	58.4	58.9	59.4
55 and over	5,908	5,961	5,996	6,029	23.0	22.9	22.8	22.6
55 to 64	4,747	4,788	4,803	4,812	42.2	42.3	42.4	42.6
55 to 59	2,871	2,860	2,839	2,829	49.0	49.2	49.3	49.5
60 to 64	1,876	1,928	1,964	1,983	34.7	35.0	35.3	35.6
65 and over	1,161	1,173	1,193	1,217	8.0	8.0	7.9	7.9
65 to 69	717	722	734	752	14.9	14.9	14.9	14.9
70 to 74	298	302	305	306	7.5	7.5	7.5	7.4
75 and over	146	149	154	159	2.6	2.6	2.6	2.6
White								
Total, 16 and over	96,985	99,039	101,015	102,667	66.2	67.1	67.8	68.4
Men, 16 and over	55,288	55,915	56,483	57,014	79.1	79.3	79.5	79.6

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
High growth path—Continued								
16 to 24	11,669	11,501	11,300	11,090	79.0	79.6	80.1	80.4
16 to 19	4,286	4,157	4,006	3,920	66.8	67.4	67.8	68.2
20 to 24	7,383	7,344	7,294	7,170	88.3	88.6	88.9	89.1
20 and over	51,002	51,758	52,477	53,094	80.4	80.5	80.5	80.6
25 to 54	35,161	35,905	36,651	37,370	95.2	95.3	95.4	95.5
25 to 34	15,111	15,364	15,615	15,870	96.2	96.3	96.4	96.5
35 to 44	11,283	11,800	12,293	12,759	96.3	96.4	96.4	96.4
45 to 54	8,767	8,741	8,743	8,741	92.2	92.2	92.3	92.3
55 and over	8,458	8,509	8,532	8,554	46.6	46.4	46.1	45.8
55 to 64	6,662	6,691	6,687	6,673	73.1	73.0	72.9	72.9
65 and over	1,796	1,818	1,845	1,881	19.9	19.8	19.7	19.7
Women, 16 and over	41,697	43,124	44,532	45,653	54.5	55.8	57.2	58.2
16 to 24	10,493	10,515	10,494	10,472	69.5	71.1	72.7	74.2
16 to 19	3,930	3,853	3,751	3,702	61.4	62.5	63.5	64.4
20 to 24	6,563	6,662	6,743	6,770	75.4	77.2	79.1	80.9
20 and over	37,767	39,271	40,781	41,951	53.8	55.3	56.7	57.7
25 to 54	25,966	27,335	28,745	29,872	67.8	70.1	72.3	73.8
25 to 34	11,481	12,147	12,826	13,297	71.5	74.5	77.5	79.2
35 to 44	8,479	9,126	9,782	10,364	69.2	71.5	73.7	75.4
45 to 54	6,006	6,062	6,137	6,211	60.2	61.0	61.7	62.5
55 and over	5,238	5,274	5,293	5,309	22.6	22.5	22.4	22.2
55 to 64	4,213	4,239	4,241	4,239	41.9	42.0	42.1	42.3
65 and over	1,025	1,035	1,052	1,070	7.8	7.8	7.7	7.7
Black and other								
Total, 16 and over	13,941	14,505	15,075	15,585	65.2	66.4	67.6	68.5
Men, 16 and over	7,147	7,373	7,596	7,811	74.1	74.9	75.6	76.2
16 to 24	1,714	1,743	1,765	1,783	66.1	67.3	68.5	69.4
16 to 19	590	595	597	601	47.9	49.2	50.5	51.4
20 to 24	1,124	1,148	1,168	1,182	82.5	83.1	83.8	84.5
20 and over	6,557	6,778	6,999	7,210	78.0	78.5	78.9	79.3
25 to 54	4,565	4,744	4,926	5,103	90.5	91.0	91.4	91.8
25 to 34	2,106	2,198	2,285	2,369	91.9	92.4	92.8	93.3
35 to 44	1,368	1,437	1,514	1,594	91.8	92.2	92.5	92.9
45 to 54	1,091	1,109	1,127	1,140	86.5	86.8	87.2	87.6
55 and over	868	886	905	925	43.4	43.4	43.5	43.4
55 to 64	677	693	707	720	67.2	67.3	67.5	67.9
65 and over	191	193	198	205	19.2	19.1	19.1	19.1
Women, 16 and over	6,794	7,132	7,479	7,774	57.8	59.4	61.0	62.2
16 to 24	1,629	1,676	1,715	1,763	55.5	57.3	59.0	60.9
16 to 19	537	545	550	557	41.4	42.8	44.0	45.1
20 to 24	1,092	1,131	1,165	1,206	66.6	68.4	70.3	72.7
20 and over	6,257	6,587	6,929	7,217	59.9	61.4	63.0	64.0
25 to 54	4,495	4,769	5,061	5,291	71.9	73.9	76.0	77.1
25 to 34	2,173	2,321	2,470	2,573	76.2	78.7	81.4	82.5
35 to 44	1,400	1,504	1,623	1,730	73.3	75.2	77.3	78.6
45 to 54	922	944	968	988	62.0	62.7	63.4	64.1
55 and over	670	687	703	720	26.2	26.2	26.2	26.2
55 to 64	534	549	562	573	44.6	44.8	45.0	45.3
65 and over	136	138	141	147	10.0	9.9	9.8	9.9

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
High growth path—Continued										
Total, 16 and over	120,449	122,631	124,603	126,453	128,123	69.0	69.5	70.1	70.6	71.1
16 to 24	24,887	24,757	24,503	24,195	23,916	76.0	76.7	77.6	78.7	79.7
20 and over	111,608	113,608	115,493	117,385	119,271	69.4	70.0	70.5	71.0	71.4
25 to 54	80,035	82,379	84,638	86,859	88,873	85.2	85.9	86.6	87.2	87.8
55 and over	15,527	15,495	15,462	15,399	15,334	32.5	32.2	31.9	31.7	31.4
Men, 16 and over	65,583	66,344	67,012	67,632	68,174	79.3	79.4	79.6	79.8	79.9
16 to 24	12,654	12,496	12,276	12,042	11,833	78.9	79.0	79.4	80.0	80.5
16 to 19	4,535	4,618	4,645	4,613	4,489	65.8	66.3	67.1	68.2	68.8
16 and 17	2,020	2,096	2,053	1,931	1,879	56.4	57.2	57.8	58.4	59.1
18 and 19	2,515	2,522	2,592	2,682	2,610	75.8	76.4	77.1	77.6	78.1
20 to 24	8,119	7,878	7,631	7,429	7,344	88.7	89.0	89.3	89.6	89.8
20 and over	61,048	61,726	62,367	63,019	63,685	80.5	80.6	80.7	80.8	80.9
25 to 54	43,441	44,384	45,298	46,196	46,988	95.1	95.2	95.3	95.4	95.5
25 to 34	18,539	18,757	18,901	18,978	18,934	96.2	96.3	96.4	96.6	96.7
25 to 29	9,411	9,403	9,364	9,309	9,173	95.5	95.6	95.8	95.9	96.0
30 to 34	9,128	9,354	9,537	9,669	9,761	96.9	97.0	97.1	97.3	97.4
35 to 44	14,902	15,416	15,805	16,313	16,873	96.1	96.2	96.2	96.3	96.4
35 to 39	8,355	8,332	8,485	8,681	8,916	96.7	96.8	96.9	97.0	97.1
40 to 44	6,547	7,084	7,320	7,632	7,957	95.4	95.5	95.5	95.6	95.6
45 to 54	10,000	10,211	10,592	10,905	11,181	91.8	91.9	92.0	92.0	92.1
45 to 49	5,295	5,489	5,819	6,056	6,256	93.6	93.6	93.6	93.7	93.7
50 to 54	4,705	4,722	4,773	4,849	4,925	89.9	90.0	90.0	90.0	90.1
55 and over	9,488	9,464	9,438	9,394	9,353	45.2	44.9	44.5	44.1	43.8
55 to 64	7,364	7,294	7,232	7,157	7,090	72.3	72.3	72.3	72.2	72.2
55 to 59	4,323	4,276	4,222	4,168	4,108	82.3	82.3	82.3	82.4	82.4
60 to 64	3,041	3,018	3,010	2,989	2,982	61.7	61.7	61.7	61.7	61.7
65 and over	2,124	2,170	2,206	2,237	2,263	19.7	19.7	19.7	19.7	19.6
65 to 69	1,221	1,256	1,280	1,295	1,299	29.6	29.6	29.6	29.6	29.6
70 to 74	587	591	596	605	621	19.4	19.4	19.4	19.4	19.4
75 and over	316	323	330	337	343	8.7	8.7	8.7	8.7	8.7
Women, 16 and over	54,866	56,287	57,591	58,821	59,949	59.7	60.7	61.5	62.4	63.2
16 to 24	12,233	12,261	12,227	12,153	12,083	73.3	74.5	75.9	77.4	78.9
16 to 19	4,306	4,405	4,465	4,455	4,363	61.9	62.8	64.1	65.5	66.5
16 and 17	1,853	1,930	1,903	1,802	1,761	53.2	54.2	55.2	56.1	57.1
18 and 19	2,453	2,475	2,562	2,653	2,602	70.7	71.7	72.9	73.9	74.8
20 to 24	7,927	7,856	7,762	7,698	7,720	59.5	60.5	61.3	62.2	63.0
20 and over	50,560	51,882	53,126	54,366	55,586	81.4	83.2	84.9	86.6	88.1
25 to 54	36,594	37,995	39,340	40,663	41,885	75.7	77.1	78.3	79.4	80.5
25 to 34	16,425	16,910	17,316	17,643	17,853	81.3	82.8	84.3	85.7	86.9
25 to 29	8,620	8,771	8,881	8,955	8,958	83.3	84.9	86.4	87.9	89.2
30 to 34	7,805	8,139	8,435	8,688	8,895	79.2	80.7	82.1	83.5	84.8
35 to 44	12,796	13,471	14,047	14,724	15,444	77.5	79.0	80.5	82.0	83.2
35 to 39	7,185	7,323	7,602	7,912	8,252	78.1	79.9	81.5	83.1	84.6
40 to 44	5,611	6,148	6,445	6,812	7,192	76.8	78.1	79.4	80.6	81.7
45 to 54	7,373	7,614	7,977	8,296	8,588	63.5	64.3	65.0	65.7	66.4
45 to 49	4,029	4,226	4,526	4,760	4,968	66.8	67.7	68.6	69.4	70.2
50 to 54	3,344	3,388	3,451	3,536	3,620	59.9	60.4	60.9	61.3	61.8
55 and over	6,039	6,031	6,024	6,005	5,981	22.5	22.3	22.1	21.9	21.7
55 to 64	4,800	4,767	4,737	4,700	4,662	42.8	42.9	43.1	43.3	43.4
55 to 59	2,800	2,769	2,739	2,708	2,671	49.6	49.7	49.9	50.0	50.1
60 to 64	2,000	1,998	1,998	1,992	1,991	35.8	36.1	36.4	36.6	36.8
65 and over	1,239	1,264	1,287	1,305	1,319	7.9	7.9	7.9	7.9	7.9
65 to 69	767	788	803	811	813	14.9	14.9	14.9	14.9	14.9
70 to 74	309	310	313	319	327	7.5	7.4	7.5	7.5	7.5
75 and over	163	166	171	175	179	2.6	2.6	2.6	2.6	2.6
White										
Total, 16 and over	104,336	105,981	107,434	108,756	109,930	68.9	69.5	70.0	70.5	70.9
Men, 16 and over	57,551	58,081	58,529	58,918	59,245	79.7	79.7	79.9	80.0	80.1

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
High growth path—Continued										
16 to 24	10,857	10,676	10,440	10,182	9,953	80.5	80.6	80.9	81.5	81.9
16 to 19	3,922	3,974	3,973	3,913	3,775	68.5	68.9	69.7	70.7	71.1
20 to 24	6,935	6,702	6,467	6,269	6,178	89.4	89.6	89.8	90.0	90.2
20 and over	53,629	54,107	54,556	55,005	55,470	80.6	80.7	80.7	80.7	80.8
25 to 54	38,148	38,898	39,626	40,332	40,939	95.5	95.6	95.6	95.6	95.7
25 to 34	16,091	16,231	16,306	16,322	16,232	96.6	96.7	96.7	96.8	96.9
35 to 44	13,225	13,660	13,968	14,385	14,846	96.5	96.5	96.5	96.6	96.6
45 to 54	8,832	9,007	9,352	9,625	9,861	92.3	92.4	92.4	92.4	92.4
55 and over	8,546	8,507	8,463	8,404	8,353	45.4	45.0	44.7	44.2	43.9
55 to 64	6,632	6,553	6,479	6,394	6,320	72.8	72.8	72.7	72.7	72.7
65 and over	1,914	1,954	1,984	2,010	2,033	19.7	19.8	19.7	19.7	19.7
Women, 16 and over	46,785	47,900	48,905	49,838	50,685	59.1	60.1	60.9	61.8	62.5
16 to 24	10,424	10,404	10,325	10,208	10,100	75.5	76.7	78.1	79.5	80.9
16 to 19	3,733	3,803	3,834	3,801	3,696	65.3	66.2	67.5	68.8	69.8
20 to 24	6,691	6,601	6,491	6,407	6,404	82.7	84.4	86.1	87.6	89.1
20 and over	43,052	44,097	45,071	46,037	46,989	58.7	59.6	60.4	61.3	62.0
25 to 54	31,056	32,212	33,318	34,402	35,391	75.3	76.7	77.9	79.1	80.2
25 to 34	13,751	14,138	14,456	14,707	14,856	80.9	82.5	84.0	85.4	86.8
35 to 44	10,954	11,522	11,988	12,546	13,142	77.1	78.7	80.3	81.7	83.1
45 to 54	6,351	6,552	6,874	7,149	7,393	63.3	64.0	64.8	65.5	66.2
55 and over	5,305	5,284	5,262	5,228	5,194	22.1	21.9	21.7	21.5	21.2
55 to 64	4,217	4,175	4,135	4,088	4,043	42.4	42.6	42.7	42.9	43.0
65 and over	1,088	1,109	1,127	1,140	1,151	7.7	7.7	7.7	7.7	7.6
Black and other										
Total, 16 and over	16,113	16,650	17,169	17,697	18,193	69.3	70.1	70.9	71.7	72.5
Men, 16 and over	8,032	8,263	8,483	8,714	8,929	76.8	77.3	77.8	78.4	79.0
16 to 24	1,797	1,820	1,836	1,860	1,880	70.2	70.8	71.6	72.8	74.0
16 to 19	613	644	672	700	714	52.4	53.6	55.0	57.1	58.8
20 to 24	1,184	1,176	1,164	1,160	1,166	85.2	85.9	86.5	87.2	87.9
20 and over	7,419	7,619	7,811	8,014	8,215	79.8	80.3	80.6	81.1	81.4
25 to 54	5,293	5,486	5,672	5,864	6,049	92.3	92.7	93.2	93.6	94.0
25 to 34	2,448	2,526	2,595	2,656	2,702	93.8	94.2	94.6	95.2	95.6
35 to 44	1,677	1,756	1,837	1,928	2,027	93.4	93.8	94.2	94.5	94.9
45 to 54	1,168	1,204	1,240	1,280	1,320	88.1	88.5	88.8	89.3	89.6
55 and over	942	957	975	990	1,000	43.4	43.3	43.3	43.3	43.0
55 to 64	732	741	753	763	770	68.0	68.2	68.5	68.7	68.8
65 and over	210	216	222	227	230	19.1	19.2	19.2	19.3	19.1
Women, 16 and over	8,081	8,387	8,686	8,983	9,264	63.3	64.3	65.3	66.2	67.1
16 to 24	1,809	1,857	1,902	1,945	1,983	62.8	64.3	66.1	67.9	69.8
16 to 19	573	602	631	654	667	46.4	47.7	49.3	51.1	52.8
20 to 24	1,236	1,255	1,271	1,291	1,316	75.0	77.3	79.5	81.6	83.5
20 and over	7,508	7,785	8,055	8,329	8,597	65.1	66.1	67.0	67.8	68.6
25 to 54	5,538	5,783	6,022	6,261	6,494	78.3	79.3	80.3	81.3	82.1
25 to 34	2,674	2,772	2,860	2,936	2,997	83.7	84.8	85.8	86.8	87.8
35 to 44	1,842	1,949	2,059	2,178	2,302	79.9	81.1	82.3	83.4	84.3
45 to 54	1,022	1,062	1,103	1,147	1,195	64.9	65.6	66.4	67.1	67.8
55 and over	734	747	762	777	787	26.1	26.0	26.0	26.0	25.8
55 to 64	583	592	602	612	619	45.4	45.6	45.8	46.0	46.2
65 and over	151	155	160	165	168	9.9	9.9	9.9	9.9	9.8

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
High growth path—Continued										
Total, 16 and over	129,726	131,092	132,391	133,438	134,753	71.5	71.9	72.1	72.2	72.4
16 to 24	23,768	23,589	23,509	23,331	23,375	80.4	80.9	81.4	81.3	81.9
20 and over	121,146	122,596	123,779	124,610	125,674	71.8	72.1	72.3	72.4	72.6
25 to 54	90,643	92,181	93,520	94,674	95,884	88.3	88.7	89.0	89.2	89.3
55 and over	15,315	15,322	15,362	15,433	15,494	31.2	31.1	31.0	30.9	30.9
Men, 16 and over	68,736	69,238	69,739	70,270	70,835	80.1	80.2	80.3	80.4	80.5
16 to 24	11,724	11,609	11,548	11,495	11,463	81.0	81.4	81.7	81.8	82.0
16 to 19	4,335	4,281	4,331	4,432	4,553	69.1	69.4	70.1	70.6	71.1
16 and 17	1,907	1,939	1,968	2,040	2,137	59.9	60.6	61.3	62.0	62.7
18 and 19	2,428	2,342	2,363	2,392	2,416	78.5	79.0	79.6	80.1	80.6
20 to 24	7,389	7,328	7,217	7,063	6,910	90.1	90.4	90.7	90.9	91.2
20 and over	64,401	64,957	65,408	65,838	66,282	81.0	81.0	81.1	81.1	81.2
25 to 54	47,676	48,295	48,838	49,384	49,950	95.5	95.6	95.6	95.7	95.7
25 to 34	18,777	18,501	18,184	17,894	17,645	96.9	97.0	97.1	97.3	97.4
25 to 29	8,912	8,644	8,368	8,139	8,031	96.1	96.2	96.3	96.5	96.6
30 to 34	9,865	9,857	9,816	9,755	9,614	97.5	97.7	97.8	97.9	98.0
35 to 44	17,468	17,658	17,981	18,293	18,604	96.4	96.5	96.6	96.6	96.7
35 to 39	9,105	9,320	9,498	9,623	9,708	97.2	97.3	97.4	97.4	97.5
40 to 44	8,363	8,338	8,483	8,670	8,896	95.6	95.7	95.7	95.8	95.8
45 to 54	11,431	12,136	12,673	13,197	13,701	92.2	92.2	92.3	92.3	92.4
45 to 49	6,378	6,896	7,122	7,420	7,733	93.8	93.8	93.9	93.9	94.0
50 to 54	5,053	5,240	5,551	5,777	5,968	90.2	90.2	90.3	90.3	90.4
55 and over	9,336	9,334	9,353	9,391	9,422	43.5	43.3	43.2	43.2	43.1
55 to 64	7,050	7,034	7,040	7,071	7,092	72.2	72.4	72.5	72.7	72.8
55 to 59	4,094	4,110	4,155	4,223	4,288	82.4	82.5	82.6	82.6	82.7
60 to 64	2,956	2,924	2,885	2,848	2,804	61.7	61.7	61.6	61.6	61.6
65 and over	2,286	2,300	2,313	2,320	2,330	19.6	19.5	19.4	19.3	19.2
65 to 69	1,302	1,292	1,289	1,281	1,279	29.6	29.6	29.6	29.6	29.6
70 to 74	635	654	665	673	677	19.4	19.4	19.4	19.4	19.4
75 and over	349	354	359	366	374	8.7	8.7	8.7	8.7	8.7
Women, 16 and over	60,990	61,854	62,652	63,168	63,918	63.9	64.4	64.8	64.9	65.2
16 to 24	12,044	11,980	11,961	11,836	11,912	79.8	80.5	81.1	80.9	81.8
16 to 19	4,245	4,215	4,281	4,396	4,526	67.1	67.9	68.9	69.7	70.5
16 and 17	1,794	1,833	1,868	1,944	2,042	58.2	59.2	60.2	61.1	62.0
18 and 19	2,451	2,382	2,413	2,452	2,484	75.7	76.6	77.6	78.5	79.4
20 to 24	7,799	7,765	7,680	7,440	7,386	88.9	89.5	90.0	89.3	90.7
20 and over	56,745	57,639	58,371	58,772	59,392	63.6	64.1	64.5	64.6	64.9
25 to 54	42,967	43,886	44,682	45,290	45,934	81.5	82.2	82.8	83.0	83.3
25 to 34	17,922	17,860	17,721	17,498	17,322	88.1	89.1	90.0	90.4	90.8
25 to 29	8,824	8,667	8,481	8,293	8,211	90.5	91.6	92.5	93.0	93.4
30 to 34	9,098	9,193	9,240	9,205	9,111	85.9	87.0	87.9	88.2	88.6
35 to 44	16,207	16,588	17,060	17,422	17,781	84.4	85.5	86.5	86.9	87.2
35 to 39	8,557	8,875	9,144	9,307	9,431	86.0	87.2	88.2	88.7	89.1
40 to 44	7,650	7,713	7,916	8,115	8,350	82.8	83.7	84.5	84.9	85.2
45 to 54	8,838	9,438	9,901	10,370	10,831	67.0	67.6	68.0	68.5	69.0
45 to 49	5,105	5,551	5,771	6,053	6,352	70.9	71.6	72.2	72.8	73.3
50 to 54	3,733	3,887	4,130	4,317	4,479	62.2	62.6	62.9	63.3	63.6
55 and over	5,979	5,988	6,009	6,042	6,072	21.6	21.5	21.5	21.5	21.5
55 to 64	4,650	4,653	4,670	4,703	4,731	43.6	43.8	44.0	44.3	44.5
55 to 59	2,673	2,692	2,726	2,777	2,827	50.2	50.3	50.4	50.5	50.5
60 to 64	1,977	1,961	1,944	1,926	1,904	37.1	37.1	37.4	37.6	37.8
65 and over	1,329	1,335	1,339	1,339	1,341	7.8	7.8	7.7	7.7	7.6
65 to 69	814	808	803	795	791	14.9	14.9	14.9	14.9	14.9
70 to 74	333	342	348	352	353	7.5	7.5	7.5	7.5	7.5
75 and over	182	185	188	192	197	2.6	2.6	2.6	2.6	2.6
White										
Total, 16 and over	111,023	111,909	112,745	113,348	114,208	71.3	71.5	71.7	71.8	71.9
Men, 16 and over	59,582	59,869	60,157	60,472	60,817	80.2	80.2	80.2	80.3	80.3

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
High growth path—Continued										
16 to 24	9,814	9,669	9,572	9,488	9,421	82.2	82.4	82.6	82.6	82.5
16 to 19	3,620	3,560	3,594	3,672	3,766	71.2	71.4	71.8	72.0	72.3
20 to 24	6,194	6,109	5,978	5,816	5,655	90.4	90.6	90.8	90.9	91.1
20 and over	55,962	56,309	56,563	56,800	57,051	80.8	80.8	80.8	80.8	80.9
25 to 54	41,446	41,896	42,277	42,656	43,051	95.7	95.7	95.7	95.7	95.7
25 to 34	16,043	15,756	15,432	15,134	14,871	97.0	97.1	97.1	97.2	97.3
35 to 44	15,331	15,430	15,666	15,896	16,129	96.6	96.6	96.7	96.7	96.7
45 to 54	10,072	10,710	11,179	11,626	12,051	92.4	92.5	92.5	92.5	92.5
55 and over	8,322	8,304	8,308	8,328	8,345	43.6	43.4	43.3	43.2	43.1
55 to 64	6,272	6,244	6,239	6,256	6,269	72.7	72.8	72.9	73.1	73.2
65 and over	2,050	2,060	2,069	2,072	2,076	19.6	19.5	19.4	19.3	19.2
Women, 16 and over	51,441	52,040	52,588	52,876	53,391	63.2	63.6	64.0	64.0	64.3
16 to 24	10,011	9,900	9,835	9,675	9,710	81.6	82.2	82.5	81.9	82.8
16 to 19	3,572	3,532	3,581	3,671	3,772	70.3	70.9	71.6	72.2	72.7
20 to 24	6,439	6,368	6,254	6,004	5,938	89.7	90.1	90.4	89.3	90.8
20 and over	47,869	48,508	49,007	49,205	49,619	62.7	63.1	63.5	63.5	63.7
25 to 54	36,249	36,964	37,569	37,999	38,462	81.2	81.9	82.5	82.7	83.0
25 to 34	14,882	14,800	14,648	14,419	14,232	88.0	89.1	90.1	90.4	90.8
35 to 44	13,769	14,039	14,408	14,682	14,959	84.3	85.4	86.4	86.8	87.2
45 to 54	7,598	8,125	8,513	8,898	9,271	66.7	67.3	67.7	68.1	68.6
55 and over	5,181	5,176	5,184	5,202	5,219	21.1	21.0	21.0	20.9	20.9
55 to 64	4,024	4,016	4,023	4,044	4,063	43.2	43.4	43.6	43.9	44.1
65 and over	1,157	1,160	1,161	1,158	1,156	7.6	7.5	7.5	7.4	7.3
Black and other										
Total, 16 and over	18,703	19,183	19,646	20,090	20,545	73.2	73.9	74.5	75.0	75.4
Men, 16 and over	9,154	9,369	9,582	9,798	10,018	79.6	80.2	80.7	81.2	81.7
16 to 24	1,910	1,940	1,976	2,007	2,042	75.2	76.4	77.6	78.6	79.6
16 to 19	715	721	737	760	787	60.0	61.3	62.9	64.5	65.9
20 to 24	1,195	1,219	1,239	1,247	1,255	88.6	89.4	90.0	90.8	91.5
20 and over	8,439	8,648	8,845	9,038	9,231	81.9	82.3	82.7	83.0	83.4
25 to 54	6,230	6,399	6,561	6,728	6,899	94.4	94.8	95.2	95.6	96.0
25 to 34	2,734	2,745	2,752	2,760	2,774	96.1	96.5	97.0	97.5	98.0
35 to 44	2,137	2,228	2,315	2,397	2,475	95.3	95.7	96.1	96.4	96.8
45 to 54	1,359	1,426	1,494	1,571	1,650	90.1	90.4	90.8	91.2	91.7
55 and over	1,014	1,030	1,045	1,063	1,077	42.9	43.0	43.0	43.0	42.9
55 to 64	778	790	801	815	823	69.0	69.3	69.5	69.8	70.0
65 and over	236	240	244	248	254	19.1	19.1	19.1	19.0	19.1
Women, 16 and over	9,549	9,814	10,064	10,292	10,527	68.0	68.7	69.4	69.8	70.3
16 to 24	2,033	2,080	2,126	2,161	2,202	71.7	73.5	75.1	76.4	77.6
16 to 19	673	683	700	725	754	54.3	55.8	57.6	59.3	61.0
20 to 24	1,360	1,397	1,426	1,436	1,448	85.3	86.9	88.3	89.4	90.5
20 and over	8,876	9,131	9,364	9,567	9,773	69.3	70.0	70.5	70.8	71.1
25 to 54	6,718	6,922	7,113	7,291	7,472	82.9	83.6	84.2	84.5	84.9
25 to 34	3,040	3,060	3,073	3,079	3,090	88.6	89.3	89.9	90.4	90.8
35 to 44	2,438	2,549	2,652	2,740	2,822	85.3	86.1	86.8	87.2	87.5
45 to 54	1,240	1,313	1,388	1,472	1,560	68.5	69.3	70.1	70.9	71.6
55 and over	798	812	825	840	853	25.7	25.7	25.6	25.6	25.5
55 to 64	626	637	647	659	668	46.3	46.5	46.6	46.8	47.0
65 and over	172	175	178	181	185	9.8	9.7	9.7	9.7	9.6

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
High growth path—Continued										
Total, 16 and over	136,157	137,436	138,863	140,388	141,933	72.6	72.7	72.8	73.0	73.1
16 to 24	23,350	23,724	24,367	25,156	25,931	82.0	82.2	82.5	83.0	83.4
20 and over	126,675	127,477	128,411	129,481	130,658	72.7	72.8	72.8	72.9	73.1
25 to 54	97,060	97,771	98,064	98,413	98,848	89.5	89.6	89.7	89.9	90.0
55 and over	15,747	15,941	16,432	16,819	17,154	31.1	31.2	31.7	32.0	32.3
Men, 16 and over	71,537	72,109	72,798	73,531	74,277	80.6	80.6	80.7	80.7	80.8
16 to 24	11,443	11,628	11,948	12,338	12,723	82.0	82.1	82.4	82.8	83.2
16 to 19	4,749	4,985	5,229	5,453	5,634	71.7	72.2	72.8	73.4	74.0
16 and 17	2,252	2,377	2,484	2,562	2,621	63.4	64.0	64.7	65.2	65.8
18 and 19	2,497	2,608	2,745	2,891	3,013	81.2	81.7	82.2	82.6	83.0
20 to 24	6,694	6,643	6,719	6,885	7,089	91.4	91.6	91.8	92.1	92.3
20 and over	66,788	67,124	67,569	68,078	68,643	81.3	81.3	81.3	81.4	81.4
25 to 54	50,491	50,800	50,876	50,994	51,159	95.8	95.8	95.8	95.8	95.8
25 to 34	17,404	17,055	16,653	16,250	15,965	97.5	97.6	97.7	97.8	97.9
25 to 29	8,058	7,984	7,863	7,692	7,517	96.7	96.8	96.9	97.0	97.2
30 to 34	9,346	9,071	8,790	8,558	8,448	98.2	98.3	98.4	98.5	98.6
35 to 44	18,880	19,071	19,192	19,246	19,182	96.8	96.8	96.9	97.0	97.0
35 to 39	9,802	9,787	9,742	9,676	9,533	97.6	97.7	97.8	97.9	98.0
40 to 44	9,078	9,284	9,450	9,570	9,649	95.9	95.9	96.0	96.0	96.1
45 to 54	14,207	14,674	15,031	15,498	16,012	92.4	92.4	92.5	92.5	92.5
45 to 49	8,126	8,104	8,244	8,425	8,643	94.0	94.1	94.1	94.2	94.2
50 to 54	6,081	6,570	6,787	7,073	7,369	90.4	90.5	90.5	90.6	90.6
55 and over	9,603	9,681	9,974	10,199	10,395	43.4	43.5	44.0	44.5	44.8
55 to 64	7,276	7,365	7,669	7,908	8,115	73.1	73.2	73.5	73.7	73.8
55 to 59	4,481	4,562	4,836	5,032	5,195	82.7	82.8	82.8	82.9	82.9
60 to 64	2,795	2,803	2,833	2,876	2,920	61.6	61.6	61.6	61.6	61.6
65 and over	2,327	2,316	2,305	2,291	2,280	19.1	19.0	18.9	18.8	18.7
65 to 69	1,269	1,254	1,238	1,222	1,206	29.6	29.6	29.5	29.5	29.6
70 to 74	677	673	671	667	666	19.4	19.4	19.4	19.4	19.4
75 and over	381	389	396	402	408	8.7	8.7	8.7	8.7	8.7
Women, 16 and over	64,620	65,327	66,065	66,857	67,656	65.4	65.6	65.8	66.0	66.2
16 to 24	11,907	12,096	12,419	12,818	13,208	82.0	82.3	82.7	83.1	83.6
16 to 19	4,733	4,974	5,223	5,454	5,641	71.3	72.0	72.8	73.6	74.3
16 and 17	2,160	2,285	2,394	2,474	2,536	63.0	63.8	64.6	65.3	66.0
18 and 19	2,573	2,689	2,829	2,980	3,105	80.2	81.0	81.7	82.4	82.9
20 to 24	7,174	7,122	7,196	7,364	7,567	91.0	91.3	91.7	91.9	92.2
20 and over	59,887	60,353	60,842	61,403	62,015	65.0	65.1	65.3	65.4	65.6
25 to 54	46,569	46,971	47,188	47,419	47,689	83.6	83.8	84.0	84.3	84.5
25 to 34	17,151	16,883	16,560	16,229	15,995	91.3	91.7	92.1	92.6	93.0
25 to 29	8,257	8,212	8,122	7,975	7,825	93.8	94.3	94.8	95.2	95.7
30 to 34	8,894	8,671	8,438	8,254	8,170	89.0	89.4	89.8	90.1	90.5
35 to 44	18,113	18,374	18,563	18,684	18,705	87.6	88.0	88.3	88.7	89.1
35 to 39	9,557	9,586	9,580	9,547	9,451	89.5	89.9	90.3	90.7	91.1
40 to 44	8,556	8,788	8,983	9,137	9,254	85.6	86.0	86.3	86.7	87.1
45 to 54	11,305	11,714	12,065	12,506	12,989	69.6	69.8	70.3	70.7	71.2
45 to 49	6,723	6,755	6,920	7,119	7,349	73.9	74.5	75.1	75.7	76.2
50 to 54	4,582	4,959	5,145	5,387	5,640	64.0	64.3	64.7	65.1	65.5
55 and over	6,144	6,260	6,458	6,620	6,759	21.6	21.8	22.1	22.4	22.6
55 to 64	4,809	4,933	5,139	5,310	5,459	44.7	44.9	45.1	45.3	45.4
55 to 59	2,900	3,005	3,182	3,311	3,419	50.6	50.7	50.8	50.8	50.9
60 to 64	1,909	1,928	1,957	1,999	2,040	37.9	38.1	38.2	38.4	38.5
65 and over	1,335	1,327	1,319	1,310	1,300	7.5	7.5	7.4	7.3	7.3
65 to 69	781	771	762	752	741	14.9	14.9	14.9	14.9	14.9
70 to 74	353	351	349	346	344	7.5	7.5	7.5	7.5	7.5
75 and over	201	205	208	212	215	2.6	2.6	2.6	2.6	2.6
White										
Total, 16 and over	115,063	115,935	116,870	117,875	118,900	72.0	72.1	72.1	72.2	72.3
Men, 16 and over	61,205	61,621	62,065	62,544	63,032	80.3	80.3	80.2	80.2	80.3

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
High growth path—Continued										
16 to 24	9,374	9,511	9,766	10,078	10,383	82.4	82.3	82.4	82.5	82.7
16 to 19	3,921	4,108	4,300	4,475	4,610	72.6	72.8	73.1	73.5	73.7
20 to 24	5,453	5,403	5,466	5,603	5,773	91.2	91.3	91.4	91.5	91.6
20 and over	57,284	57,513	57,765	58,069	58,422	80.9	80.9	80.8	80.8	80.8
25 to 54	43,412	43,562	43,490	43,465	43,484	95.7	95.6	95.6	95.5	95.5
25 to 34	14,607	14,248	13,842	13,442	13,150	97.3	97.3	97.3	97.4	97.4
35 to 44	16,332	16,452	16,509	16,508	16,404	96.7	96.7	96.7	96.7	96.7
45 to 54	12,473	12,862	13,139	13,515	13,930	92.5	92.4	92.4	92.4	92.4
55 and over	8,419	8,548	8,809	9,001	9,165	43.2	43.5	44.1	44.5	44.8
55 to 64	6,349	6,492	6,767	6,976	7,154	73.4	73.5	73.8	73.9	74.0
65 and over	2,070	2,056	2,042	2,025	2,011	19.1	19.0	18.9	18.8	18.7
Women, 16 and over	53,858	54,314	54,805	55,331	55,868	64.5	64.6	64.7	64.9	65.1
16 to 24	9,675	9,811	10,065	10,376	10,678	82.8	82.8	83.0	83.2	83.4
16 to 19	3,938	4,129	4,327	4,505	4,644	73.3	73.7	74.2	74.7	75.0
20 to 24	5,737	5,682	5,738	5,871	6,034	90.9	91.0	91.1	91.2	91.3
20 and over	49,920	50,185	50,478	50,826	51,224	63.9	64.0	64.0	64.2	64.3
25 to 54	38,912	39,141	39,204	39,284	39,406	83.3	83.4	83.6	83.8	84.0
25 to 34	14,042	13,765	13,442	13,116	12,881	91.3	91.7	92.1	92.5	92.9
35 to 44	15,215	15,402	15,527	15,593	15,573	87.6	87.9	88.3	88.7	89.0
45 to 54	9,655	9,974	10,235	10,575	10,952	69.1	69.3	69.6	70.0	70.4
55 and over	5,271	5,362	5,536	5,671	5,784	21.0	21.2	21.6	21.9	22.1
55 to 64	4,123	4,225	4,409	4,556	4,681	44.3	44.5	44.7	44.9	45.1
65 and over	1,148	1,137	1,127	1,115	1,103	7.3	7.2	7.1	7.1	7.0
Black and other										
Total, 16 and over	21,094	21,501	21,993	22,513	23,033	75.9	76.3	76.8	77.3	77.7
Men, 16 and over	10,332	10,488	10,733	10,987	11,245	82.2	82.7	83.2	83.7	84.2
16 to 24	2,069	2,117	2,182	2,260	2,340	80.5	81.5	82.7	83.9	85.3
16 to 19	828	877	929	978	1,024	67.6	69.4	71.4	73.2	75.2
20 to 24	1,241	1,240	1,253	1,282	1,316	92.3	93.0	93.6	94.4	95.2
20 and over	9,504	9,611	9,804	10,009	10,221	83.8	84.2	84.5	84.9	85.2
25 to 54	7,079	7,238	7,386	7,529	7,675	96.4	96.7	97.1	97.5	97.9
25 to 34	2,797	2,807	2,811	2,808	2,815	98.4	98.9	99.4	99.9	100.4
35 to 44	2,548	2,619	2,683	2,738	2,778	97.2	97.6	98.0	98.4	98.8
45 to 54	1,734	1,812	1,892	1,983	2,082	92.1	92.5	92.9	93.3	93.7
55 and over	1,184	1,133	1,165	1,198	1,230	44.6	43.5	43.8	44.1	44.4
55 to 64	927	873	902	932	961	71.4	70.9	71.3	71.8	72.1
65 and over	257	260	263	266	269	19.0	18.9	18.8	18.8	18.7
Women, 16 and over	10,762	11,013	11,260	11,526	11,788	70.7	71.1	71.5	72.0	72.4
16 to 24	2,232	2,285	2,354	2,442	2,530	78.8	80.0	81.3	82.9	84.5
16 to 19	795	845	896	949	997	62.8	64.8	66.8	69.1	71.3
20 to 24	1,437	1,440	1,458	1,493	1,533	91.6	92.7	93.8	94.9	96.1
20 and over	9,967	10,168	10,364	10,577	10,791	71.4	71.7	72.0	72.3	72.5
25 to 54	7,657	7,830	7,984	8,135	8,283	85.2	85.6	86.0	86.4	86.8
25 to 34	3,109	3,118	3,118	3,113	3,114	91.3	91.8	92.3	92.8	93.3
35 to 44	2,898	2,972	3,036	3,091	3,132	87.8	88.2	88.5	88.8	89.2
45 to 54	1,650	1,740	1,830	1,931	2,037	72.4	73.2	74.0	74.8	75.6
55 and over	873	898	922	949	975	25.6	25.8	25.8	26.0	26.1
55 to 64	686	708	730	754	778	47.2	47.4	47.5	47.8	47.8
65 and over	187	190	192	195	197	9.5	9.5	9.4	9.4	9.3

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
Low growth-path								
Total, 16 and over	107,722	109,149	110,456	111,706	64.2	64.4	64.5	64.6
16 to 24	24,912	24,645	24,285	23,922	70.4	70.9	71.4	71.7
20 and over	98,570	100,247	101,854	103,283	64.7	64.8	64.9	65.0
25 to 54	68,219	70,019	71,838	73,604	78.9	79.2	79.6	80.0
55 and over	14,591	14,485	14,333	14,180	31.8	31.2	30.5	29.9
Men, 16 and over	61,275	61,731	62,119	62,458	77.1	76.9	76.6	76.3
16 to 24	13,161	12,952	12,702	12,445	75.8	76.0	76.1	76.1
16 to 19	4,782	4,630	4,453	4,344	62.5	62.8	62.8	62.8
16 and 17	1,969	1,897	1,859	1,858	52.2	52.4	52.7	52.9
18 and 19	2,813	2,733	2,594	2,486	72.6	72.8	72.8	73.0
20 to 24	8,379	8,322	8,249	8,101	86.2	86.1	85.9	85.8
20 and over	56,493	57,101	57,666	58,114	78.6	78.3	77.9	77.5
25 to 54	39,302	40,074	40,851	41,584	93.6	93.4	93.2	93.0
25 to 34	17,008	17,278	17,539	17,796	94.5	94.2	94.0	93.7
25 to 29	8,825	8,979	9,085	9,149	94.2	94.1	93.9	93.8
30 to 34	8,183	8,299	8,454	8,647	94.8	94.4	94.0	93.7
35 to 44	12,543	13,087	13,617	14,116	95.0	94.8	94.6	94.4
35 to 39	6,961	7,178	7,473	7,777	95.3	95.1	94.9	94.7
40 to 44	5,582	5,909	6,144	6,339	94.6	94.4	94.3	94.2
45 to 54	9,751	9,709	9,695	9,672	90.6	90.3	90.0	89.8
45 to 49	4,905	4,945	5,012	5,078	92.7	92.4	92.2	92.0
50 to 54	4,846	4,764	4,683	4,594	88.5	88.2	87.8	87.4
55 and over	8,812	8,705	8,566	8,429	43.7	42.7	41.6	40.5
55 to 64	7,008	6,939	6,836	6,725	69.3	68.1	66.9	65.8
55 to 59	4,278	4,226	4,159	4,108	79.8	79.0	78.3	77.5
60 to 64	2,730	2,713	2,677	2,617	57.4	56.0	54.6	53.2
65 and over	1,804	1,766	1,730	1,704	18.0	17.3	16.7	16.1
65 to 69	1,034	1,009	989	980	26.9	26.0	25.1	24.3
70 to 74	518	510	500	488	17.9	17.4	16.8	16.3
75 and over	252	247	241	236	7.6	7.3	7.0	6.6
Women, 16 and over	46,447	47,418	48,337	49,248	52.6	53.1	53.7	54.1
16 to 24	11,751	11,693	11,583	11,477	65.1	66.0	66.8	67.5
16 to 19	4,370	4,272	4,149	4,079	56.8	57.5	58.0	58.4
16 and 17	1,762	1,713	1,695	1,708	47.9	48.6	49.3	49.9
18 and 19	2,608	2,559	2,454	2,371	64.9	65.5	66.0	66.6
20 to 24	7,381	7,421	7,434	7,398	71.4	72.2	73.0	73.8
20 and over	42,077	43,146	44,188	45,169	52.2	52.7	53.3	53.8
25 to 54	28,917	29,945	30,987	32,020	64.9	65.9	66.8	67.7
25 to 34	12,685	13,125	13,556	13,988	67.1	68.2	69.2	70.3
25 to 29	6,817	7,064	7,276	7,459	69.3	70.5	71.6	72.8
30 to 34	5,868	6,061	6,280	6,529	64.7	65.7	66.7	67.6
35 to 44	9,437	9,998	10,563	11,121	66.7	67.7	68.7	69.8
35 to 39	5,211	5,466	5,785	6,124	66.6	67.7	68.8	70.0
40 to 44	4,226	4,532	4,778	4,997	66.8	67.7	68.6	69.6
45 to 54	6,795	6,822	6,868	6,911	59.3	59.6	59.9	60.2
45 to 49	3,483	3,549	3,637	3,726	61.8	62.3	62.8	63.3
50 to 54	3,312	3,273	3,231	3,185	56.8	56.9	56.9	57.0
55 and over	5,779	5,780	5,767	5,751	22.5	22.2	21.9	21.6
55 to 64	4,653	4,660	4,641	4,615	41.3	41.2	41.0	40.9
55 to 59	2,861	2,847	2,822	2,807	48.9	49.0	49.0	49.1
60 to 64	1,792	1,813	1,819	1,808	33.2	32.9	32.7	32.4
65 and over	1,126	1,120	1,126	1,136	7.8	7.6	7.5	7.4
65 to 69	716	715	720	731	14.8	14.7	14.6	14.5
70 to 74	283	282	281	278	7.1	7.0	6.9	6.8
75 and over	127	123	125	127	2.2	2.1	2.1	2.1
White								
Total, 16 and over	94,438	95,544	96,541	97,496	64.5	64.7	64.8	65.0
Men, 16 and over	54,435	54,773	55,049	55,287	77.9	77.7	77.5	77.2

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force				Labor force participation rate			
	Number				Percent			
	1982	1983	1984	1985	1982	1983	1984	1985
Low growth path—Continued								
16 to 24	11,579	11,384	11,156	10,923	78.4	78.8	79.0	79.2
16 to 19	4,262	4,127	3,970	3,879	66.4	66.9	67.2	67.4
20 to 24	7,317	7,257	7,186	7,044	87.6	87.6	87.6	87.6
20 and over	50,173	50,646	51,079	51,408	79.1	78.7	78.4	78.0
25 to 54	34,855	35,495	36,135	36,742	94.4	94.2	94.0	93.8
25 to 34	14,957	15,157	15,353	15,550	95.2	95.0	94.8	94.5
35 to 44	11,205	11,692	12,156	12,590	95.6	95.5	95.3	95.1
45 to 54	8,693	8,646	8,626	8,602	91.5	91.2	91.0	90.8
55 and over	8,001	7,894	7,758	7,622	44.1	43.0	41.9	40.8
55 to 64	6,366	6,294	6,191	6,080	69.9	68.7	67.5	66.4
65 and over	1,635	1,600	1,567	1,542	18.1	17.4	16.8	16.2
Women, 16 and over	40,003	40,771	41,492	42,209	52.3	52.8	53.3	53.8
16 to 24	10,233	10,167	10,057	9,952	67.8	68.8	69.7	70.5
16 to 19	3,877	3,786	3,672	3,610	60.6	61.5	62.2	62.8
20 to 24	6,356	6,381	6,385	6,342	73.0	74.0	74.9	75.8
20 and over	36,126	36,985	37,820	38,599	51.5	52.0	52.6	53.1
25 to 54	24,645	25,488	26,341	27,187	64.4	65.3	66.3	67.2
25 to 34	10,641	10,984	11,324	11,668	66.2	67.4	68.4	69.5
35 to 44	8,101	8,585	9,063	9,531	66.2	67.2	68.3	69.4
45 to 54	5,903	5,919	5,954	5,988	59.2	59.5	59.9	60.3
55 and over	5,125	5,116	5,094	5,070	22.1	21.8	21.5	21.2
55 to 64	4,131	4,127	4,100	4,068	41.1	40.9	40.7	40.6
65 and over	994	989	994	1,002	7.6	7.4	7.3	7.2
Black and other								
Total, 16 and over	13,284	13,605	13,915	14,210	62.1	62.3	62.4	62.4
Men, 16 and over	6,840	6,958	7,070	7,171	70.9	70.7	70.4	69.9
16 to 24	1,582	1,568	1,546	1,522	61.0	60.5	60.0	59.3
16 to 19	520	503	483	465	42.2	41.6	40.9	39.8
20 to 24	1,062	1,065	1,063	1,057	78.0	77.1	76.3	75.6
20 and over	6,320	6,455	6,587	6,706	75.2	74.7	74.3	73.8
25 to 54	4,447	4,579	4,716	4,842	88.1	87.8	87.5	87.1
25 to 34	2,051	2,121	2,186	2,246	89.5	89.2	88.8	88.5
35 to 44	1,338	1,395	1,461	1,526	89.7	89.5	89.3	89.0
45 to 54	1,058	1,063	1,069	1,070	83.8	83.2	82.7	82.2
55 and over	811	811	808	807	40.5	39.7	38.8	37.8
55 to 64	642	645	645	645	63.7	62.6	61.6	60.8
65 and over	169	166	163	162	17.0	16.4	15.7	15.1
Women, 16 and over	6,444	6,647	6,845	7,039	54.9	55.4	55.9	56.3
16 to 24	1,518	1,526	1,526	1,525	51.7	52.1	52.5	52.7
16 to 19	493	486	477	469	38.0	38.1	38.2	38.0
20 to 24	1,025	1,040	1,049	1,056	62.5	62.9	63.3	63.6
20 and over	5,951	6,161	6,368	6,570	57.0	57.4	57.9	58.3
25 to 54	4,272	4,457	4,646	4,833	68.4	69.1	69.7	70.4
25 to 34	2,044	2,141	2,232	2,320	71.7	72.6	73.5	74.4
35 to 44	1,336	1,413	1,500	1,590	69.9	70.7	71.4	72.2
45 to 54	892	903	914	923	60.0	60.0	59.9	59.9
55 and over	654	664	673	681	25.5	25.3	25.1	24.7
55 to 64	522	533	541	547	43.6	43.5	43.3	43.2
65 and over	132	131	132	134	9.7	9.4	9.2	9.0

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Low growth path—Continued										
Total, 16 and over	113,004	114,310	115,435	116,484	117,394	64.7	64.8	64.9	65.1	65.2
16 to 24	23,513	23,199	22,781	22,324	21,899	71.8	71.9	72.2	72.6	73.0
20 and over	104,580	105,777	106,880	108,028	109,205	65.1	65.1	65.2	65.3	65.4
25 to 54	75,509	77,366	79,145	80,903	82,485	80.3	80.7	80.9	81.2	81.5
55 and over	13,982	13,745	13,509	13,257	13,010	29.2	28.5	27.9	27.3	26.6
Men, 16 and over	62,815	63,179	63,461	63,708	63,888	76.0	75.6	75.4	75.2	74.9
16 to 24	12,160	11,933	11,655	11,364	11,099	75.8	75.4	75.4	75.5	75.5
16 to 19	4,328	4,373	4,370	4,309	4,158	62.8	62.8	63.2	63.7	63.8
16 and 17	1,902	1,954	1,895	1,762	1,697	53.1	53.3	53.3	53.3	53.4
18 and 19	2,426	2,419	2,475	2,547	2,461	73.1	73.3	73.6	73.7	73.7
20 to 24	7,832	7,560	7,285	7,055	6,941	85.6	85.4	85.2	85.1	84.9
20 and over	58,487	58,806	59,091	59,399	59,730	77.2	76.8	76.5	76.1	75.8
25 to 54	42,391	43,173	43,921	44,655	45,287	92.8	92.6	92.4	92.2	92.0
25 to 34	18,018	18,157	18,222	18,226	18,113	93.5	93.2	93.0	92.8	92.5
25 to 29	9,223	9,190	9,125	9,046	8,889	93.6	93.5	93.3	93.2	93.0
30 to 34	8,795	8,967	9,097	9,180	9,224	93.3	93.0	92.7	92.4	92.1
35 to 44	14,616	15,085	15,427	15,884	16,393	94.3	94.1	93.9	93.8	93.6
35 to 39	8,165	8,117	8,241	8,405	8,609	94.5	94.3	94.1	93.9	93.7
40 to 44	6,451	6,968	7,186	7,479	7,784	94.0	93.9	93.8	93.6	93.5
45 to 54	9,757	9,931	10,272	10,545	10,781	89.6	89.4	89.2	89.0	88.8
45 to 49	5,198	5,376	5,685	5,903	6,084	91.9	91.7	91.5	91.3	91.2
50 to 54	4,559	4,555	4,587	4,642	4,697	87.1	86.8	86.5	86.2	85.9
55 and over	8,264	8,073	7,885	7,689	7,502	39.4	38.3	37.2	36.1	35.1
55 to 64	6,591	6,426	6,272	6,113	5,963	64.7	63.7	62.7	61.7	60.7
55 to 59	4,037	3,955	3,870	3,785	3,698	76.8	76.1	75.5	74.8	74.2
60 to 64	2,554	2,471	2,402	2,328	2,265	51.8	50.5	49.2	48.0	46.9
65 and over	1,673	1,647	1,613	1,576	1,539	15.5	15.0	14.4	13.9	13.3
65 to 69	967	961	944	923	894	23.4	22.6	21.8	21.1	20.4
70 to 74	476	463	452	444	442	15.7	15.2	14.7	14.2	13.8
75 and over	230	223	217	209	203	6.3	6.0	5.7	5.4	5.1
Women, 16 and over	50,189	51,131	51,974	52,776	53,506	54.6	55.1	55.5	56.0	56.4
16 to 24	11,353	11,266	11,126	10,960	10,800	68.0	68.5	69.1	69.8	70.5
16 to 19	4,096	4,160	4,185	4,147	4,031	58.9	59.4	60.1	61.0	61.4
16 and 17	1,764	1,823	1,783	1,675	1,624	50.6	51.2	51.7	52.2	52.7
18 and 19	2,332	2,337	2,402	2,472	2,407	67.2	67.7	68.3	68.8	69.2
20 to 24	7,257	7,106	6,941	6,813	6,769	74.5	75.2	75.9	76.6	77.3
20 and over	46,093	46,971	47,789	48,629	49,475	54.3	54.7	55.2	55.6	56.0
25 to 54	33,118	34,193	35,224	36,248	37,198	68.5	69.3	70.1	70.8	71.5
25 to 34	14,403	14,755	15,041	15,265	15,396	71.3	72.3	73.2	74.1	75.0
25 to 29	7,646	7,749	7,817	7,858	7,841	73.9	75.0	76.1	77.1	78.1
30 to 34	6,757	7,006	7,224	7,407	7,555	68.5	69.5	70.3	71.2	72.0
35 to 44	11,684	12,224	12,672	13,216	13,805	70.8	71.7	72.7	73.6	74.4
35 to 39	6,534	6,609	6,812	7,046	7,311	71.0	72.1	73.1	74.0	75.0
40 to 44	5,150	5,615	5,860	6,170	6,494	70.5	71.3	72.2	73.0	73.8
45 to 54	7,031	7,214	7,511	7,767	7,997	60.6	60.9	61.2	61.5	61.8
45 to 49	3,846	4,009	4,267	4,464	4,635	63.8	64.2	64.7	65.1	65.5
50 to 54	3,185	3,205	3,244	3,303	3,362	57.1	57.2	57.2	57.3	57.4
55 and over	5,718	5,672	5,624	5,568	5,508	21.3	21.0	20.7	20.4	20.0
55 to 64	4,572	4,511	4,455	4,392	4,330	40.7	40.6	40.5	40.4	40.3
55 to 59	2,775	2,740	2,708	2,674	2,634	49.1	49.2	49.3	49.4	49.4
60 to 64	1,797	1,771	1,747	1,718	1,696	32.2	32.0	31.8	31.6	31.4
65 and over	1,146	1,161	1,169	1,176	1,178	7.3	7.3	7.2	7.1	7.0
65 to 69	740	753	760	762	758	14.3	14.2	14.1	14.0	13.9
70 to 74	276	275	275	277	280	6.7	6.6	6.6	6.5	6.4
75 and over	130	133	134	137	140	2.1	2.1	2.0	2.0	2.0
White										
Total, 16 and over	98,484	99,478	100,301	101,038	101,661	65.1	65.2	65.3	65.5	65.6
Men, 16 and over	55,539	55,797	55,977	56,115	56,197	76.9	76.6	76.4	76.2	76.0

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Low growth path—Continued										
16 to 24	10,668	10,466	10,214	9,942	9,699	79.1	79.0	79.2	79.5	79.8
16 to 19	3,874	3,918	3,913	3,850	3,709	67.7	68.0	68.7	69.6	69.9
20 to 24	6,794	6,548	6,301	6,092	5,990	87.5	87.5	87.5	87.5	87.5
20 and over	51,665	51,879	52,064	52,265	52,488	77.7	77.3	77.0	76.7	76.4
25 to 54	37,410	38,054	38,671	39,271	39,775	93.7	93.5	93.3	93.1	93.0
25 to 34	15,717	15,802	15,824	15,792	15,656	94.3	94.1	93.9	93.7	93.5
35 to 44	13,022	13,428	13,705	14,089	14,518	95.0	94.8	94.7	94.6	94.4
45 to 54	8,671	8,824	9,142	9,390	9,601	90.7	90.5	90.3	90.2	90.0
55 and over	7,461	7,277	7,092	6,902	6,723	39.7	38.5	37.4	36.3	35.3
55 to 64	5,947	5,786	5,632	5,475	5,331	65.3	64.3	63.2	62.2	61.3
65 and over	1,514	1,491	1,460	1,427	1,392	15.6	15.1	14.5	14.0	13.5
Women, 16 and over	42,945	43,681	44,324	44,923	45,464	54.3	54.8	55.2	55.7	56.1
16 to 24	9,831	9,745	9,606	9,440	9,284	71.2	71.8	72.6	73.6	74.4
16 to 19	3,628	3,684	3,700	3,657	3,545	63.4	64.1	65.1	66.2	66.9
20 to 24	6,203	6,061	5,906	5,783	5,739	76.6	77.5	78.3	79.1	79.9
20 and over	39,317	39,997	40,624	41,266	41,919	53.6	54.0	54.5	54.9	55.3
25 to 54	28,084	28,961	29,799	30,629	31,389	68.1	68.9	69.7	70.4	71.2
25 to 34	11,997	12,266	12,477	12,636	12,715	70.5	71.5	72.5	73.4	74.3
35 to 44	10,001	10,452	10,810	11,254	11,737	70.4	71.4	72.4	73.3	74.2
45 to 54	6,086	6,243	6,512	6,739	6,937	60.6	61.0	61.4	61.8	62.1
55 and over	5,030	4,975	4,919	4,854	4,791	20.9	20.6	20.3	19.9	19.6
55 to 64	4,019	3,953	3,891	3,822	3,758	40.4	40.3	40.2	40.1	40.0
65 and over	1,011	1,022	1,028	1,032	1,033	7.2	7.1	7.0	7.0	6.9
Black and other										
Total, 16 and over	14,520	14,832	15,134	15,446	15,733	62.5	62.5	62.5	62.6	62.7
Men, 16 and over	7,276	7,382	7,484	7,593	7,691	69.5	69.0	68.6	68.3	68.0
16 to 24	1,492	1,467	1,441	1,422	1,400	58.3	57.1	56.2	55.6	55.1
16 to 19	454	455	457	459	449	38.8	37.9	37.4	37.4	37.0
20 to 24	1,038	1,012	984	963	951	74.7	73.9	73.2	72.4	71.7
20 and over	6,822	6,927	7,027	7,134	7,242	73.4	73.0	72.5	72.2	71.8
25 to 54	4,981	5,119	5,250	5,384	5,512	86.9	86.5	86.2	85.9	85.6
25 to 34	2,301	2,355	2,398	2,434	2,457	88.1	87.8	87.5	87.2	86.9
35 to 44	1,594	1,657	1,722	1,795	1,875	88.8	88.5	88.3	88.0	87.7
45 to 54	1,086	1,107	1,130	1,155	1,180	81.9	81.3	80.9	80.5	80.1
55 and over	803	796	793	787	779	37.0	36.0	35.2	34.4	33.5
55 to 64	644	640	640	638	632	59.9	58.9	58.2	57.4	56.4
65 and over	159	156	153	149	147	14.5	13.9	13.3	12.6	12.2
Women, 16 and over	7,244	7,450	7,650	7,853	8,042	56.7	57.1	57.5	57.9	58.3
16 to 24	1,522	1,521	1,520	1,520	1,516	52.8	52.7	52.8	53.1	53.4
16 to 19	468	476	485	490	486	37.9	37.7	37.9	38.3	38.4
20 to 24	1,054	1,045	1,035	1,030	1,030	64.0	64.3	64.7	65.1	65.4
20 and over	6,776	6,974	7,165	7,363	7,556	58.7	59.2	59.6	60.0	60.3
25 to 54	5,034	5,232	5,425	5,619	5,809	71.2	71.8	72.4	72.9	73.5
25 to 34	2,406	2,489	2,564	2,629	2,681	75.3	76.1	77.0	77.8	78.5
35 to 44	1,683	1,772	1,862	1,962	2,068	73.0	73.7	74.4	75.1	75.8
45 to 54	945	971	999	1,028	1,000	60.0	60.0	60.1	60.2	60.2
55 and over	688	697	705	714	717	24.4	24.3	24.0	23.8	23.5
55 to 64	553	558	564	570	572	43.1	43.0	42.9	42.9	42.7
65 and over	135	139	141	144	145	8.8	8.8	8.7	8.7	8.5

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Low growth path—Continued										
Total, 16 and over	118,330	119,133	119,933	120,781	121,684	65.3	65.3	65.3	65.4	65.4
16 to 24	21,656	21,409	21,260	21,118	21,001	73.2	73.4	73.6	73.6	73.6
20 and over	110,455	111,388	112,130	112,826	113,553	65.5	65.5	65.5	65.5	65.6
25 to 54	83,852	85,056	86,106	87,163	88,242	81.7	81.8	82.0	82.1	82.2
55 and over	12,822	12,668	12,567	12,500	12,441	26.1	25.7	25.3	25.1	24.8
Men, 16 and over	64,090	64,250	64,428	64,647	64,918	74.7	74.4	74.2	74.0	73.7
16 to 24	10,930	10,761	10,645	10,538	10,450	75.5	75.4	75.3	75.0	74.7
16 to 19	3,981	3,903	3,925	3,994	4,078	63.4	63.3	63.5	63.6	63.7
16 and 17	1,708	1,723	1,737	1,788	1,859	53.6	53.8	54.1	54.4	54.6
18 and 19	2,273	2,180	2,188	2,206	2,219	73.5	73.5	73.7	73.9	74.1
20 to 24	6,949	6,858	6,720	6,544	6,372	84.8	84.6	84.4	84.2	84.1
20 and over	60,109	60,347	60,503	60,653	60,840	75.6	75.3	75.0	74.8	74.5
25 to 54	45,815	46,279	46,673	47,078	47,507	91.8	91.6	91.4	91.2	91.0
25 to 34	17,893	17,565	17,202	16,869	16,583	92.3	92.1	91.9	91.7	91.5
25 to 29	8,613	8,332	8,045	7,804	7,682	92.9	92.8	92.6	92.5	92.4
30 to 34	9,280	9,233	9,157	9,065	8,901	91.8	91.5	91.2	91.0	90.8
35 to 44	16,933	17,075	17,348	17,614	17,880	93.5	93.3	93.2	93.1	93.0
35 to 39	8,768	8,950	9,097	9,194	9,254	93.6	93.4	93.3	93.1	93.0
40 to 44	8,165	8,125	8,251	8,420	8,626	93.4	93.2	93.1	93.0	92.9
45 to 54	10,989	11,639	12,123	12,595	13,044	88.6	88.5	88.3	88.1	87.9
45 to 49	6,189	6,679	6,885	7,159	7,446	91.0	90.9	90.8	90.6	90.5
50 to 54	4,800	4,960	5,238	5,436	5,598	85.7	85.4	85.2	85.0	84.8
55 and over	7,345	7,210	7,110	7,031	6,961	34.2	33.5	32.9	32.3	31.8
55 to 64	5,847	5,757	5,695	5,659	5,626	59.9	59.2	58.6	58.2	57.8
55 to 59	3,655	3,639	3,651	3,683	3,717	73.6	73.1	72.6	72.1	71.7
60 to 64	2,192	2,118	2,044	1,976	1,909	45.7	44.7	43.7	42.8	41.9
65 and over	1,498	1,453	1,415	1,372	1,335	12.8	12.3	11.9	11.4	11.0
65 to 69	865	830	802	772	749	19.7	19.0	18.4	17.8	17.3
70 to 74	438	436	432	425	415	13.4	13.0	12.6	12.2	11.9
75 and over	195	187	181	175	171	4.9	4.6	4.4	4.2	4.0
Women, 16 and over	54,240	54,883	55,505	56,134	56,766	56.8	57.1	57.4	57.7	57.9
16 to 24	10,726	10,648	10,615	10,580	10,551	71.1	71.5	72.0	72.3	72.5
16 to 19	3,894	3,842	3,878	3,961	4,053	61.6	61.9	62.4	62.8	63.1
16 and 17	1,643	1,668	1,689	1,748	1,823	53.3	53.8	54.4	55.0	55.4
18 and 19	2,251	2,174	2,189	2,213	2,230	69.5	69.9	70.4	70.8	71.2
20 to 24	6,832	6,806	6,737	6,619	6,498	77.9	78.5	79.0	79.4	79.8
20 and over	50,346	51,041	51,627	52,173	52,713	56.5	56.8	57.1	57.3	57.6
25 to 54	38,037	38,777	39,433	40,085	40,735	72.1	72.6	73.1	73.5	73.9
25 to 34	15,413	15,333	15,200	15,071	14,971	75.8	76.5	77.2	77.9	78.5
25 to 29	7,709	7,563	7,398	7,267	7,220	79.0	79.9	80.7	81.5	82.1
30 to 34	7,704	7,770	7,802	7,804	7,751	72.8	73.5	74.2	74.8	75.4
35 to 44	14,434	14,735	15,131	15,517	15,887	75.2	76.0	76.7	77.4	77.9
35 to 39	7,547	7,804	8,024	8,204	8,341	75.8	76.7	77.4	78.1	78.8
40 to 44	6,887	6,931	7,107	7,313	7,546	74.5	75.2	75.9	76.5	77.0
45 to 54	8,190	8,709	9,102	9,497	9,877	62.0	62.4	62.5	62.7	62.9
45 to 49	4,743	5,139	5,325	5,568	5,821	65.9	66.3	66.6	66.9	67.2
50 to 54	3,447	3,570	3,777	3,929	4,056	57.4	57.5	57.5	57.6	57.6
55 and over	5,477	5,458	5,457	5,469	5,480	19.8	19.6	19.5	19.4	19.4
55 to 64	4,298	4,283	4,286	4,305	4,320	40.3	40.3	40.4	40.5	40.6
55 to 59	2,633	2,650	2,682	2,730	2,777	49.4	49.5	49.5	49.6	49.6
60 to 64	1,665	1,633	1,604	1,575	1,543	31.2	31.0	30.9	30.7	30.6
65 and over	1,179	1,175	1,171	1,164	1,160	6.9	6.8	6.7	6.7	6.6
65 to 69	753	742	733	721	714	13.8	13.7	13.6	13.5	13.5
70 to 74	283	288	291	292	292	6.3	6.3	6.2	6.2	6.2
75 and over	143	145	147	151	154	2.0	2.0	2.0	2.0	2.0
White										
Total, 16 and over	102,303	102,829	103,369	103,957	104,604	65.7	65.7	65.8	65.8	65.9
Men, 16 and over	56,297	56,363	56,449	56,577	56,752	75.7	75.5	75.3	75.1	74.9

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—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
Low growth path—Continued										
16 to 24	9,541	9,383	9,274	9,180	9,103	79.9	80.0	80.0	79.9	79.7
16 to 19	3,550	3,487	3,516	3,589	3,676	69.8	69.9	70.2	70.4	70.6
20 to 24	5,991	5,896	5,758	5,591	5,427	87.5	87.5	87.4	87.4	87.4
20 and over	52,747	52,876	52,933	52,988	53,076	76.2	75.9	75.6	75.4	75.2
25 to 54	40,182	40,536	40,828	41,126	41,447	92.8	92.6	92.4	92.2	92.1
25 to 34	15,427	15,107	14,757	14,435	14,155	93.3	93.1	92.9	92.7	92.6
35 to 44	14,969	15,041	15,248	15,452	15,661	94.3	94.2	94.1	94.0	93.9
45 to 54	9,786	10,388	10,823	11,239	11,631	89.8	89.7	89.5	89.4	89.2
55 and over	6,574	6,444	6,347	6,271	6,202	34.4	33.7	33.0	32.5	32.1
55 to 64	5,219	5,130	5,069	5,032	4,999	60.5	59.8	59.2	58.8	58.4
65 and over	1,355	1,314	1,278	1,239	1,203	13.0	12.4	12.0	11.6	11.2
Women, 16 and over	46,006	46,466	46,920	47,380	47,852	56.5	56.8	57.1	57.4	57.6
16 to 24	9,204	9,119	9,080	9,043	9,013	75.1	75.7	76.2	76.6	76.9
16 to 19	3,419	3,374	3,413	3,493	3,583	67.3	67.7	68.3	68.7	69.1
20 to 24	5,785	5,745	5,667	5,550	5,430	80.6	81.3	81.9	82.5	83.0
20 and over	42,587	43,092	43,507	43,887	44,269	55.8	56.1	56.4	56.6	56.9
25 to 54	32,048	32,621	33,123	33,619	34,118	71.8	72.3	72.8	73.2	73.6
25 to 34	12,694	12,594	12,447	12,307	12,193	75.1	75.8	76.5	77.2	77.8
35 to 44	12,252	12,458	12,766	13,066	13,360	75.0	75.8	76.6	77.2	77.9
45 to 54	7,102	7,569	7,910	8,246	8,565	62.3	62.7	62.9	63.1	63.3
55 and over	4,754	4,726	4,717	4,718	4,721	19.4	19.2	19.1	19.0	18.9
55 to 64	3,723	3,701	3,697	3,708	3,717	40.0	40.0	40.1	40.2	40.3
65 and over	1,031	1,025	1,020	1,010	1,004	6.8	6.7	6.6	6.5	6.4
Black and other										
Total, 16 and over	16,027	16,304	16,564	16,824	17,080	62.8	62.8	62.8	62.8	62.7
Men, 16 and over	7,793	7,887	7,979	8,070	8,166	67.8	67.5	67.2	66.9	66.6
16 to 24	1,389	1,378	1,371	1,358	1,347	54.7	54.3	53.8	53.2	52.5
16 to 19	431	416	409	405	402	36.2	35.4	34.9	34.4	33.7
20 to 24	958	962	962	953	945	71.1	70.5	69.9	69.4	68.9
20 and over	7,362	7,471	7,570	7,665	7,764	71.4	71.1	70.8	70.4	70.2
25 to 54	5,633	5,743	5,845	5,952	6,060	85.4	85.1	84.8	84.5	84.3
25 to 34	2,466	2,458	2,445	2,434	2,428	86.7	86.4	86.2	85.9	85.7
35 to 44	1,964	2,034	2,100	2,162	2,219	87.6	87.3	87.1	87.0	86.8
45 to 54	1,203	1,251	1,300	1,356	1,413	79.7	79.3	79.0	78.7	78.5
55 and over	771	766	763	760	759	32.7	32.0	31.4	30.8	30.3
55 to 64	628	627	626	627	627	55.7	55.0	54.3	53.7	53.4
65 and over	143	139	137	133	132	11.6	11.1	10.7	10.2	9.9
Women, 16 and over	8,234	8,417	8,585	8,754	8,914	58.6	59.0	59.2	59.4	59.5
16 to 24	1,522	1,529	1,535	1,537	1,538	53.7	54.0	54.2	54.3	54.2
16 to 19	475	468	465	468	470	38.3	38.3	38.3	38.3	38.0
20 to 24	1,047	1,061	1,070	1,069	1,068	65.7	66.0	66.3	66.5	66.8
20 and over	7,759	7,949	8,120	8,286	8,444	60.6	60.9	61.1	61.3	61.4
25 to 54	5,989	6,156	6,310	6,466	6,617	73.9	74.3	74.7	75.0	75.2
25 to 34	2,719	2,739	2,753	2,764	2,778	79.2	79.9	80.6	81.1	81.7
35 to 44	2,182	2,277	2,365	2,451	2,527	76.3	76.9	77.4	78.0	78.4
45 to 54	1,088	1,140	1,192	1,251	1,312	60.1	60.2	60.2	60.2	60.2
55 and over	723	732	740	751	759	23.3	23.1	23.0	22.9	22.7
55 to 64	575	582	589	597	603	42.5	42.5	42.4	42.4	42.5
65 and over	148	150	151	154	156	8.4	8.4	8.2	8.2	8.1

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
Low growth path—Continued										
Total, 16 and over	122,749	123,680	124,707	125,797	126,875	65.4	65.4	65.4	65.4	65.4
16 to 24	20,913	21,188	21,705	22,352	22,980	73.5	73.4	73.5	73.7	73.9
20 and over	114,301	114,851	115,484	116,216	117,018	65.6	65.6	65.5	65.5	65.4
25 to 54	89,283	89,852	90,015	90,193	90,414	82.3	82.3	82.4	82.4	82.3
55 and over	12,553	12,640	12,987	13,252	13,481	24.8	24.8	25.0	25.2	25.4
Men, 16 and over	65,322	65,629	66,040	66,511	67,017	73.6	73.4	73.2	73.0	72.9
16 to 24	10,375	10,497	10,746	11,062	11,374	74.4	74.2	74.1	74.2	74.4
16 to 19	4,231	4,421	4,618	4,796	4,935	63.8	64.0	64.3	64.6	64.8
16 and 17	1,946	2,043	2,121	2,173	2,207	54.8	55.0	55.2	55.3	55.4
18 and 19	2,285	2,378	2,497	2,623	2,728	74.3	74.5	74.8	75.0	75.2
20 to 24	6,144	6,076	6,128	6,266	6,439	83.9	83.8	83.8	83.8	83.8
20 and over	61,091	61,208	61,422	61,715	62,082	74.3	74.1	73.9	73.8	73.7
25 to 54	47,927	48,117	48,102	48,129	48,210	90.9	90.7	90.6	90.4	90.3
25 to 34	16,313	15,945	15,530	15,118	14,821	91.4	91.2	91.1	91.0	90.9
25 to 29	7,691	7,603	7,471	7,292	7,112	92.3	92.2	92.1	92.0	91.9
30 to 34	8,622	8,342	8,059	7,826	7,709	90.6	90.4	90.2	90.1	90.0
35 to 44	18,114	18,266	18,356	18,381	18,297	92.8	92.7	92.7	92.6	92.5
35 to 39	9,324	9,291	9,231	9,153	9,003	92.9	92.8	92.7	92.6	92.5
40 to 44	8,790	8,975	9,125	9,228	9,294	92.8	92.7	92.7	92.6	92.6
45 to 54	13,500	13,906	14,216	14,630	15,092	87.8	87.6	87.4	87.3	87.2
45 to 49	7,810	7,771	7,893	8,054	8,253	90.4	90.2	90.1	90.0	90.0
50 to 54	5,690	6,135	6,323	6,576	6,839	84.6	84.5	84.3	84.2	84.1
55 and over	7,020	7,015	7,192	7,320	7,433	31.7	31.5	31.8	31.9	32.0
55 to 64	5,722	5,754	5,964	6,123	6,259	57.5	57.2	57.1	57.0	56.9
55 to 59	3,853	3,909	4,125	4,275	4,398	71.1	70.9	70.6	70.4	70.2
60 to 64	1,869	1,845	1,839	1,848	1,861	41.2	40.5	40.0	39.6	39.3
65 and over	1,298	1,261	1,228	1,197	1,174	10.7	10.3	10.1	9.8	9.6
65 to 69	726	703	682	662	646	16.9	16.6	16.3	16.0	15.8
70 to 74	406	395	387	378	373	11.6	11.4	11.2	11.0	10.9
75 and over	166	163	159	157	155	3.8	3.6	3.5	3.4	3.3
Women, 16 and over	57,427	58,051	58,667	59,286	59,858	58.2	58.3	58.4	58.5	58.6
16 to 24	10,538	10,691	10,959	11,290	11,606	72.6	72.7	73.0	73.2	73.5
16 to 19	4,217	4,408	4,605	4,785	4,922	63.5	63.8	64.2	64.6	64.9
16 and 17	1,917	2,017	2,100	2,156	2,194	55.9	56.3	56.6	56.9	57.1
18 and 19	2,300	2,391	2,505	2,629	2,728	71.7	72.0	72.3	72.7	72.9
20 to 24	6,321	6,283	6,354	6,505	6,684	80.2	80.6	80.9	81.2	81.5
20 and over	53,210	53,643	54,062	54,501	54,936	57.8	57.9	58.0	58.1	58.1
25 to 54	41,356	41,735	41,913	42,064	42,204	74.2	74.4	74.6	74.7	74.8
25 to 34	14,868	14,664	14,397	14,109	13,886	79.1	79.7	80.1	80.5	80.7
25 to 29	7,280	7,253	7,177	7,045	6,901	82.7	83.3	83.7	84.1	84.4
30 to 34	7,588	7,411	7,220	7,064	6,985	75.9	76.4	76.8	77.2	77.4
35 to 44	16,225	16,487	16,671	16,778	16,777	78.5	78.9	79.3	79.7	79.9
35 to 39	8,476	8,518	8,519	8,489	8,394	79.4	79.9	80.3	80.7	80.9
40 to 44	7,749	7,969	8,152	8,289	8,383	77.5	78.0	78.3	78.6	78.9
45 to 54	10,263	10,584	10,845	11,177	11,541	63.1	63.1	63.2	63.2	63.2
45 to 49	6,135	6,136	6,255	6,398	6,566	67.5	67.7	67.9	68.0	68.1
50 to 54	4,128	4,448	4,590	4,779	4,975	57.7	57.7	57.7	57.8	57.8
55 and over	5,533	5,625	5,795	5,932	6,048	19.4	19.5	19.8	20.1	20.2
55 to 64	4,382	4,485	4,667	4,813	4,939	40.7	40.8	41.0	41.1	41.1
55 to 59	2,848	2,948	3,118	3,241	3,344	49.7	49.7	49.7	49.7	49.8
60 to 64	1,534	1,537	1,549	1,572	1,595	30.5	30.4	30.2	30.2	30.1
65 and over	1,151	1,140	1,128	1,119	1,109	6.5	6.4	6.3	6.3	6.2
65 to 69	702	690	679	668	657	13.4	13.3	13.3	13.3	13.2
70 to 74	292	290	287	285	284	6.2	6.2	6.2	6.2	6.2
75 and over	157	160	162	166	168	2.0	2.0	2.0	2.0	2.0
White										
Total, 16 and over	105,334	106,064	106,826	107,643	108,450	65.9	65.9	65.9	66.0	66.0
Men, 16 and over	56,986	57,250	57,547	57,898	58,275	74.7	74.6	74.4	74.3	74.2

C-1. Civilian labor force and labor force participation rates by age, sex, and race, 1982 to 2000—Continued

(Numbers in thousands)

Sex, age, and race	Civilian labor force					Labor force participation rate				
	Number					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
Low growth path—Continued										
16 to 24	9,048	9,173	9,413	9,708	9,998	79.5	79.4	79.4	79.5	79.6
16 to 19	3,824	4,004	4,190	4,358	4,489	70.8	71.0	71.3	71.5	71.8
20 to 24	5,224	5,169	5,223	5,350	5,509	87.4	87.4	87.4	87.4	87.4
20 and over	53,162	53,246	53,357	53,540	53,786	75.0	74.9	74.7	74.5	74.4
25 to 54	41,749	41,844	41,740	41,686	41,677	92.0	91.8	91.7	91.6	91.5
25 to 34	13,881	13,521	13,119	12,725	12,435	92.5	92.4	92.3	92.2	92.1
35 to 44	15,842	15,945	15,990	15,981	15,873	93.8	93.7	93.7	93.6	93.6
45 to 54	12,026	12,378	12,631	12,980	13,369	89.2	88.9	88.8	88.7	88.6
55 and over	6,189	6,233	6,394	6,504	6,600	31.8	31.7	32.0	32.2	32.3
55 to 64	5,023	5,105	5,300	5,441	5,560	58.0	57.8	57.8	57.6	57.5
65 and over	1,166	1,128	1,094	1,063	1,040	10.8	10.4	10.1	9.9	9.7
Women, 16 and over	48,348	48,814	49,279	49,745	50,175	57.9	58.1	58.2	58.3	58.4
16 to 24	9,008	9,153	9,404	9,705	9,993	77.1	77.3	77.5	77.8	78.1
16 to 19	3,736	3,912	4,094	4,259	4,386	69.5	69.9	70.2	70.6	70.9
20 to 24	5,272	5,241	5,310	5,446	5,607	83.5	83.9	84.3	84.6	84.9
20 and over	44,612	44,902	45,185	45,486	45,789	57.1	57.2	57.3	57.4	57.5
25 to 54	34,584	34,830	34,895	34,945	34,993	74.0	74.2	74.4	74.6	74.6
25 to 34	12,071	11,861	11,597	11,319	11,102	78.4	79.0	79.5	79.8	80.1
35 to 44	13,626	13,819	13,945	14,004	13,971	78.4	78.9	79.3	79.6	79.9
45 to 54	8,887	9,150	9,353	9,622	9,920	63.6	63.5	63.6	63.7	63.8
55 and over	4,756	4,831	4,980	5,095	5,189	19.0	19.1	19.4	19.7	19.8
55 to 64	3,764	3,850	4,013	4,139	4,244	40.4	40.5	40.7	40.8	40.9
65 and over	992	981	967	956	945	6.3	6.2	6.1	6.1	6.0
Black and other										
Total, 16 and over	17,415	17,616	17,881	18,154	18,425	62.6	62.5	62.4	62.3	62.2
Men, 16 and over	8,336	8,379	8,493	8,613	8,742	66.3	66.1	65.8	65.6	65.5
16 to 24	1,327	1,324	1,333	1,354	1,376	51.7	51.0	50.5	50.3	50.2
16 to 19	407	417	428	438	446	33.3	33.0	32.9	32.8	32.8
20 to 24	920	907	905	916	930	68.4	68.0	67.6	67.5	67.3
20 and over	7,929	7,962	8,065	8,175	8,296	69.9	69.7	69.5	69.3	69.2
25 to 54	6,178	6,273	6,362	6,443	6,533	84.1	83.8	83.7	83.4	83.3
25 to 34	2,432	2,424	2,411	2,393	2,386	85.6	85.4	85.2	85.1	85.1
35 to 44	2,272	2,321	2,366	2,400	2,424	86.7	86.5	86.4	86.2	86.2
45 to 54	1,474	1,528	1,585	1,650	1,723	78.3	78.0	77.8	77.6	77.5
55 and over	831	782	798	816	833	31.3	30.0	30.0	30.1	30.1
55 to 64	699	649	664	682	699	53.8	52.7	52.5	52.5	52.4
65 and over	132	133	134	134	134	9.7	9.7	9.6	9.5	9.3
Women, 16 and over	9,079	9,237	9,388	9,541	9,683	59.6	59.6	59.6	59.6	59.5
16 to 24	1,530	1,538	1,555	1,585	1,613	54.0	53.8	53.7	53.8	53.9
16 to 19	481	496	511	526	536	38.0	38.0	38.1	38.3	38.3
20 to 24	1,049	1,042	1,044	1,059	1,077	66.9	67.1	67.2	67.3	67.5
20 and over	8,598	8,741	8,877	9,015	9,147	61.6	61.6	61.6	61.6	61.5
25 to 54	6,772	6,905	7,018	7,119	7,211	75.4	75.5	75.6	75.6	75.6
25 to 34	2,797	2,803	2,800	2,790	2,784	82.1	82.6	82.9	83.2	83.4
35 to 44	2,599	2,668	2,726	2,774	2,806	78.8	79.1	79.5	79.7	79.9
45 to 54	1,376	1,434	1,492	1,555	1,621	60.4	60.3	60.3	60.2	60.2
55 and over	777	794	815	837	859	22.8	22.8	22.8	22.9	23.0
55 to 64	618	635	654	674	695	42.5	42.5	42.6	42.7	42.7
65 and over	159	159	161	163	164	8.1	8.0	7.9	7.9	7.8

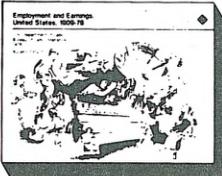
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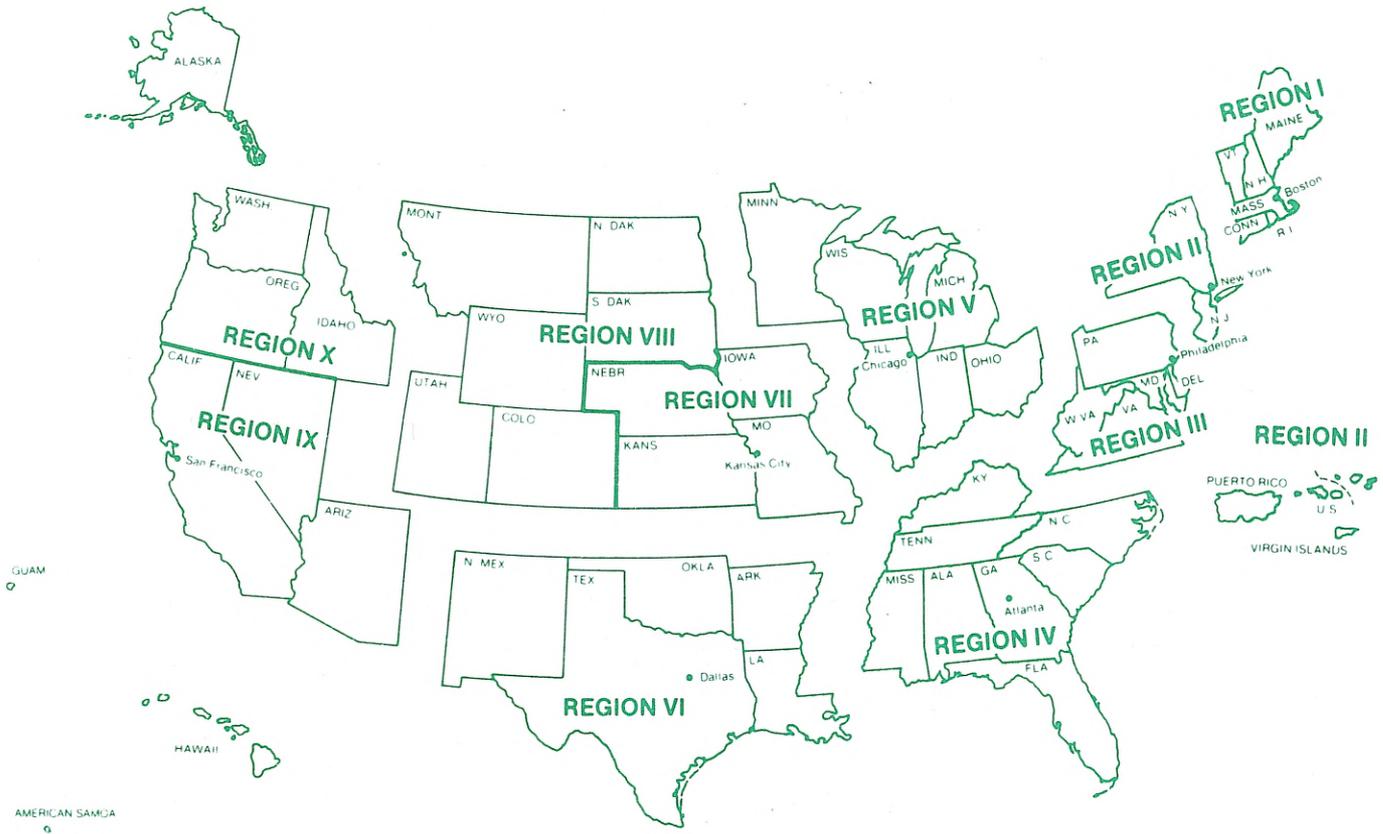
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