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Employment Projections for the 1980's



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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 reprints of four articles from the *Monthly Labor Review*. A few minor corrections have been made to some of the tables as originally printed, and supplementary tables containing data frequently requested have been added as appendixes to three of the articles.

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 2005 (1979). Bulletins on methodology and the input-output models used are scheduled for publication at a later date.

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Labor force projections to 1990: three possible paths

High, low, and intermediate rates of projected growth to 1990 all show a drop from the 1970-77 pace; in each, women's participation rates keep rising, the rates for men rise only with high growth

PAUL O FLAIM AND HOWARD N FULLERTON, JR.

For the first time, the Bureau of Labor Statistics has developed three significantly different projections of future growth for the U.S. work force. Although based on different assumptions about the labor force participation rates for various population groups, all three scenarios anticipate declining rates of labor force growth. As shown in table 1, only during the near-term 1977-85 period and only under high-growth assumptions would the labor force continue to expand at the unprecedented 2.3-percent rate of the 1970's. Behind the general slowdown in labor force growth is the sharp drop of the birth rate in the 1960's, which means fewer youths will be reaching working age in the 1980's. Based on underlying population trends, the scenarios for high, low, and intermediate labor force growth can be summarized as follows:

High growth. The civilian labor force would reach 126 million persons by 1990, primarily based on a continuing surge in the labor force participation rates of women, which would reach 60 percent. Participation rates for black men would reverse their recent downward trend and nearly equal the slightly increased 80-percent rate of white men. Rates for older workers would decline only slightly.

Low growth. The civilian labor force would grow to only 114 million by 1990. The participation rates for women would grow at a much slower pace, corresponding with a projected increase in currently low fertility rates; their participation rate would reach only 54 percent. The rates for men and older workers of both sexes would continue to drift downward at about the same rates as in the 1970's.

Intermediate growth. The civilian labor force would grow to 119 million persons by 1990 under this moderate-growth assumption. The participation rate of women would continue to advance at its current pace until 1985, then taper off with more

As explained in this article, the takeoff points used in making the three sets of projections are 1977 annual averages. Calculated in early 1978, the projections have the following implicit labor force levels for 1978: high growth, 100.1 million; low growth, 97.3 million; and intermediate growth, 99.7 million.

The extremely rapid pace of labor force growth that unexpectedly continued through the first half of 1978 now indicates that the increase between the annual averages for 1977 and 1978 will approach 3 million. This growth is 1 million higher than the average annual gains posted during the 1970-77 period. As a result, the 1978 actual annual average probably will be slightly above the level implicit in the high-growth scenario. It is, of course, much too early to tell how this development will affect labor force growth to 1985 and 1990. However, it is suggested that those who use these projections to construct their own estimates of the labor force for the next 2 or 3 years note how the actual labor force growth during the 1977-78 period compares with the growth implicit in these long-term projections.

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Table 1. Civilian labor force participation rates based on three different growth paths to 1990

Growth paths	Civilian labor force							Civilian labor force participation rates			
	Actual (in millions)		Projected (in millions)		Annual percent change ¹			Actual		Projected	
	1970	1977	1985	1990	1970 to 1977	1977 to 1985	1985 to 1990	1970	1977	1985	1990
Total											
High growth path			117.0	125.6		2.3	1.4			67.7	69.7
Intermediate growth path	82.7	97.4	113.0	119.4	2.3	1.9	1.1	60.4	62.3	65.3	66.2
Low growth path			108.9	113.5		1.4	.8			63.0	63.0
Men											
High growth path			65.0	68.2		1.6	1.0			79.4	80.0
Intermediate growth path	51.2	57.4	63.0	65.1	1.7	1.2	.7	79.7	77.7	77.0	76.4
Low growth path			61.2	62.5		.8	.4			74.7	73.3
Women											
High growth path			52.0	57.4		3.3	2.0			57.1	60.4
Intermediate growth path	31.5	40.0	49.9	54.3	3.4	2.8	1.7	43.3	48.4	54.8	57.1
Low growth path			47.7	51.0		2.2	1.3			52.4	53.8

¹ Compounded continuously.

moderate increases to reach a 57-percent participation level by 1990. The rates for men would continue to drop, but at a more moderate pace. This would also be the case for older workers.

It is the custom of BLS to update and revise its labor force projections every 2 or 3 years. The updates and revisions are necessary because the actual path of labor force growth has often diverged considerably from the projections. This has been especially the case during the 1970's, when the phenomenal growth of women in the labor force has far exceeded the projections by BLS—as well as those of many other forecasters.

The reasons for the divergences between projections and the actual labor force trends were the topic of a special evaluation by BLS.¹ On the basis of this evaluation, some changes in the methodology have been introduced in making a new round of projections. In addition, three alternative sets of projections, rather than the typical single projection, have been prepared.²

Population trends

In making labor force projections, BLS generally has relied upon the population projections prepared by the Bureau of the Census; this procedure was followed once again. The specific population estimates used were those published by the Bureau of the Census in July 1977, covering the 1977–2050 period.³ The population data for the period covered by this round of labor force projections—only 12 years—contain little uncertainty. After all, even the persons who will be 16 years of age in 1990 are already 4 years old, and thus can be counted with reasonable accuracy.

There are, of course, some minor problems even in projecting a population that can be counted. Important assumptions must be made about the future course of mortality rates and about net

migration trends. The decennial census is used as the starting points for the projections. It has long been known that census counts are deficient for some groups.⁴ Despite these problems, the basic trends in the size and configuration of the American population can be charted with some assurance from now to 1990. The changes implicit in these trends will have a great impact on the growth of the labor force.

Perhaps the most important feature of the population dynamics for the 1980's will be the sharp decline in the number of youths age 16 to 24, which is an inevitable consequence of the drop in the birth rate during the 1960's. Reflecting this development, the civilian noninstitutional population age 16 and over, which should grow by 26.8 million or 19.6 percent from 1970 to 1980, is projected to grow by only 16.4 million or 10.0 percent from 1980 to 1990.

The population trends for the major age-sex-race groups are shown in table 2. The “net changes” columns in this table show most dramatically how the past growth of the teenage ranks will be reversed between now and 1985 and how, with some obvious delay, this process also will affect the ranks of those age 20 to 24. Clearly, there will be many fewer young persons in the late 1980's than is the case today.

Another important demographic development is that, while the teenage ranks thin, the population in the central age groups will swell, as the millions of persons born in the post-World-War II baby boom reach middle age. The sharp drop in the youth population combined with the crowding of the baby-boom cohorts into middle age will have a large impact on the growth and configuration of the Nation's labor force. Labor force growth, however, is also a function of the trends in labor force participation among the various population

groups. The projections of these trends is fraught with much more uncertainty than the projections of population trends.

Problems in projecting participation

In projecting the labor force participation rates of the various population groups, BLS generally has relied on extrapolation of the historical trends in the rates for these groups. This procedure, with some modifications, was followed again in making these new sets of projections. The possibility of tying the participation projections to the future course of other variables which are known to influence participation—wage rates, for example—was considered, but was rejected as impractical. Also considered—but deferred at least until further research is conducted—was the option of making “cohort” projections, where specific groups are followed through time.

This is not to say that the projections presented here are based on purely linear—and mechanical—extrapolation of historical trends. They are not. Where extrapolation of past trends yields a

future scenario that is either physically impossible—such as labor force participation rates exceeding 100 percent or dropping below zero—or a situation that seems highly implausible given the prevailing notions about what the future will (or should) be like, BLS analysts have intervened to alter the course of the extrapolated line.

To illustrate one of the latter problems, if labor force participation rates of women age 25 to 29—one of the principal childbearing groups—were extrapolated linearly from their rapidly rising trends of the 1970's, they would cross the rates for men of comparable age before the 1980's are over. Could this be visualized as a plausible situation? We think not, even if the fertility rate, which is one of the determinants of labor force participation for this group, remains at its currently depressed levels. And should the fertility rate rise significantly, these women could hardly be expected to enter the job market in ever larger numbers. Therefore, in projecting the labor force participa-

Table 2. Civilian noninstitutional population, by age, sex, and race; actual 1970 and 1977, projected 1985 and 1990

[Numbers in thousands]

Sex, age, and race	Actual population		Projected population		Net changes			Annual percent change ¹		
	1970	1977	1985	1990	1970 to 1977	1977 to 1985	1985 to 1990	1970 to 1977	1977 to 1985	1985 to 1990
Total, age 16 and over	136,995	156,426	172,935	180,236	19,431	16,509	7,301	1.89	1.25	0.83
Men, age 16 and over	64,261	73,963	81,851	85,265	9,702	7,888	3,414	2.01	1.27	.82
16 to 24	13,993	17,363	16,320	14,657	3,370	-1,043	-1,663	3.08	-.77	-2.15
16 to 19	7,142	8,167	6,874	6,477	1,025	-1,293	-397	1.92	-2.15	-1.19
20 to 24	6,851	9,196	9,446	8,180	2,345	250	-1,266	4.21	.34	-2.88
25 to 54	33,592	37,885	44,714	49,240	4,293	6,829	4,526	1.72	2.07	1.93
55 and over	16,677	18,714	20,817	21,368	2,037	2,103	551	1.65	1.33	.52
55 to 64	8,598	9,518	10,217	9,820	930	699	-397	1.47	.89	-.79
65 and over	8,089	9,196	10,600	11,548	1,107	1,404	948	1.83	1.78	1.71
Women, age 16 and over	72,734	82,462	91,084	94,971	9,728	8,622	3,887	1.79	1.24	.84
16 to 24	15,824	18,166	17,098	15,409	2,342	-1,068	-1,689	1.97	-.76	-2.08
16 to 19	7,371	8,303	7,016	6,596	932	-1,287	-420	1.70	-2.11	-1.23
20 to 24	8,453	9,863	10,082	8,813	1,410	219	-1,269	2.20	.27	-2.69
25 to 54	36,354	40,574	47,363	52,087	4,220	6,789	4,704	1.57	1.93	1.89
55 and over	20,556	23,717	26,623	27,495	3,161	2,906	872	2.04	1.44	.64
55 to 64	9,649	10,648	11,292	10,738	999	644	-554	1.41	.73	-1.01
65 and over	10,907	13,069	15,331	16,757	2,162	2,262	1,426	2.58	2.00	1.78
White										
Total, age 16 and over	122,112	137,595	150,057	155,001	15,483	12,462	4,944	1.71	1.08	.65
Men, age 16 and over	57,488	65,478	71,525	73,875	7,990	6,047	2,350	1.86	1.10	.65
16 to 24	12,160	14,964	13,717	12,075	2,804	-1,247	-1,642	2.96	-1.09	-2.55
16 to 19	30,104	33,597	39,123	42,780	3,493	5,526	3,637	1.57	1.90	1.78
20 to 24	15,224	16,917	18,685	19,040	1,683	1,768	355	1.51	1.24	.38
25 to 54	64,624	72,117	78,532	81,126	7,493	6,415	2,594	1.57	1.07	.65
55 and over	13,704	15,407	14,166	12,530	1,703	-1,241	-1,636	1.67	-1.05	-2.45
55 to 64	32,108	35,245	40,488	44,146	3,137	5,243	3,658	1.33	1.73	1.73
65 and over	18,812	21,465	23,878	24,450	2,653	2,413	572	1.88	1.33	.47
Black and other										
Total, age 16 and over	14,883	18,831	22,836	25,171	3,948	4,005	2,335	3.36	2.41	1.95
Men, age 16 and over	6,773	8,486	10,293	11,339	1,713	1,807	1,046	3.22	2.41	1.94
16 to 24	1,832	2,401	2,586	2,559	569	185	-27	3.86	.93	-.21
16 to 19	3,488	4,268	5,574	6,454	800	1,286	880	2.95	3.28	2.93
20 to 24	1,454	1,796	2,133	2,326	342	337	193	3.02	2.15	1.73
25 to 54	8,110	10,345	12,543	13,832	2,235	2,198	1,289	3.48	2.41	1.96
55 and over	2,118	2,759	2,914	2,880	641	155	-54	3.78	.68	-.37
55 to 64	4,247	5,333	6,876	7,922	1,086	1,543	1,046	3.25	3.18	2.83
65 and over	1,744	2,252	2,753	3,050	508	501	297	3.65	2.51	2.05

¹ Compounded continuously.

tion rates for women, it seemed logical to apply the constraint that these rates not be allowed to cross the participation rates for men of comparable age.

A dilemma of a slightly different nature arises in making separate projections of labor force growth by race. Here, linear extrapolations of historical trends yield an ever-larger gap between the participation rate of white men and the already much lower rate of black men. Although certainly plausible, such a future scenario can be hardly reconciled with a National policy intended to lead to an equalization of employment opportunity for the two races.

Aside from such obvious problems, many other areas of uncertainty with regard to the future trends in participation can be listed. Take, for example, the extent to which the youth of the future might choose school over work, or vice versa; the possible impact of recent changes in retirement legislation on the labor force activity of older workers; and the future course of transfer payments and their possible impact on the propensity to work among recipients in all age groups. To deal more effectively with these and other uncertainties, three different sets of projections, rather than a single one, were prepared.

The three basic paths

Although yielding significantly different results in terms of the overall labor force levels for 1985 and 1990, the three sets of projections still have a considerable degree of commonality among them. All three are based on assumptions of: further rises in the labor force participation rates of teenagers of both sexes; considerable further gains in labor force activity among women in the central age groups; and further declines in the participation rates of older workers of both sexes. (See table 3.) With regard to these three groups and, particularly, with regard to whites in these groups, the three sets of projections point in the same general directions and differ only in terms of the expected rate of change.

With regard to the participation rates for men in the central age groups, those for whites are again projected to diverge little under the three alternative growth paths. Generally, they are held constant in the high-growth projections, decline only very slightly in the intermediate-growth projections, and are allowed to decline a bit more in the low-growth projections.

The group for which the three sets of projections differ most radically in terms of direction (or sign) are black men. For this group, the low-growth projections follow the declining path which has been evident in recent years, whereas the high-

growth projections trace the steep upward-sloping path that these rates would have to follow if they were to reach the high-growth rate for white men by the year 2000. (And the latter, as noted above, were generally held constant at current levels.)

For some black groups, the high-growth projections would entail a sharp departure from the trends in participation exhibited over the past two decades. Although such a complete turnaround is unlikely (a few age groups have experienced recent gains), such projections are useful in illustrating what has been accomplished and what remains to be done in order to have blacks sharing equally in the economic progress of the Nation.

There is also a considerable degree of commonality among the three sets of projections in terms of the most basic changes in the age configuration of the labor force. Because the important changes in the population structure are reflected in all three sets of projections, each shows a large decline in the size of the youth labor force and a big increase in the labor force accounted for by persons age 25 to 54. (These changes in the size and configuration of the labor force are shown in absolute terms in table 4.) Now, we will examine the basic

Table 3. Civilian labor force participation rate by sex, age, and race, to 1990

[Percent]

Sex, age, and race	Actual		Projected					
	1970	1977	High growth		Intermediate growth		Low growth	
			1985	1990	1985	1990	1985	1990
Total, age 16 and over	60.4	62.3	67.7	69.7	65.3	66.2	63.0	63.0
Men, age 16 and over	79.7	77.7	79.4	80.0	77.0	76.4	74.7	73.3
16 to 24	69.4	74.1	78.9	81.0	76.4	76.1	74.4	73.3
25 to 54	56.1	61.0	66.8	70.8	63.6	64.8	61.5	61.9
55 and over	83.3	85.7	87.8	89.1	85.7	85.0	83.7	82.4
Women, age 16 and over	95.8	94.2	95.1	95.6	93.5	93.1	92.2	91.1
16 to 24	55.7	47.5	46.1	43.5	41.9	38.0	37.5	32.2
25 to 54	83.0	74.0	73.5	73.3	68.1	65.0	64.1	59.0
55 and over	26.8	20.1	19.7	18.1	16.7	15.0	11.9	9.4
Total, age 16 and over	43.3	48.4	57.1	60.4	54.8	57.1	52.4	53.8
Men, age 16 and over	51.3	59.6	73.2	78.2	69.8	72.8	66.2	67.3
16 to 24	44.0	51.4	63.5	68.9	59.7	62.8	55.4	56.8
25 to 54	57.7	66.5	79.9	85.2	76.8	80.4	73.7	75.2
55 and over	50.1	58.4	70.9	76.1	68.5	72.4	65.9	69.0
Women, age 16 and over	25.3	22.9	22.1	20.7	21.0	19.3	19.5	17.2
16 to 24	43.0	41.0	41.5	41.8	40.2	39.8	38.1	36.6
25 to 54	9.7	8.1	7.8	7.2	6.8	6.2	5.9	4.8
55 and over								
White								
Total, age 16 and over	60.2	62.6	67.9	69.8	65.9	66.9	63.5	63.7
Men, age 16 and over	80.0	78.5	79.9	80.2	77.9	77.4	75.7	74.3
16 to 24	70.2	76.2	80.7	82.4	79.6	80.2	77.8	77.9
25 to 54	96.3	94.9	95.6	95.8	94.4	94.1	93.1	92.1
55 and over	55.8	48.0	46.4	43.6	42.2	38.1	37.7	32.2
Women, age 16 and over	42.6	48.1	57.1	60.4	54.9	57.4	52.4	53.9
16 to 24	52.1	61.8	76.5	81.6	73.7	77.7	70.0	72.0
25 to 54	48.8	57.6	71.1	76.6	68.5	72.9	65.7	69.3
55 and over	24.9	22.7	21.8	20.3	20.7	19.0	19.3	17.0
Black and other								
Total, age 16 and over	61.8	60.0	65.9	68.9	61.7	62.0	59.6	58.9
Men, age 16 and over	76.5	71.0	76.5	79.2	70.5	69.9	68.2	66.6
16 to 24	64.5	60.7	70.4	75.3	59.6	57.4	56.5	52.5
25 to 54	91.9	88.6	92.1	94.2	87.5	86.9	86.0	84.7
55 and over	54.8	43.0	43.4	42.1	39.3	36.8	36.1	31.9
Women, age 16 and over	49.5	50.9	57.2	60.5	54.4	55.5	52.6	52.7
16 to 24	46.2	47.4	57.5	64.1	51.4	52.0	48.0	47.2
25 to 54	59.1	63.6	70.1	73.3	68.2	69.9	67.1	67.7
55 and over	30.0	25.2	24.8	23.8	23.1	21.6	21.2	18.7

Table 4. Civilian labor force by sex, age, and race; actual 1970 and 1977, projected 1985 and 1990

[Numbers in thousands]

Sex, age, and race	Actual		Projected					
	1970	1977	High growth		Intermediate growth		Low growth	
			1985	1990	1985	1990	1985	1990
Total, age 16 and over	82,715	97,401	117,005	125,603	112,953	119,366	108,900	113,521
Men, age 16 and over	51,195	57,449	65,013	68,220	63,007	65,115	61,189	62,472
16 to 24	9,715	12,862	12,882	11,879	12,465	11,156	12,134	10,744
25 to 54	4,008	4,985	4,589	4,587	4,374	4,199	4,225	4,007
55 and over	5,709	7,877	8,293	7,292	8,091	6,957	7,909	6,737
Women, age 16 and over	32,193	35,698	42,533	47,056	41,824	45,845	41,219	44,844
16 to 24	9,288	8,888	9,598	9,285	8,718	8,114	7,816	6,884
25 to 54	7,124	7,043	7,506	7,197	6,953	6,383	6,551	5,796
55 and over	2,184	1,845	2,092	2,088	1,785	1,731	1,265	1,088
Men, age 16 and over	31,520	39,952	51,992	57,383	49,945	54,253	47,731	51,049
16 to 24	8,115	10,823	12,510	12,054	11,934	11,225	11,315	10,375
25 to 54	3,241	4,267	4,457	4,546	4,192	4,139	3,887	3,749
55 and over	4,874	6,556	8,053	7,508	7,742	7,086	7,428	6,826
Women, age 16 and over	18,196	23,682	33,596	39,630	32,432	37,713	31,220	35,942
16 to 24	5,209	5,432	5,896	5,699	5,580	5,313	5,196	4,732
25 to 54	4,153	4,367	4,683	4,487	4,536	4,270	4,297	3,925
55 and over	1,056	1,065	1,203	1,212	1,044	1,043	899	807
White								
Total, age 16 and over	73,518	86,107	101,951	108,253	98,876	103,751	95,285	98,686
Men, age 16 and over	46,013	51,421	57,137	58,234	55,753	57,185	54,147	54,921
16 to 24	8,533	11,405	11,064	9,954	10,925	9,899	10,676	9,401
25 to 54	28,988	31,900	37,399	40,976	36,949	40,237	36,425	39,380
55 and over	8,492	8,116	8,674	8,304	7,879	7,259	7,046	6,140
Women, age 16 and over	27,505	34,686	44,814	49,019	43,123	46,566	41,138	43,765
16 to 24	7,135	9,525	10,835	10,219	10,437	9,736	9,915	9,024
25 to 54	15,684	20,307	28,777	33,826	27,743	32,178	26,610	30,579
55 and over	4,686	4,854	5,202	4,974	4,943	4,652	4,613	4,162
Black and other								
Total, age 16 and over	9,197	11,294	15,058	17,350	14,079	15,615	13,618	14,836
Men, age 16 and over	5,182	6,028	7,879	8,986	7,256	7,930	7,022	7,550
16 to 24	1,181	1,458	1,820	1,926	1,542	1,468	1,460	1,343
25 to 54	3,205	3,798	5,134	6,080	4,875	5,606	4,792	5,464
55 and over	797	772	925	980	839	856	770	743
Women, age 16 and over	4,015	5,266	7,179	8,364	6,823	7,683	6,596	7,286
16 to 24	979	1,307	1,875	1,834	1,497	1,498	1,400	1,351
25 to 54	2,512	3,390	4,820	5,804	4,690	5,537	4,612	5,364
55 and over	523	568	684	726	636	660	584	571

differences among the three sets of projections and their underlying assumptions.

Intermediate growth path

Under the intermediate-growth assumptions, the civilian labor force would reach 113.0 million by 1985 and 119.4 million by 1990. Contributing to this growth would be the expansion of the working-age population and a rise in the civilian labor force participation rate from 62.3 percent in 1977 to 66.2 percent by 1990.

The basic assumptions which underlie this scenario are as follows:

- For men, labor force participation would continue to edge down, although not as fast as over the 1970–77 period. The overall participation rate for men would be 76.4 percent in 1990 compared with 77.7 percent in 1977.
- The only group of men for whom the participation rates would rise significantly under this scenario are teenagers—reaching a rate of 64.8 percent by 1990, up from 61.0 percent in 1977.
- Labor force participation rates of women would rise substantially, with the rise continuing at the pace of the 1970–77 period, then slowing down gradually to a more

moderate rate of increase. Under these assumptions, the overall rate of labor force participation for women would rise from its 48.4-percent average for 1977 to 54.8 percent by 1985, reaching 57.1 percent by 1990.

• For older workers, both men and women, labor force participation would continue to decline under this scenario, but at a much slower pace relative to the drop registered over the 1970–77 period. For men age 55 and over, the labor force participation rate would drop from 47.5 to 38.0 percent between 1977 and 1990; for women age 55 and over, the rate would edge down from 22.9 to 19.3 percent over the same period.

• Continuing the pattern of the 1970's, the overall rate of participation would increase more for whites than for the "black and other"⁵ component of the population. The civilian labor force rate for whites would rise from 62.6 to 66.9 percent over the 1977–90 period, while the rate for "black and others" would rise from 60.0 to 62.0 percent. Nevertheless, because of the much more rapid increase in the black population, the proportion of the labor force accounted for by "black and other races" would still increase some—from 11.6 to 13.1 percent.

Under these assumptions, women would continue to increase their share of the labor force, which would reach 45 percent by 1990, up from 41 percent in 1977. Another important development, inherent to this as well as the other two scenarios, is the large growth in the proportion of the labor

force in the central age groups. Reflecting, primarily, the sharp decline in the youth population and the anticipated continuation of the decline—albeit at a reduced pace—in labor force participation among older workers, the proportion of the work force accounted for by persons age 25 to 54 should expand from 61 to 70 percent over the 1977–90 period. The growing labor force role of persons age 25 to 54, who have considerable work experience and are generally very productive, should help to sustain the economic growth of the Nation.

High-growth scenario

Under the high-growth scenario, the civilian labor force would reach 117.0 million by 1985 and 125.6 million by 1990. Most of the growth underlying these assumptions would be accounted for by women, whose civilian labor force participation rate would rise to 57.1 percent by 1985 and to 60.4 percent by 1990. The basic assumptions which underlie the high-growth projection are the following:

- At least for the initial years of the projection period, the participation rates for women in the young and central age groups would continue to rise at the very rapid pace of the most recent years. (However, in no case would the rates for women cross the rates for men of comparable age.)
- The historical downward drift in the participation rates of white men in the central age groups would come to a halt, with these rates remaining essentially constant or rising slightly during the projection period.
- The participation rates for black men would not only halt their historical decline but would turn upward, so as to converge with the rates for white men of comparable age by the year 2000. However, they still would differ considerably in 1990.
- The participation rates of persons age 65 and over would not decline any further during the first 8 years of the projection period, reflecting the temporary impact of the recent legislation raising the minimum age of mandatory retirement to 70 in the private sector and banning the practice altogether for Federal workers.

Under this growth path, the proportion of the labor force accounted for by women would grow slightly faster than under the intermediate-growth scenario. With high growth, it would expand from 41 percent in 1977 to 46 percent in 1990. These projections would also entail a very significant expansion in the proportion of the labor force accounted for by blacks, whose participation rates under this scenario are assumed to move toward convergence with white rates. Should the path toward convergence be followed, there would be an increase in the “black and other” share of the civilian labor force from 11.6 percent in 1977 to 13.8 percent by 1990.

In terms of age distribution, the high-growth assumptions would imply an increase in the labor force proportion of persons age 25 to 54 from 61 percent in 1977 to 69.0 percent in 1990—an increase only slightly smaller than that implicit in the intermediate-growth scenario.

Low-growth scenario

Under the low-growth scenario, the civilian labor force is projected to grow only to 108.9 million by 1985 and to 113.5 million by 1990. As shown in table 1, this would imply an annual rate of growth of 1.4 percent (compounded) for the 1977–85 period and 0.8 percent for the 1985–90 period, substantially below the growth rate of 2.3 percent for the 1970–77 period. This very low rate of labor growth could be attained if:

- The labor force participation rates for adult men would continue to drift downward, at least for the initial years of the projection period. This would lower the civilian labor force participation rate of men to 73.3 percent by 1990, down from 77.7 percent in 1977.
- The rise in the labor force participation rates of women of child-bearing age would be slowed down considerably by a rebound from their currently low fertility rate. It was assumed for the purpose of these projections that, beginning in 1980, the fertility rate would move toward the Series I path in the Census projections, implying that each woman would have an average of 2.7 children compared with the average of 1.8 children in recent years.⁶ Principally because of this constraint, but also because the labor force rates for women outside the child-bearing group would be assumed to rise at a lesser pace than under either of the other two scenarios, the overall civilian labor force participation rate for women age 16 and over would rise to only 53.8 percent by 1990, up from 48.4 percent in 1977.
- The participation rates for older workers would continue to decline roughly at the pace of the 1970's, the hypothesis being, in part, that the recent changes in legislation concerning mandatory retirement might not have any impact on the labor force trends for older workers.
- The participation rates of teenagers would continue to advance but at a slower pace than implied in the other growth scenarios.

There are not yet any signs that the hypothesized rebound in the fertility rate, which is crucial to these participation assumptions, is about to take place. There are, nevertheless, some demographers who believe that it will take place. Richard Easterlin, for example, believes that the decline in the youth proportion of the population during the early 1980's will be accompanied by exactly such a phenomenon.⁷

Even under this scenario, however, the proportion of the labor force accounted for by women would expand significantly—from 41 percent in 1977 to 45 percent in 1990. There would again be a

substantial rise in the proportion of the labor force accounted for by persons age 25 to 54, as this is a development stemming essentially from population dynamics that are the same under each of the three scenarios. On the other hand, the racial composition of the labor force would change very little under these assumptions, as the participation rates for some black groups are allowed to decline considerably, nearly offsetting the increase in the black proportion of the population.

Socioeconomic implications

Inherent in the labor force growth paths traced by these sets of projections and in the population trends which underlie them are some important implications for the social and economic development of our Nation during the 1980's. There should be, for example, some improvement in the employment situation of youths. In general, the labor force should be more mature and thus somewhat more productive; the ratio of nonworkers to workers in the total population would narrow in at least two of the scenarios, a development that should lead to further improvements in our overall standard of living.

The coming decline in the youth population should lessen the competition for jobs among youths, narrowing the relative gap between their jobless rates and those for older workers. This gap was much smaller before the youth population began increasing rapidly during the mid-1960's, and its subsequent widening has been directly linked by some economists to the "crowding" effect caused by the entry of ever-larger numbers of youths into the job market.⁸ Of course, the sharp reduction in the number of youths should also have a negative impact on college enrollments and on the production and marketing of those goods and services traditionally aimed at the youth market.

It should also be noted that the decline in the youth proportion of the population will not be nearly as pronounced for blacks as for whites. The black population historically has had a much higher birth rate than the white population and, thus, a larger component of young persons. This will continue to be the case. Although the birth rate also has been slackening among blacks, the number of black youths is still projected to rise slightly during the 1980's. Because black youths traditionally have had very high unemployment rates, the increase of the black proportion of the youth population will tend to keep the overall youth jobless rate high. It can be hypothesized, however, that even black youths will benefit

substantially from the reduced competition for jobs among youths in general.

Although the number of youths in the labor force will drop, the number of workers age 25 to 54 will expand considerably, reflecting the gradual aging of the post-World War II baby boom. (See table 5.) The implications of this development are that the labor force, in general, will be more mature, composed of persons with considerable work experience, and, supposedly, very productive. In terms of potential output, this development should tend to offset, at least partially, the effects of the numerical decline in labor force growth during the 1980's. But it is worth noting again that, under all three sets of projections, there would be an increase in the proportion of the labor force who are women; this also has considerable implications in terms of potential output. The consequences of this development, as far as output is concerned, will depend heavily on the extent to which women—particularly those with children—will be able to work on a full-time basis.

Table 5. Labor force distribution, by sex, age, and race, to 1990

[Percent]

Sex, age, and race	Actual		Projected					
	1970	1977	High growth		Intermediate growth		Low growth	
			1985	1990	1985	1990	1985	1990
Total, age 16 and over	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men, age 16 and over	61.9	59.0	55.6	54.3	55.8	54.6	56.2	55.0
16 to 24	11.7	13.2	11.0	9.5	11.0	9.3	11.1	9.5
16 to 19	4.8	5.1	3.9	3.7	3.9	3.5	3.9	3.5
20 to 24	6.9	8.1	7.1	5.8	7.2	5.8	7.3	5.9
25 to 54	38.9	36.7	36.4	37.5	37.0	38.4	37.9	39.5
55 and over	11.2	9.1	8.2	7.4	7.7	6.8	7.2	6.1
55 to 64	8.6	7.2	6.4	5.7	6.2	5.3	6.0	5.1
65 and over	2.6	1.9	1.8	1.7	1.6	1.5	1.2	1.0
Women, age 16 and over	38.1	41.0	44.4	45.7	44.2	45.5	43.8	45.0
16 to 24	9.8	11.1	10.7	9.6	10.6	9.4	10.4	9.1
16 to 19	3.9	4.4	3.8	3.6	3.7	3.5	3.6	3.3
20 to 24	5.9	6.7	6.9	6.0	6.9	5.9	6.8	5.8
25 to 54	22.0	24.3	28.7	31.6	28.7	31.6	28.7	31.7
55 and over	6.3	5.6	5.0	4.5	4.9	4.5	4.8	4.2
55 to 64	5.0	4.5	4.0	3.6	4.0	3.6	3.9	3.5
65 and over	1.3	1.1	1.0	1.0	.9	.9	.8	.7
White								
Total, age 16 and over	88.9	88.4	87.1	86.2	87.5	86.9	87.5	86.9
Men, age 16 and over	55.6	52.8	48.8	47.2	49.4	47.9	49.7	48.4
16 to 24	10.3	11.7	9.5	7.9	9.7	8.1	9.8	8.3
25 to 54	35.0	32.8	32.0	32.6	32.7	33.7	33.4	34.7
55 and over	10.3	8.3	7.4	6.6	7.0	6.1	6.5	5.4
Women, age 16 and over	33.3	35.6	38.3	39.0	38.2	39.0	37.8	38.6
16 to 24	8.6	9.8	9.3	8.1	9.2	8.2	9.1	7.9
25 to 54	19.0	20.8	24.6	26.9	24.6	27.0	24.4	26.9
55 and over	5.7	5.0	4.4	4.0	4.4	3.9	4.2	3.7
Black and other								
Total, age 16 and over	11.1	11.6	12.9	13.8	12.5	13.1	12.5	13.1
Men, age 16 and over	6.3	6.2	6.7	7.2	6.4	6.6	6.4	6.7
16 to 24	1.4	1.5	1.6	1.5	1.4	1.2	1.3	1.2
25 to 54	3.9	3.9	4.4	4.8	4.3	4.7	4.4	4.8
55 and over	1.0	.8	.8	.8	.7	.7	.7	.7
Women, age 16 and over	4.9	5.4	6.1	6.7	6.0	6.4	6.1	6.4
16 to 24	1.2	1.3	1.4	1.5	1.3	1.2	1.3	1.2
25 to 54	3.0	3.5	4.1	4.6	4.2	4.6	4.2	4.7
55 and over	.6	.6	.6	.6	.6	.6	.5	.5

Another important implication of these projections is that persons age 55 and over, and particularly those over 65, will continue to show an increased preference for leisure over work. The three sets of projections differ in this respect only in terms of how much lower the participation rates of older persons may go. Under the high-growth assumptions, these rates would decline very little; in the low-growth scenario they would continue to drift downward as they have over the past decade. The rationale for these assumptions is that, although the recent changes in mandatory retirement legislation might be expected to slow the decline in participation among the 65–69 age group, a sudden upturn in any of the rates for older workers is unlikely. With the general tendency toward earlier retirement expected to continue, the proportion of older persons who are outside the labor force is projected to be larger in 1990 than it is now.

Despite this projected development, the “economic dependency ratio,” that is, the ratio of nonworkers to workers in the entire population, including children, should narrow considerably during the 1980’s. This ratio stood at 117.8 in 1977, meaning that there were 117.8 nonworkers for every 100 workers in the population. Assuming that the birth rate will not increase much from current levels, the dependency ratio would decline considerably, both under the high-growth and the intermediate-growth scenarios. Only under the low-growth scenario, which is predicated on a sharp rise in the birth rate and on a very small increase in the overall labor force participation rate, would the “economic dependency ratio” remain at current levels (1977 = 117.8), as shown in the following tabulation:

<i>Level of labor force growth</i>	<i>Economic dependency ratio</i>	
	1985	1990
High growth	92.2	85.0
Intermediate growth	99.0	94.5
Low growth	115.2	120.3

The implications of the high-growth and intermediate-growth scenarios with regard to the dependency ratio is that each worker would have fewer nonworkers to feed, clothe and house—this should help improve our overall standard of living. Even with low rates of labor force growth and a sharp rebound of the birth rate, there still would not be a significant widening of this important ratio during the 1980’s. The ratio is, of course, expected to widen considerably after the year 2000, when the post-World War II babies, who are now

entering the central age groups, begin to retire. But that is a development far beyond the scope of these projections.

As already noted, the implications for blacks vary considerably with each of the three scenarios. Under the high-growth scenario, the labor force participation rates for blacks would move toward convergence with the rates for whites. For black men, this would imply a sharp reversal of long-run trends and a return to the situation in the mid-1950’s, when their participation rates differed little from those of white men. Since then, their participation rates have dropped much more rapidly than those of white men, creating a substantial gap. In this context, the high-growth scenario, which would gradually lead toward a complete elimination of this gap, might be regarded as illustrative of the difficult path that has to be traveled to have black men participating fully in the economic life of our Nation.

The labor force trends of black and white women have been much different. Although participation has been increasing at a faster pace for white than for black women, the rates for black women in the central age groups are still higher than those for white women. The question is: with participation among white women fast approaching the level for black women, will the rates for the two groups gradually converge and then move together, or will they cross and diverge? Here, as in the case of men, the high-growth scenario would imply a gradual movement toward parity in the rates for the two racial groups. In the two other scenarios, the rates for white women would cross and eventually exceed those of black women.

Summary and conclusions

Labor force growth should slow down during the 1980’s, largely because the working age population will be expanding much more slowly than during the 1970’s. The youth labor force should actually decline considerably, reflecting the protracted decline in the birth rate during the 1960’s and early 1970’s. Concomitant with this development should be a significant increase in the proportion of the work force age 25 to 54.

The precise extent to which these developments will affect the size and configuration of the labor force depends on the assumptions made about the future participation rates of the various population groups. For each population group, we projected the participation rates according to three different paths. These alternative rates were then applied to the population estimates, with the results being

aggregated into a high-growth scenario, an intermediate-growth scenario, and a low-growth scenario. The resulting labor force levels for 1990 were, respectively, 125.6 million, 119.4 million, and 113.5 million. There is, of course, nothing sacred about these numbers. Each represents nothing more than the labor force levels that would be reached if the alternative assumptions made about the labor force trends for the many population groups were

to come true *or* if, alternatively, overprojections for a group or set of groups were to be offset precisely by underprojections for another group or set of groups. The probability that the actual labor force trends will follow either of the three scenarios exactly may not be very high. Nevertheless, the three sets of projections should shed some useful light for planners and policymakers on the possible paths of future labor force growth. □

FOOTNOTES

¹ See Paul M. Ryscavage, "An Evaluation of BLS Labor Force Projections," presented at the meetings of the American Statistical Association in San Diego, California, Aug. 16, 1978.

² The projections made by BLS in 1973 and 1976 did show two alternative paths of labor force growth, but these did not differ much from the "main" projections, as the only group for whom alternative projections were made were women of child-bearing age. See Howard N. Fullerton, Jr., and Paul O. Flaim, "New labor force projections to 1990," *Monthly Labor Review*, December 1976, pp. 3-13, and Denis F. Johnston, "The U.S. labor force: projections to 1990," *Monthly Labor Review*, July 1973, pp. 3-13.

³ "Projections of the Population of the United States: 1977 to 2050," Bureau of the Census, *Current Population Reports*, Series P-25, No. 704, July 1977.

⁴ "Estimates of Coverage of Population by Sex, Race, and Age," Bureau of the Census, Report PHC (E-4).

⁵ The black and other category includes Negroes, American Indians, Eskimos, Asians, and others. At the time of the 1970 Census of Population, 89 percent of this population group was black.

⁶ "Projections of the Population..."

⁷ See Richard A. Easterlin, Michael L. Wachter, and Susan M. Wachter, "Demographic Influences on Economic Stability: The United States Experience," *Population and Development Review*, March 1978.

⁸ Michael L. Wachter, "The Demographic Impact on Unemployment: Past Experience and Outlook for the Future," in *Demographic Trends and Full Employment*, Special Report No. 12 of the National Commission for Manpower Policy, December 1976.

APPENDIX: General assumptions and methodology

In addition to the specific assumptions which were made for each of the scenarios, some general assumptions which apply to all the projections discussed above should also be pointed out.

It was assumed, for example, that there will not be any substantial changes in the current definition of the "civilian labor force."¹ It was also assumed that there will not be any major wars or major social disorders which would radically alter either the demand for labor or the propensity to work. For the purposes of these projections, it was assumed that general demand would not depart significantly from the basic trends of the past two decades.

Projecting the participation rates. Projections of labor force participation were made separately by sex and race for youths age 16 and 17, 18, and 19, and for adults grouped into 5-year age groups through age 74. In addition, for women age 20 to 44 labor force participation trends were projected separately for those expected to have young children and for those not expected to have any young children.

For each group, the average annual change in labor force participation was obtained by regressing participation against time. Two different rates of change in participation were obtained for each group by fitting a regression line on the 20 annual observations for the 1958-77 period and by fitting a separate line on the observations for the 1970-77 period. For youths and women, the data for the 1970-77 period yielded generally higher rates of increase in participation than did the observations for the entire 1958-77 period. For adult men, the shorter period yielded generally greater rates of decline in participation than did the longer period.

For most groups, the coefficients from the two regressions were then used to extrapolate two different participation trends into the future, with the 1977 participation rate for the group being used in all cases as the takeoff point. (In the projections published in 1976, the takeoff point was the average for the last three annual observations.) In some cases, however, as will be noted below, the coefficients were either increased or decreased judgmentally. Also, in nearly all cases, the amount of change in the extrapolated line (*r*)

was reduced exponentially according to the following equation:

$$r_i = r_{i-1} - (i \cdot r_{i-1})/276$$

where i is the number of years since 1977, and 276 is the sum of the digits for the years covering the 1977–2000 period.

The effect of this formula is to gradually reduce the rate of change to zero by the year 2000, but the tapering effect is almost insignificant during the first few years of the projection period.

This method yielded two of the three extrapolation lines needed to make three alternative projections for each group. A third line was needed and, depending on the course of two extrapolated lines, was placed either in the middle by computing a weighted average of the two lines or outside (and generally above) the two regression-derived lines. An outside placement was achieved by simply increasing or decreasing one of the coefficients or, as in the case of black men, by tracing a path that would bring their rate to eventual convergence with the rate for white men.

For white youths age 16 to 24, for example, the extrapolation of the 1970–77 trend diverged very widely from the extrapolation based on the 1958–77 trend. In this case, these two lines were used, respectively, for the high- and low-growth scenario and the line for the intermediate-growth scenario was obtained through a weighted combination of the other two lines:

$$\text{Intermediate rate} = b \cdot \text{high rate} + (1-b) \cdot \text{low rate}$$

where $b = 0.90$, and i is the number of years since 1977.

For most other groups, except for women age 20 to 44, the two regression derived lines did not diverge as much and generally were used to project the low and the intermediate-growth paths in participation trends, with their rate of change, again, being exponentially reduced and, in some cases, with the coefficients being changed judgmentally so as to produce what seemed to be more plausible future path. In these cases, the third projection line, used generally for the high-growth scenario, was obtained in various ways, as summarized below:

For white men age 25 to 29, the highest plausible path of their participation was assumed to be a line that increased at the same rate that it had declined over the 1958–77 period; for those age 30 to 45, the fastest increase was assumed to be half the rate of the long-term decline; and for those age 45 to 64, the highest plausible path assumed that the long-term decline would simply stop, with the rates

remaining constant over the projection period. For men age 65 and older, participation under the high-growth assumptions was held constant until 1985, based on an assumed temporary effect of the recent changes in retirement laws. After 1985, the rate was allowed to decline in a line parallel to the intermediate-growth path. For black men age 16 to 64, the high-growth lines represent the paths which their participation rates would have to trace if they are to reach parity with the projected rates for white men of comparable age by the year 2000. These paths were obtained through the following equations:

$$r = [\ln(\text{blk } 1\text{fpr}_{1977}) - \ln(\text{wht } 1\text{fpr}_{2000})]/23$$

and then using this equation to obtain the labor force rate in year i by:

$$\text{blk } 1\text{fpr}_i = \text{blk } 1\text{fpr}_{1977} \cdot e^{(ri)}$$

For women age 20 to 44, whose participation rates have been rising at an increasing pace during the 1970's, the projections for the three scenarios were made as follows. The 1970–77 trend lines for each 5-year age group were extrapolated as the participation projections for the intermediate-growth scenario. The high-growth lines for these groups were obtained by simply increasing the coefficient derived from the short-term regression, assuming that, at least for the immediate future, participation for young and middle-age women could continue to rise at a very fast pace. However, an important constraint was applied to these extrapolations. In no case were the participation rates for women allowed to exceed the projected rates for men of comparable age. Where rates for women would have exceeded the rates for men before 1990 despite the application of the tapering formula described above, the rate of increase was reduced to zero (again, exponentially) by 1990.

To the extent that there may be a negative relationship between the labor force rates of these women and their fertility rates, the assumption implicit in both the high and intermediate-growth paths was that fertility would remain at the relatively low levels of recent years.

For the low-growth projections, on the other hand, it was assumed explicitly that the fertility rate could rise significantly in the coming years, returning to the levels of the early 1960's and, thus, slowing the rise in labor force participation among women. Specifically, it was assumed that fertility would follow the path in the Series I population projections made by the Bureau of the Census. To trace the path of labor force participation under these assumptions, the population of women age 20 to 44 was divided into two groups: those

expected to have children under age 5; and those not expected to have any young children. The separate participation paths for these women were then projected on the basis of the trend in their participation rates as measured each March over the 1970–77 period. In this case, two constraints were applied: the rates for women in either of the two groups were not allowed to exceed the rates for men of comparable age; and the rates for women with children were not allowed to exceed those for women without children.

As a final step, which can be rationalized by the fact that, as of mid-1978, there were no solid signs that the birth rate was about to rise significantly, the low-growth participation projections for these women were not allowed to diverge from the projected intermediate-growth rates for women of the same age until after 1980. Implicit in this last constraint is the assumption that the birth rate is not likely to rise much above current (1978) levels until after 1980.

This describes the general methodology used in projecting the participation rates. Those who are interested in more specific detail should contact the authors of this report.

Application of participation projections. The process followed in applying the participation projections to the projected population estimates—thus generating the projected labor force levels—was as follows. For all groups, the projected rates of change in participation for each year of the projection period were applied to the previous year's ratio of the total labor force, including the Armed Forces, to the total population as projected by the Bureau of the Census. This yielded the levels of total labor force, including Armed Forces. To translate these into a civilian labor force concept and to compute the civilian labor force participation rates, two other steps were necessary: removal of the institutional population from the total population; and removal of the Armed Forces both from the population and labor force projections. Removal of the institutional population was accomplished by applying to the total population a series of constant ratios equal to those published by the Bureau of the Census with their most recent population estimates.² The Armed Forces were subtracted both from the population and total labor force projections based on data supplied by the Defense Department, the long-term goals of which are for a total of about

2.1 million personnel, one-tenth of whom would be women. For our purposes, it was assumed that these goals would be reached (from currently lower levels) by 1983, and that both the size and sex distribution of the Armed Forces would remain constant for the balance of the projection period.

Accuracy of population estimates. The Bureau of the Census' population projections begin with the 1970 census. Additional steps include aging the population and making the proper allowances both for the known and the projected course of births, deaths, and net migration. In the final analysis, the projected size of the population may differ from the actual "true" size both because of possible enumeration problems in the decennial census as well as because the actual course of births, mortality, and net migration may differ from the projected trends.

With regard to the population estimates used in projecting the labor force until 1990, it is worth noting again that they cannot be directly affected by any changes in the birth rate during the projection period. Although changes in mortality rates would impact on these population estimates, they are likely to have little effect on the labor force, since they would tend to fall in the older population groups where participation in the labor force is very low.

Of more importance in terms of the labor force projections are possible changes in the population estimates which might have to be made to reflect the findings of the 1980 Census or of the quinquennial census scheduled for 1985. It is also possible that the population projections might eventually be revised to reflect a better knowledge of the net migration trends, particularly with regard to the inflows of the so-called "undocumented aliens." Nevertheless, relative to the size of the total population of working age, these revisions are not likely to loom very large. □

FOOTNOTES

¹ The concepts and definitions used to measure employment and unemployment and, thus, the civilian labor force are currently being studied by the National Commission on Employment and Unemployment Statistics, which is scheduled to submit its recommendations to Congress in late 1979.

² Bureau of the Census, *Current Population Reports*, P-25, No. 643, table A-3.

The U.S. economy to 1990: two projections for growth

A moderately expanding economy, with a declining government role, is envisioned in BLS estimates for 1977 to 1990, which replace projections for 1975 to 1985

NORMAN C. SAUNDERS

How fast can the U.S. economy grow by 1990?

The Bureau of Labor Statistics has prepared two alternative projections spanning 1977 to 1990, replacing projections for 1975 to 1985.¹ The base projection examines the potential for growth with a moderately expanding labor force, a relatively slow decline in inflation and unemployment, and moderate Government expenditures. The high employment projection assumes a much larger labor force and a heavy emphasis on job creation, which would lower the unemployment rate significantly.

By 1990, real gross national product (GNP) is expected to reach \$2.1 trillion and civilian employment to total 114 million.

In the base projection, the annual rate of increase in gross national product and several key components will begin to slow in the 1980's:

	1977-80	1980-85	1985-90
Gross national product	4.3	3.6	3.2
Personal income	11.0	9.8	8.3
Employed	2.8	1.9	1.2
Unemployed	-5.7	-1.5	.2

The growth slowdown is due almost entirely to decelerating expansion of the labor force.

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Major assumptions

For both projections, inflation is expected to average 6.7 percent during 1977-80 but decelerate to 5.2 percent during 1980-90, a rate roughly comparable to the 1968-73 level of inflation. The following are the fiscal, demographic, and other major assumptions underlying the BLS economic growth model for the base projection.²

Fiscal policy. Personal taxes will be affected by a \$16.0-billion personal income tax cut assumed for 1979, consistent with the Revenue Act of 1978. Further tax cuts are specified during the 1980's to offset the impact of inflation on the effective Federal personal tax rate. The effective rate is projected to range between 10.5 percent and 11.0 percent of personal income between 1980 and 1990.

The Federal tax rate on corporate profits is assumed to drop from 48.0 percent in 1978 to 46.0 percent in 1979 and to 45.0 percent in 1980 and thereafter. A version of the crude oil equalization tax is assumed to take effect in 1979, impacting indirect business taxes. The revenue from this tax is expected to reach a maximum of \$17.0 billion in 1984 and then quickly drop to an insignificant amount by 1986 as the so-called 'old oil' is replaced with newer discoveries. Approximately 90.0 percent of this tax will be returned to the public via personal tax rebates. The remainder

represents the administrative costs of the program.

Contributions for social security programs are based primarily on the taxable wage base and the combined employer/employee tax rate. It is assumed that the increase mandated by the Social Security Act of 1977 will be in effect through 1980. Namely, the wage base will be \$23,900 and the combined employer/employee tax rate will be 12.3 percent in 1980. After 1980, it has been assumed that future amendments to the 1977 act will be in effect. The wage base is expected to increase to \$45,000 by 1990, an average annual rate of 6.6 percent between 1980 and 1990. The tax rate will increase to 13.6 percent by 1990, compared with the 15.6 percent currently mandated for that year.

In regard to Federal expenditures, it is assumed that purchases of goods and services less compensation will grow at about 7.5 percent annually between 1980 and 1985 and at 6.0 percent during the 1985-90 period. This amounts to about 1.8 percent real growth per year between 1980 and 1990. Federal civilian employment is expected to increase by just under 150,000 between 1980 and 1990 at an average annual increase of 0.7 percent.

Federal transfer payments comprise: (1) unemployment insurance benefits; (2) social security; (3) Federal civilian employee retirement; (4) railroad retirement; (5) veterans' benefits; (6) hospital and supplementary medical insurance; (7) supplemental security income; and (8) all other Federal transfer payments. Projections for each category are based on expected inflation, changes in client populations, and some discretionary change which represents real changes in offered benefits. All eight categories are projected in terms of current services through 1983, that is, no real growth in programs is envisioned during the 1977-83 period. After 1983, discretionary rates of growth are set at 1.0 percent to 3.0 percent each year for the various programs through 1990. It should be noted that the assumed discretionary rates represent far lower rates of real growth in transfers than was experienced in the late 1960's and early 1970's. Grants-in-aid to States and localities are essentially unchanged in real terms throughout the projection period, as are subsidies to government enterprises.

In addition to the above Federal budget assumptions, two general objectives were to achieve a relative balance between receipts and expenditures by the early 1980's and to bring expenditures below the current 22.0 percent share of GNP. The following are the results of these assumptions:

	1977	1980	1985	1990
Federal receipts	374.4	522.6	812.4	1,168.8
As percent of GNP	19.8	20.1	19.9	19.4

Federal expenditures	422.6	554.4	832.9	1,191.2
As percent of GNP	22.4	21.4	20.4	19.8
Federal deficit	-48.1	-31.7	-20.5	-22.5
As percent of GNP	2.5	1.2	.5	.4

It should be noted that the figures above represent the National Income measure of receipts, expenditures, and the deficit.

Demographic changes. The primary determinants of the demographic data are the level and age distribution of the population. Three projected population series have been developed by the Bureau of the Census, differing primarily in the assumed fertility rate.³ The Series II projections have been chosen for inclusion in the base forecasts. Projections of the number of households and the number of students have also been prepared by the Bureau of the Census.⁴ It has been assumed that recent urban population trends will continue throughout the projection period. Finally, the 'moderate growth' labor force projections developed by BLS were chosen for the base projections.⁵

Unemployment and productivity. The unemployment rate is viewed as a policy objective in the projections. Values are assigned to represent, first, a realistic recovery path from the 1975 recession and, second, after the recovery is complete, a stable long-run unemployment rate close to full employment. The assumed unemployment rates by year:

1979	6.3	1985	4.7
1980	5.5	1986	4.7
1981	5.3	1987	4.6
1982	5.2	1988	4.6
1983	5.0	1989	4.6
1984	4.9	1990	4.5

The largest declines occur in the late 1970's and early 1980's. As the economy recovers from the recession and approaches full employment, the declines in the unemployment rate begin to taper off and a nearly constant rate is reached by 1985. The relatively small declines after 1985 reflect the changing age structure of the labor force, rather than any real decline in the rate itself. As long as the assumed rate remains relatively constant after 1985, the real rate of projected GNP growth will be unaffected during the 1985-90 period.

For the private nonfarm sector, the long term average rate of growth of productivity was 2.6 percent between 1955 and 1968. Between 1968 and 1973, the rate declined sharply to 1.9 percent annually and even further to 1.1 percent each year between 1973 and 1977. This shortfall in productivity growth has been attributed to many factors, including new workers' inexperience and lack of education and increasing emphasis on non-production oriented types of investment, such as

pollution control equipment.⁶ There has been a strong cyclical recovery of nonfarm productivity of almost 2.5 percent annually in the 1975–77 period. However, a considerable slowdown in productivity growth is assumed for the remainder of this decade—1.7 percent average growth from 1977 to 1980.

Between 1980 and 1985, it has been assumed that there will be a relatively slow recovery in productivity on the order of 2.1 percent annual growth and between 1985 and 1990, 2.4 percent. The return to higher rates of growth is attributable to several factors, all of which are basically negations of those factors which caused the earlier slowdown in growth. Members of the post-World War II baby boom will become experienced workers during the 1980's, and hence, more productive. The rapid growth in the levels of investment in environment and energy conservation equipment should slow in the early to mid-1980's, thus allowing a greater proportion of the investment dollar to be spent on more productive plant and equipment.

It should be emphasized that even with this return to higher productivity, the economy will not return to the level of production it would have attained had productivity growth remained at the 1955–68 rate. Rather, it is estimated that the slowdown in productivity growth during the 1968–77 period resulted in a loss of approximately \$115 billion in real production.

Prices and energy. The final major assumption deals with the inflation rate. The implicit price deflator for private GNP is expected to be well below the 7.6 percent rate of inflation experienced during the 1973–77 period. It is assumed to increase at an average annual rate of 6.5 percent between 1977 and 1980, slowing to 5.5 percent during 1980–85 and 4.4 percent during 1985–90. This compares to 2.1 percent between 1955 and 1968 and 4.7 percent between 1968 and 1973.

While prices do not directly affect the determination of real GNP, they do enter into the projections in several important ways. First, wage rates and interest rates are influenced to a great extent by price changes. These affect consumption expenditures and residential investment. Second, prices impact on the Federal budget. They enter implicitly into the determination of various expenditure levels and, on the revenue side, they affect personal income tax because of the progressive tax structure. The movement of prices in the future 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.

These are the assumptions which have the greatest impact on the projection results. Other assumptions include capital discard rates, motor fuel usage, and short and medium term Government bond rates. In general, however, their impact is limited to relatively small areas.

One area deserving of further comment, however, is energy and the effect of pending energy-related legislation. It is assumed that the higher prices for energy will not act as a constraint on aggregate growth, nor will any energy program, with the exception of the crude oil equalization tax, have a discernible impact on the aggregate economy. At the industry level, however, the mix of fuels used to meet energy needs is projected to change and thus affect employment requirements. For a discussion of energy assumptions at the industry level, see the article by Arthur Andreassen in this issue.

Aggregate demand

Gross national product consists of personal consumption expenditures (PCE), nonresidential and residential fixed investment, business inventory accumulations, net foreign trade, and government purchases of goods and services. Total GNP and its various components are presented in table 1 in constant 1972 prices for selected years from 1955 to 1990. Under the base assumptions, total GNP is projected to grow at a rate of 4.3 percent annually between 1977 and 1980, slightly lower than the recovery growth rate of 5.3 percent annually from 1975 to 1977. The strongest growth is expected in purchases of producers' durable equipment. This component of GNP is expected to increase by almost \$21.0 billion in real terms during the remainder of this decade, an average rate of 7.0 percent. The other demand components of GNP are also expected to grow slightly above trend rates during this period.

After 1980, the real rate of annual growth of output is expected to slow to a rate more representative of the long term historical growth pattern—3.6 percent from 1980 to 1985. The components of real GNP are also expected to return to their long-term growth rates. After 1985, the projected slowdown in population and labor force growth results in real GNP growth subsiding to 3.2 percent annually between 1985 and 1990.

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 64.4 percent in 1977. This trend is expected to continue, with consumption making up almost 68.0 percent of final output by 1990. The expansion of personal consumption at a more rapid rate than total GNP is due primarily to two factors. First, the effective Federal and State tax rates on personal income are projected to decline from 14.1 percent in 1980 to 13.7 percent in 1990, reflecting the tax cuts. The declining tax rate yields a growth in real disposable personal income of 4.1 percent per year during the 1980-85 period and 3.7 percent annually between 1985 and 1990—in each case 0.5 percent higher than the total GNP rate of growth. In addition the savings rate is projected to decline from 7.7 percent in 1975 to 5.7 percent in 1980 and to 5.6 percent by 1990. The slow decline in the savings rate is consistent with a long period of steady growth and high employment levels and also reflects that 1975 represented a historically high savings rate, reflecting record interest rates and the effect of the recession on durable goods purchases.

Here is the percent distribution of personal consumption among durable goods, nondurable goods, and services for several selected years:

	1955	1977	1980	1985	1990
Expenditures	100.0	100.0	100.0	100.0	100.0
Durables	13.2	16.1	16.6	17.5	18.4
Nondurables	46.9	38.5	38.1	36.8	35.4
Services	39.9	45.4	45.3	45.7	46.2

The trend since the mid-1950's toward a slower rate of growth in nondurables as compared to durables and services expenditures is expected to continue through 1990. This trend reflects the expected response of nondurable purchases to increases in disposable income.

Investment. Gross private domestic investment consists of (1) investment in residential structures; (2) purchases of nonresidential structures; (3) purchases of producers' durable equipment; and (4) changes in inventories held by businesses. Historically, gross domestic investment has accounted for 15.0 to 16.0 percent of GNP. At the same time, 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 held by business for future profits and potential growth and, as such, tends to fluctuate rather sharply as those expectations change.

In 1975, for example, domestic investment fell to a level of \$143 billion in real terms, more than \$60

billion below the 1973 level. This represented a 12.0 percent share of GNP, down from almost 17.0 percent in 1973. By 1977, however, investment had recovered to a great extent and accounted for 14.7 percent of GNP. Because of the anticipatory role played by investment, it is a key to determining the longrun growth potential of the economy. In essence, investment represents current commitments to future growth and is an important source of productivity growth.

All four categories of investment are projected to increase at a very rapid rate—much higher than the historical trend—during the 1975-80 period. The most dramatic recovery from the 1975 recession is expected to occur in the area of housing. Residential construction dropped by more than \$20 billion between 1973 and 1975. The drop was due to the interplay of several factors, chiefly credit availability and the overall downturn in the economy. Mortgage rates have stabilized somewhat, incomes are catching up with price increases, and the residential market is expected to recover from the 1975 debacle. Most of the recovery has already taken place, in 1976 and 1977, and, as a result, residential investment is projected to grow at a rate of 1.1 percent annually between 1977 and 1980.

Several factors will impact on residential investment during the 1980's. Over the entire decade the rate of household formation is projected to decelerate rapidly, due primarily to projected slowdowns in population growth and to changes in the age structure of the population. The number of new households formed in 1960 was just under 1.5 million, approximately 1.6 million in 1970 and 2.1 million in 1977. Census projections, however, show new households of 1.6 million in 1980, 1.5 million in 1985, and 1.4 million in 1990. The other major factors affecting residential investment are the average real value of new housing units and the mix of new housing purchases among single-family, multifamily, and mobile homes. Between 1980 and 1985, the rate of growth of residential investment is projected to be 6.0 percent per year. The slowdown in household formation will reduce the number of housing starts. However, the impact is more than offset by an expected increase in the average real value of new dwelling units as homes are expected to be made more energy-efficient. After 1985, it is expected that the average value of a new unit will have stabilized as the design features for energy efficiency become incorporated in all new structures. Also, the shift of people away from single-family homes to multifamily dwellings and mobile homes is expected to lower the average

Table 1. Gross national product by major component, 1955, 1968, 1973, 1977, and projected to 1980, 1985, and 1990

[1972 dollars in billions]

Component	Actual				Projected					
	1955	1968	1973	1977	Base			High employment		
					1980	1985	1990	1980	1985	1990
Gross national product	654.7	1,051.7	1,234.7	1,332.8	1,511.2	1,803.3	2,112.8	1,526.4	1,853.1	2,196.2
Personal consumption expenditures	395.1	633.4	767.6	857.7	966.5	1,184.4	1,428.7	969.8	1,203.7	1,462.7
Gross private domestic investment	104.0	159.5	207.1	196.4	233.0	286.0	331.0	232.3	290.3	342.8
Nonresidential structures	25.3	42.0	45.5	40.0	45.7	52.4	65.0	45.0	52.8	67.3
Producers' durable equipment	36.3	67.0	86.7	91.0	111.4	132.8	161.0	109.6	133.1	165.5
Residential investment	34.7	41.9	58.4	56.5	58.3	78.0	82.4	58.8	79.5	84.6
Change in business inventories	7.7	8.7	16.5	8.9	17.6	22.9	22.7	18.9	24.9	25.3
Net exports	4.7	-4	7.5	9.5	15.9	20.6	26.6	14.5	20.2	27.9
Exports	27.9	58.5	87.4	98.2	117.0	139.3	173.1	115.6	145.1	188.6
Imports	23.2	58.9	79.9	88.7	101.1	118.7	146.5	101.1	124.9	160.7
Government purchases	150.9	259.2	252.5	269.2	295.8	312.3	326.5	309.9	338.9	362.8
Federal	86.9	128.3	96.6	101.6	105.2	111.8	117.8	109.8	117.8	122.4
State and local	64.0	130.9	155.9	167.6	190.5	200.5	208.7	200.1	221.1	240.4
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	60.3	60.2	62.2	64.4	64.0	65.7	67.6	63.5	65.0	66.6
Gross private domestic investment	15.9	15.2	16.8	14.7	15.4	15.9	15.7	15.2	15.7	15.6
Nonresidential structures	3.9	4.0	3.7	3.0	3.0	2.9	3.1	2.9	2.9	3.1
Producers' durable equipment	5.5	6.4	7.0	6.8	7.4	7.4	7.6	7.2	7.2	7.5
Residential investment	5.3	4.0	4.7	4.2	3.9	4.3	3.9	3.9	4.3	3.9
Change in business inventories	1.2	.8	1.3	.7	1.2	1.3	1.1	1.2	1.3	1.2
Net exports .....	.7	-0	.6	.7	1.1	1.1	1.3	.9	1.1	1.3
Exports	4.3	5.6	7.1	7.4	7.7	7.7	8.2	7.6	7.8	8.6
Imports	3.5	5.6	6.5	6.7	6.7	6.6	6.9	6.6	6.7	7.3
Government purchases	23.0	24.6	20.4	20.2	19.6	17.3	15.5	20.3	18.3	16.5
Federal	13.3	12.2	7.8	7.6	7.0	6.2	5.6	7.2	6.4	5.6
State and local	9.8	12.4	12.6	12.6	12.6	11.1	9.9	13.1	11.9	10.9
Average annual rate of change										
	1955-68	1968-73	1973-77	1977-80	1980-85	1985-90	1977-80	1980-85	1985-90	
Gross national product	3.7	3.3	1.9	4.3	3.6	3.2	4.6	4.0	3.5	
Personal consumption expenditures	3.7	3.9	2.8	4.1	4.1	3.8	4.2	4.4	4.0	
Gross private domestic investment	3.3	5.4	-1.3	5.9	4.2	3.0	5.8	4.6	3.4	
Nonresidential structures	4.0	1.6	-3.2	4.5	2.8	4.4	4.0	3.3	5.0	
Producers' durable equipment	4.8	5.3	1.2	7.0	3.5	3.9	6.4	4.0	4.5	
Residential investment	1.5	6.8	-8	1.1	6.0	1.1	1.3	6.2	1.3	
Change in business inventories .....	.9	13.7	-14.3	25.6	5.4	-2	28.4	5.7	.3	
Net exports	(¹)	(¹)	6.1	18.7	5.3	5.2	15.0	6.9	6.7	
Exports	5.9	8.4	3.0	6.0	3.5	4.4	5.6	4.7	5.4	
Imports	7.4	6.3	2.6	4.5	3.3	4.3	4.5	4.3	5.2	
Government purchases	4.2	-5	1.6	3.2	1.1	.9	4.8	1.8	1.4	
Federal	3.0	-5.5	1.3	1.2	1.2	1.1	2.6	1.4	.8	
State and local	5.7	3.6	1.8	4.4	1.0	.8	6.1	2.0	1.7	

¹Not computable.

SOURCE: Actual data, Bureau of Economic Analysis, U.S. Department of Commerce; projected data, Office of Economic Growth, BLS.

real value of additions to the housing stock. Finally, the slowdown in household formation will be very noticeable between 1985 and 1990. The net effect of all the factors is to lower residential investment growth to 1.1 percent annually between 1985 and 1990.

The two categories of nonresidential investment—plant and equipment—are expected to follow the same growth trend as that exhibited by residential investment through 1985. By 1980, they are both expected to experience strong recoveries from the 1975 recession: 4.3 percent real annual growth for plant construction and almost 8.0 percent for equipment purchases. However, the recovery from 1975 to 1977 has not been as strong as in the residential sector. Therefore, growth is still projected to be quite high—6.2 percent annually from 1977 to 1980.

Again, as with residential structures, the growth

of both nonresidential categories of fixed investment is expected to moderate to some extent between 1980 and 1985. In the case of structures, the slowdown is traditionally quite steep after a sustained period of high growth. Thus the slowdown to 2.8 percent annual growth during 1980 to 1985 is reasonable after the earlier recovery period. From 1985 to 1990, however, plant investment is expected to return to the historical trend rate of 4.4 percent growth each year. Equipment purchases are expected to continue growing at approximately 3.8 percent annually during the 1980's. This is somewhat slower than the long-term historical rate of growth, but still more than adequate to maintain equipment at well over 7.0 percent of GNP throughout the projection period.

The impact of the nonresidential fixed investment projections on the stock of capital⁷ is shown in the following growth rates:

	<i>Private nonresidential capital stock</i>	<i>Private nonfarm capital stock</i>
1955-68 ..	3.5	3.7
1968-73 ..	4.1	4.2
1973-77 ..	3.1	3.1
1977-80 ..	3.5	3.6
1980-85 ..	3.5	3.6
1985-90 ..	3.7	3.8

The 1975 recession slowed the growth of the capital stock considerably. However, it is projected to return to the historical rate by the latter part of the 1980's.

Foreign trade. Imports and exports have both continued to account for a larger share of GNP over time and this trend is projected to continue throughout the projection period. In current-dollar terms, 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, as import and export prices have tended to move together both in terms of levels and rates, a zero current-dollar balance implied a zero constant-dollar balance. During the early 1970's, average import prices grew at a much faster rate than did average export prices. The disparity was due primarily to much higher petroleum prices, although world inflation in general was higher than in the United States. It has been assumed that foreign prices will once again move at roughly the same pace as export prices during the projection period. However, it is also assumed that the level difference 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 to show a generally more rapid rate of growth in exports relative to imports, thereby improving the balance of real trade over time.

Government. The Government portion of GNP is made up of purchases of goods and services and excludes all other Government expenditures. Since the high point of commitment in the Vietnam conflict, the government share of GNP has been dropping, primarily in the area of Federal demand. Federal purchases are expected to decline to 7.0 percent of real GNP by 1980 and to 5.6 percent by 1990. It is important to emphasize that this does not mean that Federal purchases are expected to decline in absolute terms. Rather, the expected rate of growth—1.0 percent annually between 1980 and

1990—is somewhat lower than the overall GNP rate of growth.

State and local purchases of goods and services are also expected to decline in terms of their real longrun share of GNP—11.1 percent in 1985 and about 9.9 percent in 1990. Historically, education purchases have grown at roughly the same rate as other State and local purchases. However, in the projection period, growth of education purchases is expected to slow markedly to an average rate of 2.2 percent annually between 1977 and 1980 and to undergo an absolute decline of -0.7 percent annually for the entire decade of the 1980's. The reduction is due primarily to projected dropoffs in school enrollments. At the same time, however, the projected rate of growth of other purchases will also slow—2.0 percent annually between 1980 and 1985 and 1.7 percent each year, 1985-90. This reflects a departure from previous years; State and local governments steadily increased their share of GNP from 9.8 percent in 1955 to 12.6 percent in 1977.

In summary, gross national product is expected to recover quite strongly from the 1975 recession. The economy will be particularly dependent on strong growth in the investment sector. After 1980, GNP growth is expected to slow somewhat as labor force growth begins to moderate. The most notable occurrence in the 1980's will be the shift away from government spending and into the private sector, especially into personal consumption. It is important to note that the change is dependent upon the fiscal assumptions discussed earlier and with other assumptions the results would be different.

Income distribution

National income, or that portion of GNP which reflects the earnings of labor, capital, and property, is projected to increase at a rate of 11.3 percent annually (in current prices) during 1977-80, by 10.0 percent during 1980-85, and by 8.3 percent during 1985-90. This compares to a rate of growth of national income between 1968 and 1973 of 8.3 percent and 9.2 percent annually in the 1973-77 period. National income will continue to account for approximately 82.0 percent of total production throughout the projection period. The income flows generated in these projections are presented in table 2 in the form of a national income accounts derivation of personal and disposable income from gross national product.

Table 2. The derivation of personal income, 1955, 1968, 1973, and 1977, and projected to 1980, 1985, and 1990

[Current dollars in billions]

Component	Actual				Projected					
	1955	1968	1973	1977	Base			High employment ¹		
					1980	1985	1990	1980	1985	1990
Gross national product	399.2	868.3	1,306.3	1,887.3	2,596.0	4,092.4	6,011.2	2,623.5	4,207.7	6,246.2
Less:										
Capital consumption allowances	35.3	73.8	117.6	196.2	281.3	422.4	615.1	281.2	422.3	618.2
Corporate	19.5	44.4	71.8	121.9	169.4	254.0	373.0	169.4	253.4	374.6
Noncorporate	15.8	29.4	45.8	74.3	111.9	168.4	242.1	111.8	168.9	243.6
Equals:										
Net national product	363.9	794.6	1,188.6	1,691.0	2,314.7	3,670.0	5,396.1	2,342.3	3,785.5	5,626.9
Less:										
Indirect business taxes	32.2	78.8	120.2	165.1	224.4	303.7	379.5	224.2	305.1	403.8
Business transfer payments	1.2	3.4	5.4	9.6	9.4	14.2	21.3	9.4	14.2	21.3
Statistical discrepancy	2.5	-0.6	2.6	4.7	0.0	0.0	0.0	0.0	0.0	0.0
Plus:										
Subsidies less current surplus of government enterprises	-0.0	1.3	3.9	2.8	3.9	5.4	6.7	3.9	5.4	6.7
Equals:										
National income	328.0	714.3	1,064.4	1,514.4	2,084.2	3,357.5	5,002.0	2,112.5	3,471.6	5,209.6
Less:										
Corporate profits plus inventory valuation adjustment	44.6	85.8	99.1	143.2	180.3	306.2	461.5	179.3	316.5	487.2
Social insurance contributions	11.5	48.1	91.5	140.3	217.3	341.9	502.9	221.4	359.5	536.9
Plus:										
Transfer payments to persons	16.2	56.5	113.5	199.2	267.9	431.3	654.0	267.9	431.3	654.0
Net interest paid by government	4.6	9.5	11.5	17.1	28.0	41.2	44.9	30.7	52.3	57.5
Interest paid by consumers	4.4	13.3	20.2	28.6	41.0	64.9	96.7	41.5	66.9	100.0
Dividends	10.3	21.9	27.8	43.7	54.5	81.3	125.6	54.9	83.7	129.7
Business transfer payments	1.2	3.4	5.4	9.6	9.4	14.2	21.3	9.4	14.2	21.3
Equals:										
Personal income	308.8	685.2	1,052.4	1,529.0	2,093.1	3,347.8	4,986.1	2,121.2	3,449.4	5,154.1
Less:										
Personal taxes, Federal	31.4	79.6	114.6	169.4	214.0	348.1	515.0	211.3	358.4	536.2
Personal taxes, State and local	3.9	17.4	36.1	56.6	82.0	120.1	167.4	88.0	136.4	184.3
Equals:										
Disposable personal income	273.4	588.1	901.7	1,303.0	1,797.1	2,879.7	4,303.7	1,821.9	2,954.6	4,433.5
Less:										
Interest paid by consumers	4.4	13.3	20.2	28.6	41.0	64.9	96.7	41.5	66.9	100.0
Personal transfers to foreigners	0.4	0.8	1.3	1.0	1.2	1.5	1.9	1.2	1.5	1.9
Personal consumption expenditures	253.7	535.9	809.9	1,206.5	1,853.0	2,655.4	3,966.2	1,669.6	2,709.3	4,062.0
Equals:										
Personal savings	14.9	38.1	70.3	66.9	102.0	157.8	238.9	109.6	176.9	269.7
Average annual rate of change										
	1955-68	1968-73	1973-77	1977-80	1980-85	1985-90	1977-80	1980-85	1985-90	
Gross national product	6.2	8.5	9.6	11.2	9.5	8.0	11.6	9.9	8.2	
Less:										
Capital consumption allowances	5.8	9.8	13.6	12.8	8.5	7.8	12.8	8.4	8.1	
Corporate	6.5	10.1	14.1	11.6	8.4	8.0	11.6	8.4	7.9	
Noncorporate	4.9	9.3	12.9	14.6	8.5	7.5	14.6	8.6	7.6	
Equals:										
Net national product	6.2	8.4	9.2	11.0	9.7	8.0	11.5	10.1	8.3	
Less:										
Indirect business taxes	7.1	8.8	8.3	10.8	6.2	4.6	10.8	6.3	5.8	
Business transfer payments	8.0	9.7	15.7	-0.8	8.6	8.4	-8	8.8	8.4	
Statistical discrepancy	(¹)	(¹)	16.5	-98.7	.0	.0	-98.7	.0	.0	
Plus:										
Subsidies less current surplus of government enterprises	(¹)	23.8	-8.0	12.1	6.9	4.3	12.1	6.9	4.3	
Equals:										
National income	6.2	8.3	9.2	11.3	10.0	8.3	11.7	10.4	8.5	
Less:										
Corporate profits plus inventory valuation adjustment	5.2	2.9	9.6	8.1	11.1	8.5	7.8	12.0	9.0	
Social insurance contributions	11.7	13.8	11.3	15.8	9.5	8.0	16.5	10.2	8.4	
Plus:										
Transfer payments to persons	10.1	15.0	15.1	10.4	10.0	8.7	10.4	10.0	8.7	
Net interest paid by government	5.7	4.0	10.4	19.1	8.0	1.7	21.5	11.2	1.9	
Interest paid by consumers	8.8	8.7	9.1	12.7	9.7	8.3	13.1	10.0	8.4	
Dividends	6.0	4.8	11.9	7.8	8.3	9.1	8.0	8.7	9.2	
Business transfer payments	8.0	9.7	15.7	-8	8.6	8.4	-8	8.6	8.4	
Equals:										
Personal income	6.3	9.0	9.8	11.0	9.8	8.3	11.5	10.2	8.4	
Less:										
Personal taxes, Federal	7.4	7.6	10.3	8.1	10.2	8.1	7.5	11.2	8.4	
Personal taxes, State and local	12.1	15.7	11.8	13.2	7.9	6.9	16.0	9.1	6.2	
Equals:										
Disposable personal income	6.1	8.9	9.6	11.3	9.9	8.4	11.8	10.2	8.5	
Less:										
Interest paid by consumers	8.8	8.7	9.1	12.7	9.7	8.3	13.1	10.0	8.4	
Personal transfers to foreigners	5.4	8.9	-6.4	6.5	5.5	4.4	6.5	5.5	4.4	
Personal consumption expenditures	5.9	8.6	10.5	11.1	9.9	8.4	11.4	10.2	8.4	
Equals:										
Personal savings	7.5	13.1	-1.2	15.1	9.1	8.7	17.8	10.1	8.8	

¹Not computable.

SOURCE: Actual data, Bureau of Economic Analysis, U.S. Department of Commerce; projected data, Office of Economic Growth, BLS.

Real disposable personal income will continue to increase but at a declining rate:

Period	Disposable income	Per capita disposable income
1955-68 ..	3.8	2.3
1968-73 ..	4.2	3.2
1973-77 ..	2.0	1.3
1977-80 ..	4.3	3.3
1980-85 ..	4.1	3.1
1985-90 ..	3.7	2.8

This slowing in the growth of real disposable income is due primarily to slowing GNP growth, but is accentuated by a deceleration in the growth of projected Federal transfer programs. This will be slightly offset by declining effective tax rates. The net effect on per capita real disposable income will be an increase from \$4,300 in 1977 to \$4,700 in 1980, \$5,500 in 1985, and \$6,300 in 1990.

The distribution of national income has undergone large historical shifts and is projected to undergo further changes in the future:

	1955	1977	1980	1985	1990
National income (in percent)	100.0	100.0	100.0	100.0	100.0
Compensation	71.7	76.2	76.4	76.6	77.6
Private	61.3	62.5	63.2	63.7	65.2
Government	10.4	13.7	13.3	12.7	12.4
Corporate	13.6	9.5	8.6	9.1	9.2
Other income	14.7	14.4	15.0	14.5	13.1

Corporate income includes pre-tax profits, and the adjustments for change in inventory valuations. Other income includes profits of partnerships and proprietorships, interest, and rent. Between 1955 and 1977, the compensation share of national income increased markedly and the trend is expected to continue. The increase is due completely to the private sector, as growth in government employment lags behind overall civilian job growth.

Employment and hours

The number of jobs, the average number of hours paid per job, and the level of real output per hour are among the key determinants of potential output in the economy. These factors are detailed in table 3. From 1955 to 1968, the number of jobs increased 1.6 percent annually or by about 1.1 million per year. A much higher growth was experienced during the 1968-73 period—2.1 percent average annual growth or 1.7 million new jobs per year. The 1975 recession had the effect of reducing jobs growth to 1.4 percent annually over the 1973-77 period. Expected employment growth from 1977 to 1980, however, is much higher—2.8

percent annually during this period—reflecting the large assumed declines in the unemployment rate over the remainder of the 1970's. After 1980, however, the annual growth of jobs is projected to slow to a rate of 1.9 percent from 1980 to 1985 and to 1.2 percent between 1985 and 1990.

The share of jobs between the public and private sector is an important determinant of the level of real supply GNP, for productivity in the public sector is conventionally assumed to be very nearly constant.⁸ Therefore, if public employment accounted for larger shares of total employment, the associated growth in GNP would be reduced. Although Federal employment is expected to expand during the 1980's, the rate of change (0.7 percent annually) is considerably less than the employment growth anticipated for the private sector. The decline in military force levels experienced after the end of the Vietnam conflict is expected to taper off during the latter half of the 1970's. The Armed Forces are projected to stabilize at 2.1 million by 1980 and remain at that level thereafter.

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. Enrollment growth, however, is expected to moderate significantly during the 1980's, leading to an annual growth in the number of education-related employees of only 0.3 percent during 1980-85 and to annual declines of -0.5 percent during 1985-90. The declines, though, will be somewhat offset by continued growth in noneducational 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 from 1977 to 1980 and at about the same pace as total employment. Thus, the trend toward relatively more public employees and relatively fewer private workers is expected to be reversed, at least until 1990:

	1955	1977	1980	1985	1990
Total employment ..	100.0	100.0	100.0	100.0	100.0
Private	86.1	83.2	83.9	84.7	85.1
Government	13.9	16.8	16.1	15.3	14.9
Federal	7.0	4.4	4.1	3.8	3.6
State and local	6.9	12.4	12.0	11.6	11.3
Education	3.2	6.7	6.3	5.8	5.4
Other	3.7	5.6	5.7	5.7	5.9

The declining public share of employment repre-

Table 3. Labor force, employment, productivity, and gross national product, 1955, 1968, 1973, and 1977, and projected to 1980, 1985, and 1990

[Employment data in thousands]

Component	Actual				Projected					
	1955	1968	1973	1977	Base			High employment		
					1980	1985	1990	1980	1985	1990
Total labor force (including military)	68,072	82,272	91,040	99,534	106,099	115,041	121,456	107,554	119,095	127,692
Unemployed	2,853	2,817	4,305	6,855	5,721	5,309	5,371	5,801	4,680	5,024
Employed (persons concept)	65,219	79,455	86,735	92,679	100,378	109,732	116,085	101,753	114,415	122,668
Adjustment factor (persons to jobs)	3,416	4,364	4,557	3,501	3,973	4,708	5,119	4,080	5,212	5,732
Employment (jobs concept)	68,657	83,864	91,292	96,180	104,351	114,440	121,204	105,833	119,627	128,400
General government	9,520	14,521	15,185	16,143	16,755	17,547	18,086	17,941	19,994	19,902
Federal	4,779	5,670	4,354	4,253	4,241	4,315	4,389	4,241	4,315	4,389
Military	3,049	3,535	2,326	2,133	2,089	2,089	2,089	2,089	2,089	2,089
Civilian	1,730	2,135	2,028	2,120	2,152	2,226	2,300	2,152	2,226	2,300
State and local	4,741	8,851	10,831	11,890	12,514	13,232	13,677	13,700	15,679	15,513
Education	2,180	4,798	5,916	6,491	6,579	6,679	6,513	6,579	6,679	6,513
Noneducation	2,561	4,053	4,915	5,399	5,935	6,563	7,164	7,121	9,000	9,000
Private	59,137	69,343	76,107	80,037	87,596	96,893	103,138	87,892	99,633	108,498
Agriculture	6,424	3,663	3,206	2,922	2,974	2,922	2,634	2,974	2,922	2,634
Nonagriculture	52,713	65,680	72,901	77,115	84,622	93,971	100,504	84,918	96,711	105,864
Private average annual hours per job	2,126	2,001	1,961	1,918	1,900	1,867	1,839	1,900	1,868	1,840
Agriculture	2,473	2,354	2,290	2,306	2,235	2,180	2,126	2,235	2,180	2,126
Nonagriculture	2,083	1,981	1,943	1,903	1,888	1,858	1,832	1,888	1,859	1,833
Private GNP per hour (1972 dollars)	4.54	6.63	7.34	7.72	8.15	9.07	10.24	8.17	8.98	10.08
Agriculture	1.84	3.41	4.40	5.11	5.73	6.67	8.08	5.71	6.65	8.07
Nonagriculture	4.93	6.85	7.49	7.84	8.25	9.16	10.31	8.26	9.07	10.14
Total GNP (billions of 1972 dollars)	654.7	1,051.8	1,235.0	1,332.6	1,511.2	1,803.3	2,112.8	1,526.4	1,853.1	2,196.2
General government	84.3	131.7	138.9	147.1	154.3	162.8	169.4	162.8	180.3	182.6
Private	570.2	920.1	1,096.1	1,185.5	1,356.9	1,640.6	1,943.4	1,363.7	1,672.8	2,013.6
Agriculture	29.2	29.4	32.3	34.4	38.1	42.5	45.3	37.9	42.4	45.2
Nonagriculture	541.2	890.7	1,063.8	1,151.1	1,318.8	1,598.0	1,898.2	1,325.7	1,630.5	1,968.4

Component	Average annual rate of change								
	1955-68	1968-73	1973-77	1977-80	1980-85	1985-90	1977-80	1980-85	1985-90
Total labor force (including military)	1.5	2.0	2.3	2.1	1.6	1.1	2.6	2.1	1.4
Unemployed	-1.1	8.3	13.0	-5.8	-1.5	.2	-5.4	-4.2	1.4
Employed (persons concept)	1.5	1.8	1.7	2.7	1.8	1.1	3.2	2.4	1.4
Adjustment factor (persons to jobs)	1.9	.7	-6.4	4.3	3.5	1.7	5.2	5.0	1.9
Employment (jobs concept)	1.5	1.7	1.3	2.8	1.9	1.2	3.2	2.5	1.4
General government	3.3	.9	1.5	1.2	.9	.6	3.6	2.2	-.1
Federal	1.3	-5.1	-6	-1	.3	.3	-1	.3	.3
Military	1.1	-8.0	-2.1	-.7	0	0	-.7	0	0
Civilian	1.6	-1.0	1.1	.5	.7	.7	.5	.7	.7
State and local	4.9	4.1	2.4	1.7	1.1	.7	4.8	2.7	-.2
Education	6.3	4.3	2.3	.4	.3	-.5	.4	.3	-.5
Noneducation	3.6	3.9	2.4	3.2	2.0	1.8	9.7	4.8	0
Private	1.2	1.9	1.3	3.1	2.0	1.3	3.2	2.5	1.7
Agriculture	-4.2	-2.6	-2.3	.6	-.4	-2.1	.6	-.4	-2.1
Nonagriculture	1.7	2.1	1.4	3.1	2.1	1.4	3.3	2.6	1.8
Private average annual hours per job	-.5	-.4	-.6	-.3	-.3	-.3	-.3	-.3	-.3
Agriculture	-.4	-.6	.2	-1.0	-.5	-.5	-1.0	-.5	-.5
Nonagriculture	-.4	-.4	-.5	-.3	-.3	-.3	-.3	-.3	-.3
Private GNP per hour (1972 dollars)	3.0	2.1	1.3	1.8	2.2	2.5	1.9	1.9	2.3
Agriculture	4.9	5.2	3.8	3.9	3.1	3.8	3.8	3.1	3.9
Nonagriculture	2.6	1.9	1.1	1.7	2.1	2.4	1.8	1.9	2.3
Total GNP (billions of 1972 dollars)	3.7	3.3	1.9	4.3	3.6	3.2	4.6	4.0	3.5
General government	3.5	1.1	1.5	1.6	1.1	.8	3.4	2.1	.3
Private	3.7	3.6	2.0	4.6	3.9	3.4	4.8	4.2	3.8
Agriculture .....	.1	1.9	1.6	3.2	2.2	1.2	3.4	2.3	1.3
Nonagriculture	3.9	3.6	2.0	4.6	3.9	3.5	4.8	4.2	3.8

SOURCE: Actual data on employment and labor force: Bureau of Labor Statistics. Actual GNP data: Bureau of Economic Analysis, U.S. Department of Commerce. Projected data: Office of

Economic Growth, BLS

sents the impact of demographic shifts, as well as the apparent desire for a smaller government role in the economy.

Hours. The decline in average weekly hours paid is projected to continue at approximately the long-term historical rate. In the private nonfarm sector, the long-term decline in weekly hours has been influenced by two factors: the trend toward more service employees, which lowers average hours because many work short weeks or on a part-time basis, and the increase in female labor force participation, which started in the mid-1960's. Many of the new female labor force entrants were

employed in part-time positions, at a much higher rate than the male segment of the labor force. 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 rather strong rates during the 1980's. However, it is assumed that the disparity between part-time jobholding rates of males and females 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 high employment alternative

Although the high employment alternative is based on the same population series as the base projection, the 'high growth' labor force series was chosen as the primary source of increased employment in the economy. It is assumed that the unemployment rate will drop rapidly from 5.5 percent in 1980 to 4.0 percent in 1984 and remain at that level thereafter. In the early 1980's, it is assumed that most of the increase in available labor would be absorbed into the State and local sector of the economy, funded by increases in Federal grant programs. About 80.0 percent of the employment increases over the base projection are initially found in State job programs. The proportion drops steadily to about 25.0 percent by 1990 as the private sector demand for labor picks up over the decade in response to increased demand for private goods and services.

Here is a comparison of the major fiscal assumptions for the base and high employment projections:

	<i>Federal grants</i>	<i>Federal purchases</i>
1980		
Base	90.1	182.3
High employment	107.4	190.4
1985		
Base	125.6	266.6
High employment	174.2	279.5
1990		
Base	176.4	369.6
High employment	222.8	380.3

All other fiscal policy levels remained unchanged from the base projection.

The impact of increased employment is immediately apparent in terms of the real growth of aggregate production. High employment GNP is projected to increase 0.3 percent more rapidly each year than the base GNP, leading to approximately \$83.0 billion more real output in 1990 than in the

base projection. State and local government purchases of goods and services grow at an appreciably more rapid rate than total GNP, reflecting jobs program expenditures. This, along with the somewhat higher rate of growth of Federal purchases of goods and services, implies a much larger share of GNP to government than in the base projection—16.5 percent in 1990 as opposed to 15.5 percent. In absolute terms, however, all components of real demand GNP are considerably higher in the high employment alternative than in the base projection.

Finally, the high employment projection implies a somewhat less rapid growth in private nonfarm productivity during the 1980's—1.9 percent each year between 1980 and 1985 and 2.3 percent for the 1985–90 period as opposed to 2.1 and 2.4 percent for the same periods in the base projection. The lower productivity is an assumed result of less experienced persons entering the labor force in response to an increase in the demand for labor.

THE FOREGOING DISCUSSION presents two views of the U.S. economy to 1990. The base case examines the result of a moderately expanding labor force and relatively lower levels of government expenditures on the economy. In contrast, the high employment version studies the effect of very high labor force and employment growth on the economy. As noted, the growth of real GNP in the base projection is 3.6 percent each year between 1980 and 1985 and 3.2 percent for the 1985–90 period. The high employment projection yields rates of GNP growth of 4.0 percent and 3.5 percent for these same periods. These projections hinge on the underlying assumptions and even small changes in the latter could effect significant changes in the projections. It should also be noted that these are longrun projections of the U.S. economy and no attempt has been made to forecast cyclical fluctuations. □

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 requirements under alternative assumptions. Other articles in the series discuss industry final demand (pp. 47-55) and industry projections of output and employment. As part of a continuing program to assess the validity of BLS projections, future articles will examine the projections of the U.S. economy for 1975 and compare the 1985 BLS projections, published in 1973 and 1976, with the current 1985 projections. See Ronald E. Kutscher, "Revised BLS projections to 1980 and 1985: an overview," *Monthly Labor Review*, March 1976, pp. 3-8; Charles T. Bowman and Terry H. Morlan, "Revised projections of the U.S. economy to 1980 and 1985,"

Monthly Labor Review, March 1976, pp. 9-21; Thomas J. Mooney and John H. Tschetter, "Revised industry projections to 1985," *Monthly Labor Review*, November 1976, pp. 3-9; and Max L. Carey, "Revised occupational projections to 1985," *Monthly Labor Review*, November 1976, pp. 10-22. See also Valerie A. Personick and Robert A. Sylvester, "Evaluation of BLS 1970 economic and employment projections," *Monthly Labor Review*, August 1976, pp. 13-26.

² 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. The original version of the macroeconomic model is described in Lester C. Thurow, "A Fiscal Policy Model of the United

States," *Survey of Current Business*, June 1969. A detailed discussion of the remainder of the economic growth model is currently being prepared for publication. A preliminary unpublished discussion of methodology and a complete description of the operating system are available from the Office of Economic Growth.

³ U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 704.

⁴ Projections of the number of households are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 607. School enrollment participation rates by age group are drawn from *Current Population Reports*, Series P-20, No. 278.

⁵ The projections of the U.S. labor force are fully detailed in the article by Howard N Fullerton and Paul O. Flaim, "Labor force

projections to 1990: three possible paths," in this issue.

⁶ A detailed discussion of the productivity slowdown is contained in Kutscher, Mark, and Norsworthy, "The productivity slowdown and the outlook to 1985," *Monthly Labor Review*, May 1977, pp. 3-8.

⁷ The underlying stock estimates in the projections are consistent with the gross stocks series presented in *Fixed Nonresidential Business and Residential Capital in the United States, 1925-75*, Bureau of Economic Analysis, June 1976.

⁸ By National Income accounting conventions, it is assumed that 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.

Appendix. Supplementary Tables

Table A-1. Gross national product by major component, 1955, 1968, 1973, 1977, and projected to 1980, 1985, and 1990

[Current dollars in billions]

Component	Actual				Projected					
	1955	1968	1973	1977	Base			High employment		
					1980	1985	1990	1980	1985	1990
Gross national product.....	399.2	868.3	1306.3	1887.3	2596.0	4092.4	6011.2	2623.5	4207.7	6246.2
Personal Consumption Expenditures..	253.7	535.9	809.7	1206.5	1654.7	2658.7	3989.1	1659.8	2703.6	4089.0
Gross Private Domestic Investment..	68.4	131.5	219.9	297.8	417.4	668.4	955.6	416.1	678.3	989.4
Nonresidential Investment.....	38.6	90.0	137.3	192.1	274.3	418.0	630.5	270.1	419.9	650.0
Equipment.....	22.7	55.3	90.0	133.4	194.5	299.6	449.2	191.5	300.6	462.2
Structures.....	15.8	34.7	47.2	58.7	79.8	118.4	181.3	78.6	119.3	187.9
Residential Investment.....	23.8	33.8	64.7	90.1	114.8	204.0	269.4	115.7	207.9	277.1
Change in Business Inventories..	6.0	7.7	17.9	15.6	28.3	46.4	55.7	30.3	50.5	62.2
Net Exports.....	2.2	2.3	7.1	-11.1	-2.9	1.6	5.4	-5.1	-1.7	2.1
Exports.....	20.0	49.9	101.6	175.5	253.9	395.5	608.6	251.6	412.9	663.5
Imports.....	-17.8	-47.7	-94.4	-186.5	-256.8	-393.9	-603.1	-256.8	-414.7	-661.4
Government.....	75.0	198.7	269.5	394.0	526.8	763.7	1061.1	552.7	827.5	1165.7
Federal Purchases.....	44.4	98.0	102.2	145.1	182.2	266.6	369.6	190.4	279.5	380.3
Goods.....	26.1	58.7	50.3	78.6	97.5	139.8	187.3	105.5	153.6	200.3
Compensation.....	18.4	39.3	51.9	66.4	84.8	126.8	182.3	84.9	125.9	180.0
State and Local Purchases.....	30.6	100.7	167.3	248.9	344.6	497.1	691.5	362.3	548.1	785.5
Goods.....	14.7	44.8	70.2	107.4	153.7	198.1	249.9	155.6	204.9	301.0
Compensation.....	15.8	55.9	97.1	141.5	190.9	299.0	441.6	206.7	343.1	484.5

SOURCE: Historical data, U.S. Department of Commerce; projected data, Office of Economic Growth, BLS.

Table A-2. Gross national product by major component, 1955, 1968, 1973, 1977, and projected to 1980, 1985, and 1990

[Average annual rates of change, current dollars]

[Average annual rates of change, current dollars]									
Component	Actual			Projected					
	1955-68	1968-73	1973-77	Base			High employment		
				1977-80	1980-85	1985-90	1977-80	1980-85	1985-90
Gross national product.....	6.2	8.5	9.6	11.2	9.5	8.0	11.6	9.9	8.2
Personal Consumption Expenditures..	5.9	8.6	10.5	11.1	9.9	8.5	11.2	10.2	8.6
Gross Private Domestic Investment..	5.2	10.8	7.9	11.9	9.9	7.4	11.8	10.3	7.8
Nonresidential Investment.....	6.7	8.8	8.8	12.6	8.8	8.6	12.0	9.2	9.1
Equipment.....	7.1	10.2	10.3	13.4	9.0	8.4	12.8	9.4	9.0
Structures.....	6.2	6.4	5.6	10.8	8.2	8.9	10.2	8.7	9.5
Residential Investment.....	2.7	13.8	8.6	8.4	12.2	5.7	8.7	12.4	5.9
Change in Business Inventories..	2.0	18.4	-3.4	22.0	10.4	3.7	24.8	10.8	4.3
Net Exports.....	0.1	25.9	0.0	-35.9	0.0	27.3	-22.6	-19.5	0.0
Exports.....	7.3	15.3	14.7	13.1	9.3	9.0	12.8	10.4	10.0
Imports.....	7.9	14.7	18.5	11.2	8.9	8.9	11.2	10.1	9.8
Government.....	7.8	6.3	10.0	10.2	7.7	6.8	11.9	8.4	7.1
Federal Purchases.....	6.3	0.8	9.2	7.9	7.9	6.8	9.5	8.0	6.4
Goods.....	6.4	-3.1	11.8	7.4	7.5	6.0	10.3	7.8	5.5
Compensation.....	6.0	5.7	6.4	8.5	8.4	7.5	8.5	8.2	7.4
State and Local Purchases.....	9.6	10.7	10.4	11.5	7.6	6.8	13.3	8.6	7.5
Goods.....	8.9	9.4	11.2	12.7	5.2	4.8	13.2	5.7	8.0
Compensation.....	10.2	11.7	9.9	10.5	9.4	8.1	13.5	10.7	7.1

SOURCE: Historical data, U.S. Department of Commerce; projected data, Office of Economic Growth, BLS.

Table A-3. Government account, national income basis, 1955, 1968, 1973, 1977, and projected to 1980, 1985, and 1990

[Current dollars in billions]

Component	Actual				Projected					
	1955	1968	1973	1977	1980	1985	1990	1980	1985	1990
Federal Government Receipts.....	72.6	174.7	258.3	374.4	522.6	812.4	1168.8	521.7	838.6	1228.1
Personal Taxes.....	31.4	79.6	114.6	169.4	216.0	348.1	515.0	211.3	358.4	536.2
Corporate Profits Taxes.....	21.1	36.3	43.0	61.3	75.4	117.3	168.9	75.0	120.7	177.4
Indirect Business Taxes.....	10.7	18.0	21.2	25.0	39.8	42.7	37.7	39.9	43.0	38.4
Social Insurance Contributions...	9.4	40.8	79.4	118.7	193.4	304.3	447.1	195.5	316.5	475.9
Federal Government Expenditures....	68.1	180.6	265.0	422.6	554.4	832.9	1191.2	582.5	905.5	1260.8
Purchases of Goods.....	26.1	58.7	50.3	78.6	97.5	139.8	187.3	105.5	153.6	200.3
Compensation.....	18.4	39.3	51.9	66.4	84.8	126.8	182.3	84.9	125.9	180.0
Transfer Payments.....	14.5	48.1	95.8	172.7	231.6	371.6	565.5	231.6	371.6	565.5
Grants-in-aid.....	3.1	18.6	40.6	67.4	90.1	125.6	176.4	107.4	174.2	222.8
Net Interest Paid.....	4.6	11.4	18.2	29.1	40.9	56.6	64.3	43.6	67.7	76.9
Subsidies Less Current Surplus...	1.5	4.5	8.2	8.3	9.5	12.5	15.5	9.5	12.5	15.5
Federal surplus or deficit (-).....	4.4	-5.8	-6.7	-48.1	-31.7	-20.5	-22.5	-60.8	-66.9	-32.8
State and Local Receipts.....	31.7	107.2	193.5	296.2	393.9	563.7	768.5	419.0	635.2	860.5
Personal Taxes.....	3.9	17.4	36.1	56.6	82.0	120.1	167.4	88.0	136.4	184.3
Corporate Profits Taxes.....	1.0	3.1	5.7	10.5	13.3	19.4	27.2	13.3	19.4	27.2
Indirect Business Taxes.....	21.6	60.8	99.0	140.0	184.6	261.0	341.8	184.4	262.2	365.3
Social Insurance Contributions...	2.1	7.2	12.1	21.7	24.0	37.6	55.8	25.9	43.1	61.0
Federal Grants-in-aid.....	3.1	18.6	40.6	67.4	90.1	125.6	176.4	107.4	174.2	222.8
State and Local Expenditures.....	32.9	106.9	180.5	266.6	371.3	544.9	764.4	389.0	595.9	858.3
Purchases of Goods.....	14.7	44.8	70.2	107.4	153.7	198.1	249.9	155.6	204.9	301.0
Compensation.....	15.8	55.9	97.1	141.5	190.9	299.0	441.6	206.7	343.1	484.5
Transfer Payments.....	3.8	10.6	20.3	29.7	40.2	64.8	94.9	40.2	64.8	94.9
Net Interest Paid.....	0.1	-1.2	-2.9	-6.5	-7.9	-9.9	-13.3	-7.9	-9.9	-13.3
Subsidies Less Current Surplus...	-1.5	-3.2	-4.4	-5.6	-5.6	-7.0	-8.8	-5.6	-7.0	-8.8
S&L surplus or deficit (-).....	-1.3	0.3	13.0	29.6	22.6	18.8	4.1	30.0	39.3	2.2

SOURCE: Historical data, U.S. Department of Commerce; projected data, Office of Economic Growth, BLS.

Table A-4. Major exogenous assumptions, 1955, 1968, 1973, 1977, and projected to 1980, 1985, and 1990

Assumption	Actual				Projected - Base		
	1955	1968	1973	1977	1980	1985	1990
U.S. population (millions of persons).....	165.9	200.7	210.4	216.8	222.8	234.1	245.1
Urban population.....	110.9	145.5	157.1	168.3	177.1	192.6	208.5
School enrollment.....	37.4	57.5	57.7	57.6	55.5	55.0	58.0
Number of households.....	47.9	60.4	68.3	75.0	79.4	87.2	94.3
Civilian labor force.....	65.0	78.7	88.7	97.4	104.0	113.0	119.4
Unemployment rate (percent).....	4.4	3.6	4.9	7.0	5.5	4.7	4.5
Military employment (millions of persons).....	3.0	3.5	2.3	2.1	2.1	2.1	2.1
Federal civilian employment.....	1.7	2.1	2.0	2.1	2.2	2.2	2.3
Agricultural employment.....	6.4	3.7	3.2	2.9	3.0	2.9	2.6
Private GNP deflator (1972=100.0).....	64.0	84.1	105.6	141.6	171.0	223.5	277.2
Farm equipment purchases (billions of 1972 \$).....	4.2	5.6	6.3	7.0	9.0	9.8	11.2
Farm structures purchases.....	1.3	1.7	2.0	2.0	2.2	2.3	2.6
Equipment discards.....	19.9	36.6	48.4	56.5	66.4	78.2	99.3
Structures discards.....	12.1	15.1	18.2	18.7	19.2	25.6	28.3
Residential structures discards.....	5.9	8.0	9.9	15.4	12.4	15.4	20.0
Statistical discrepancy (billions of current \$).....	2.5	-0.6	2.6	5.2	0.0	0.0	0.0
Unemployment insurance contribution rate (percent)...	1.2	1.5	2.0	2.3	1.8	1.3	1.2
Combined OASDI contribution rate.....	3.8	8.6	11.3	12.2	12.3	13.4	13.6
OASDI coverage ratio.....	85.3	89.9	90.0	90.7	91.3	91.8	92.0
3-month government bill rate.....	1.75	5.34	7.04	5.27	6.57	5.79	5.86
3-5 year government bond rate.....	2.5	5.6	6.9	6.9	7.7	6.8	6.5
Federal gasoline tax (cents per gallon).....	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Motor fuel usage (millions of gallons).....	47.7	82.9	110.5	113.0	109.8	106.8	110.3
Federal corporate profits tax rate (percent).....	52.0	52.8	48.0	48.0	45.0	45.0	45.0
Exports of goods and services (billions of 1972 \$)...	27.9	58.5	87.4	98.2	117.0	139.3	173.1
Federal purchases less compensation.....	41.0	70.2	48.3	52.9	56.0	61.5	66.5
Federal transfer payments (billions of current \$)....	14.5	48.1	95.9	172.7	231.6	371.6	565.5
Federal grants to S&L government.....	3.1	18.6	40.6	67.4	90.1	125.6	176.4
Federal subsidies to enterprises.....	1.5	4.5	8.2	8.3	9.5	12.5	15.5
S&L corporate profits taxes.....	1.0	3.1	5.7	10.5	13.3	19.4	27.2
S&L transfer payments.....	3.8	10.6	20.3	29.7	40.2	64.8	94.9
S&L interest payments.....	0.1	-1.2	-2.9	-6.5	-7.9	-9.9	-13.3
S&L subsidies to enterprises.....	-1.5	-3.2	-4.4	-5.6	-5.6	-7.0	-8.8
Actual							
Civilian labor force (millions of persons).....	65.0	78.7	88.7	97.4	105.5	117.0	125.6
Unemployment rate (percent).....	4.4	3.6	4.9	7.0	5.5	4.0	4.0
Federal purchases less compensation (billions of 72\$)	41.0	70.2	48.3	52.9	60.6	67.6	71.1
Federal grants (billions of current \$).....	3.1	18.6	40.6	67.4	107.4	174.2	222.8

SOURCE: Historical data, U.S. Departments of Labor, Commerce, and Transportation; projected data, Office of Economic Growth, BLS.

Industry output and employment: BLS projections to 1990

Productivity gains and strong investment and consumption will stimulate output; employment growth, led by services and trade, will ebb as the labor force expansion of the 1970's decelerates

VALERIE A. PERSONICK

Slower employment growth in most industries, a reversal of the trend toward a larger share of jobs in the public sector, and a return to more rapid productivity gains are some of the highlights of the Bureau of Labor Statistics' latest long-range projections of employment and output by industry.

Among the 149 industries studied, 112 will experience output increases that will more than offset declines in unit labor requirements (or increases in productivity). For 17 industries, productivity gains will more than offset increases in output, causing employment in these sectors to decline during 1977-90. For three additional industries, productivity gains will be compounded by projected increases in the average workweek, causing employment to decline in these sectors. Seven sectors will experience employment declines because both output and unit labor requirements are expected to drop.

This article is the fourth in a series that describes BLS projections to the year 1990.¹ Two sets of employment projections for 1990 were prepared. The base forecast assumed a moderately expanding labor force, a slow decline in inflation and unemployment, and moderate government expenditures. The high employment alternative assumed a much larger labor force and a more-than-offsetting emphasis on job creation through

government grants, which would lower the unemployment rate significantly. All data in this article refer to the base case except for a separate section describing the results of the high employment alternative.

Overview of the economy through 1990

Many factors influence the projections of employment by industry; among them are labor force characteristics, labor productivity, government revenue and expenditure policies, changes in consumer preferences, competition from foreign products, and changes in business purchasing and investment patterns.

Employment and productivity. Total civilian employment is projected to grow from 93.7 million jobs in 1977 to 118.6 million jobs in 1990, an average annual gain of 1.9 million new jobs. This increase represents a deceleration in the rate of job expansion over the previous two decades. Between 1959 and 1973, employment grew at the rate of 2.0 percent per year. During 1973-77, job growth slowed to 1.4 percent a year because of the recession. BLS projects the annual rate of growth to accelerate to 2.8 percent between 1977 and 1980, then to taper to 1.9 percent during 1980-85 and 1.2 percent between 1985 and 1990. Over the total projection period 1977-90, the rate of job growth will average 1.8 percent per year.

The projected decline in the rate of job growth after 1980 will result primarily from a projected

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slowdown in the rate of expansion of the labor force. (See table 1.) Since the 1950's, the growth rate of the labor force has been accelerating, averaging 1.7 percent a year between 1959–68, 2.0 percent between 1968–73, and 2.3 percent between 1973–77. However, the rate of labor force growth is projected to average 2.1 percent per year during 1977–80, 1.6 percent during 1980–85, and 1.1 percent during 1985–90.² This slowdown in the rate of growth will pervade almost all industries, with employment in many industries declining in the late 1980's.

As the economy fully recovers from the 1975 recession, the unemployment rate is assumed to drop from its 7.0-percent 1977 level to 5.5 percent in 1980. After 1980, the unemployment rate is assumed to decline even further, approaching full employment, to 4.7 percent in 1985 and 4.5 percent in 1990.

The trend of faster job growth for the public sector is expected to reverse in the next decade. While the number of jobs was growing more rapidly in government than in the private sector throughout the past three decades, private sector job growth in the 1980's is expected to outpace that of the public sector. This reversal mainly reflects a projected decline in public school enrollment and, consequently, a lower demand for workers in State and local government education.

Productivity in the private nonfarm sector is projected to rise faster than it did during 1968–77, although the rate will not match that of 1955–68, when private nonfarm productivity rose by 2.6 percent each year. Some of the factors that have been suggested as causes for the post-1968 slowdown include the entry into the labor force of more women and youths, who typically are less experi-

enced or less educated (or both) than their adult male counterparts, and the reallocation of investment toward pollution control and safety and health expenditures.³ These factors are not expected to play the same role in the next decade; in fact, the age composition of the labor force should serve to boost productivity growth in the future. Workers born in the post-World-War-II baby boom are moving into the typically more experienced (hence, more productive) age groups. As a consequence of this and other factors, productivity in the private nonfarm sector is projected to increase an average of 1.7 percent per year during 1977–80, 2.1 percent per year during 1980–85, and 2.4 percent during 1985–90.

As a result, growth in real GNP is expected first to continue to rebound strongly from the 1975 recession, then to taper to a rate consistent with the long-term trend. The growth rate will average 3.6 percent annually in the first half of the 1980's decade and 3.2 percent in the second half.

Final demand. During the initial projection period, 1977–80, producers' durable equipment is projected to be one of the fastest-growing segments of GNP. (See table 2.) The sharp rise in this category of final demand reflects the assumption that investment decisions delayed in the early and middle 1970's will be undertaken. Growth is expected to continue through 1990, as business strives to use the most energy-efficient methods of production. However, investment in new plants will not follow the same path as investment in equipment: it is projected to grow faster than GNP during 1977–80; slower than GNP during 1980–85, reflecting a traditional dropoff in purchases of structures following a period of sustained growth; then at about 4.4 percent annually—its long-term rate—after 1985.

Personal consumption expenditures, particularly for durable goods and services, is projected to grow faster than overall GNP during the 1980's, rising from 64.4 percent in 1977 to 67.6 percent in 1990. Assumed tax cuts over the period are expected to free more disposable income for consumers, thus resulting in a larger share of income devoted to consumption. The types of goods and services purchased also are expected to change as the age mix of the population changes. The population will be more heavily weighted with people age 25 to 44 and with those over age 64. The number of persons age 16 to 24 will actually drop, while those age 45 to 64 and under 16 will maintain their present levels. One impact of these demographic changes will be a higher level of output for medical care services, required for an older population.

Table 1. Average annual rate of change in GNP and major determinants, actual and projected, selected periods 1959–90

Category	1959–68	1968–73	1973–77	1977–80	1980–85	1985–90
Total labor force (including military)	1.7	2.0	2.3	2.1	1.6	1.1
Civilian employed (persons)	1.8	2.1	1.8	2.8	1.8	1.2
Civilian employed (jobs) ¹	1.9	2.1	1.4	2.8	1.9	1.2
Government (excluding military)	4.5	3.2	2.2	1.5	1.1	.7
Private	1.5	1.9	1.3	3.1	2.0	1.3
Farm	-4.4	-2.6	-2.3	.6	-4	-2.1
Nonfarm	2.0	2.1	1.4	3.1	2.1	1.4
Private nonfarm average annual hours paid per job	-4	-4	-5	-3	-3	-3
Private nonfarm total hours paid	1.7	1.7	.8	3.0	1.8	1.1
Private nonfarm GNP per hour (1972 dollars)	2.8	1.9	1.1	1.7	2.1	2.4
Total GNP (1972 dollars)	4.3	3.3	1.9	4.3	3.6	3.2
Government compensation	4.1	1.1	1.5	1.6	1.1	.8
Private GNP	4.3	3.6	2.0	4.6	3.9	3.4
Farm	5	1.9	1.6	3.2	2.2	1.2
Nonfarm	4.5	3.6	2.0	4.6	3.9	3.5

¹Employment on a jobs basis is a count of jobs rather than persons holding jobs; a person holding more than one job could be counted more than once.

Table 2. Distribution of GNP by major components, actual and projected, selected years 1963-90

[Percent distribution in 1972 dollars]

Components	1963	1967	1977	1980	1985	1990
Gross national product	100.0	100.0	100.0	100.0	100.0	100.0
Personal consumption expenditures	60.4	59.9	64.4	64.0	65.7	67.6
Durables	7.3	7.9	10.3	10.6	11.5	12.4
Nondurables	26.8	25.8	24.8	24.4	24.2	23.9
Services	26.2	26.2	29.2	29.0	30.0	31.3
Gross private domestic investment	15.0	15.1	14.7	15.4	15.9	15.7
Nonresidential structures	3.7	4.1	3.0	3.0	2.9	3.1
Producers' durable equipment	5.2	6.3	6.8	7.4	7.4	7.6
Residential structures	5.1	3.6	4.2	3.9	4.3	3.9
Change in business inventories	.9	1.2	.7	1.2	1.3	1.1
Net exports	.9	.4	.7	1.1	1.1	1.3
Exports	5.1	5.4	7.4	7.7	7.7	8.2
Imports	-4.2	-5.0	-6.7	-6.7	-6.6	-6.9
Government purchases	23.8	24.6	20.2	19.6	17.3	15.5
Federal	12.3	12.4	7.6	7.0	6.2	5.6
Defense	9.7	9.8	5.0	4.9	4.1	3.7
Nondefense	2.6	2.6	2.7	2.1	2.1	1.9
State and local	11.5	12.2	12.6	12.6	11.1	9.9
Education	4.7	5.2	5.3	5.0	4.1	3.4
Health, welfare, and sanitation	1.6	1.8	2.5	3.0	2.8	2.7
Safety	.9	.9	.8	1.0	.9	.8
Other	4.3	4.3	3.8	3.6	3.3	3.0

In the government sector, purchases of goods and services for defense are projected to rise considerably slower than total GNP. State and local government purchases are projected to slow even more dramatically. The State and local slowdown primarily reflects declining school enrollment at all levels of education (with the exception of 2-year colleges), but the decrease will be pervasive across all State and local government functions. Even health and welfare purchases, which have been rising faster than GNP in the past and are expected to continue to do so until 1980, are projected to grow more slowly than GNP between 1980 and 1990.

Energy. Regarding the energy situation in the 1980's,⁴ it was assumed that coal and electricity will be more readily available than other energy sources and that their prices will rise less rapidly than prices of natural gas and oil. Supplies of natural gas are projected to decline over the next decade, except for a brief upturn in 1982, when Alaskan natural gas should become available. Domestic production of petroleum is expected to grow very slowly, as production in the lower 48 States declines. Because of increased imports, however, petroleum is projected to retain its share of total energy consumed.

Output by industry

Table 3 and chart 1 show the changing levels and composition of output that are expected to result from the projections of the aggregate economic variables, the industry distribution of demand, and the input-output structure of the U.S. economy.⁵

Communications the fastest growing sector. After full recovery from the 1974 recession, several long-term trends in the distribution of output among major sectors are expected to resume. Most noticeable is a marked increase in the output share of the communications sector. This trend reflects the integral part technology and changes in demand play in contributing to economic growth. Since 1955, numerous innovations, such as electronic switching equipment, higher speed and greater capacity transmission systems, and automated equipment to handle both long- and short-distance telephone services, have minimized the cost of communications, thereby leading to increased demand. In addition, demand has been boosted by the computer and its ability to handle large volumes of data. These historical trends are projected to continue through the next decade, raising the share of output accounted for by the communications sector to 4.8 percent by 1990. Output growth projected for communications will average 6.4 percent a year between 1977 and 1990, compared with an average of 3.9 percent for all industries.

Agriculture and construction shares decline. Farm output will continue to decline in importance through the next decade, reflecting slow growth in both food purchases and food exports. Because most of the population already enjoys an adequate diet, increases in purchases of food for consumption at home are projected to rise only slightly faster than the population, but considerably slower than purchases of other commodities. This slowdown will affect not only farm output but will also cause output of some manufactured food industries to show very little growth, particularly dairy products and bakery products.

The declining share of construction output reflects, in part, a projected sharp slowdown in new highway construction. With the close of the peak years of the Interstate Highway Program in the late 1960's, future expenditures for highways are assumed to be principally devoted to maintaining the existing system. Also contributing to the slow growth of construction output is the expected tapering of residential construction activity after 1985. Housing construction is projected to grow more slowly than GNP in the latter part of the decade because of a slowdown in the rate of new household formation, the result of changes in the age distribution of the population.

Manufacturing share steady. Output of nondurable goods is projected to grow more slowly than total output over the years 1980-90, while durable goods

Table 3. Gross product originating¹ by major sector, actual and projected, selected years 1959-90

[Levels in billions of 1972 dollars]

Industry sector	Level							Average annual rate of change					
	1959	1968	1973	1977	1980	1986	1990	1959-68	1968-73	1973-77	1977-80	1980-86	1986-90
Total private	628.6	920.1	1096.0	1185.5	1,356.9	1,640.6	1,943.4	4.3	3.6	2.0	4.6	3.9	3.4
Agriculture	28.2	29.4	32.3	34.4	38.1	42.5	45.3	.5	1.9	1.6	3.5	2.2	1.3
Nonagriculture	600.4	890.7	1063.7	1151.1	1,318.8	1,598.1	1,898.1	4.5	3.6	2.0	4.6	3.9	3.5
Mining	14.2	18.1	19.2	19.9	23.6	26.3	28.8	2.7	1.2	.9	5.9	2.2	1.8
Contract construction	45.5	62.5	58.3	56.9	64.9	74.9	81.9	3.6	-1.4	-6	4.5	2.9	1.8
Manufacturing	170.7	268.4	313.0	322.4	366.5	439.7	516.5	5.2	3.1	.7	4.4	3.7	3.4
Durable goods	100.7	165.5	189.0	190.9	226.1	273.8	325.2	5.7	2.7	.3	5.8	3.9	3.5
Nondurable goods	70.0	102.9	124.0	131.5	140.4	165.9	193.3	4.4	3.8	1.5	2.2	3.4	3.1
Transportation, communications, and public utilities	55.8	88.2	112.6	124.0	147.7	186.9	234.9	5.2	5.0	2.4	6.0	4.8	4.7
Transportation	30.3	43.5	50.6	51.9	64.1	76.5	90.9	4.1	3.1	.6	7.3	3.6	3.5
Communication	11.5	21.2	32.0	42.0	50.3	68.9	94.0	7.0	8.6	7.0	6.2	6.5	6.4
Public utilities	14.0	23.5	30.0	30.1	33.3	41.5	50.0	5.9	5.0	.1	3.4	4.5	3.8
Wholesale and retail trade	115.8	170.6	212.0	227.9	264.5	319.0	377.2	4.4	4.4	1.8	5.1	3.8	3.4
Wholesale	42.3	68.1	88.8	96.1	114.5	134.7	156.2	5.4	5.5	2.0	6.0	3.3	3.0
Retail	73.5	102.5	123.2	131.8	150.0	184.3	221.0	3.8	3.7	1.7	4.4	4.2	3.7
Finance, insurance, and real estate	98.1	142.9	171.1	204.0	235.5	289.3	348.6	4.3	3.7	4.5	4.9	4.2	3.8
Other services ²	82.8	119.3	146.6	162.9	180.4	219.4	264.7	4.1	4.2	2.7	3.5	4.0	3.8
Government enterprises	11.8	16.4	18.4	18.5	23.9	28.1	32.3	3.7	2.3	.1	8.9	3.3	2.8
Rest of the world and statistical difference	5.7	4.3	12.5	14.6	11.8	14.5	11.2	-3.1	23.8	4.0	-6.9	4.2	-5.0

¹Gross 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.

²Includes private households.

output should grow slightly faster. These trends reflect not only the investment forecast and its impact on durable goods but also (1) a projected shift in the composition of personal consumption expenditures away from nondurables toward durable goods and (2) a higher share of total GNP accounted for by exports of capital goods. However, the growth in output from durable goods industries is not projected to be as high as it could be, given these trends in investment, personal consumption, and exports, because of several offsetting expectations: imports are projected to be composed to a greater extent of capital goods rather than raw materials, and the slow growth of defense purchases will pinch output for several durable goods industries. ✓

Aircraft manufacturing will be the industry most affected by the defense slowdown. Cutbacks in purchases of military aircraft will offset projected high levels of civilian aircraft purchases, causing output of the aircraft industry to grow only modestly in the 1980's. Civilian aircraft purchases are expected to rise substantially over the next decade, as commercial airlines (both domestic and foreign) continue to replace or significantly modify their present fleet of jets because of age, noise, and energy-efficiency problems.

Projected output of the shipbuilding industry also reflects the slowdown in defense expenditures. High levels of investment in offshore drilling equipment are expected, but a drop in defense demand will offset this growth.

The following tabulation shows the average annual rate of change in output, 1977-90, for the fastest growing industries, the most rapidly declining, and those which are energy related:

Industry	Average annual rate of output change
Fastest growing:	
Motorcycles, bicycles, and parts	9.3
Floor coverings	9.1
Electronic components	8.3
Synthetic fibers	7.8
Radio and television receiving sets ...	7.3
Most rapidly declining:	
Private households	-3.0
Wooden containers	-1.8
Structural clay products	-1.0
Gas utilities	-1.0
Leather tanning and industrial leather	-8
Energy and related sectors:	
Coal mining	4.5
Crude petroleum and natural gas	1.7
Oil and gas well drilling and exploration	2.6
Petroleum refining and related products .....	.3
Electric utilities	6.0
Gas utilities	-1.0

The five most rapidly growing industries are all in the manufacturing sector; output in these industries is projected to expand by 7 to 9 percent a year between 1977 and 1990, compared to 3.9 percent annually for all industries.

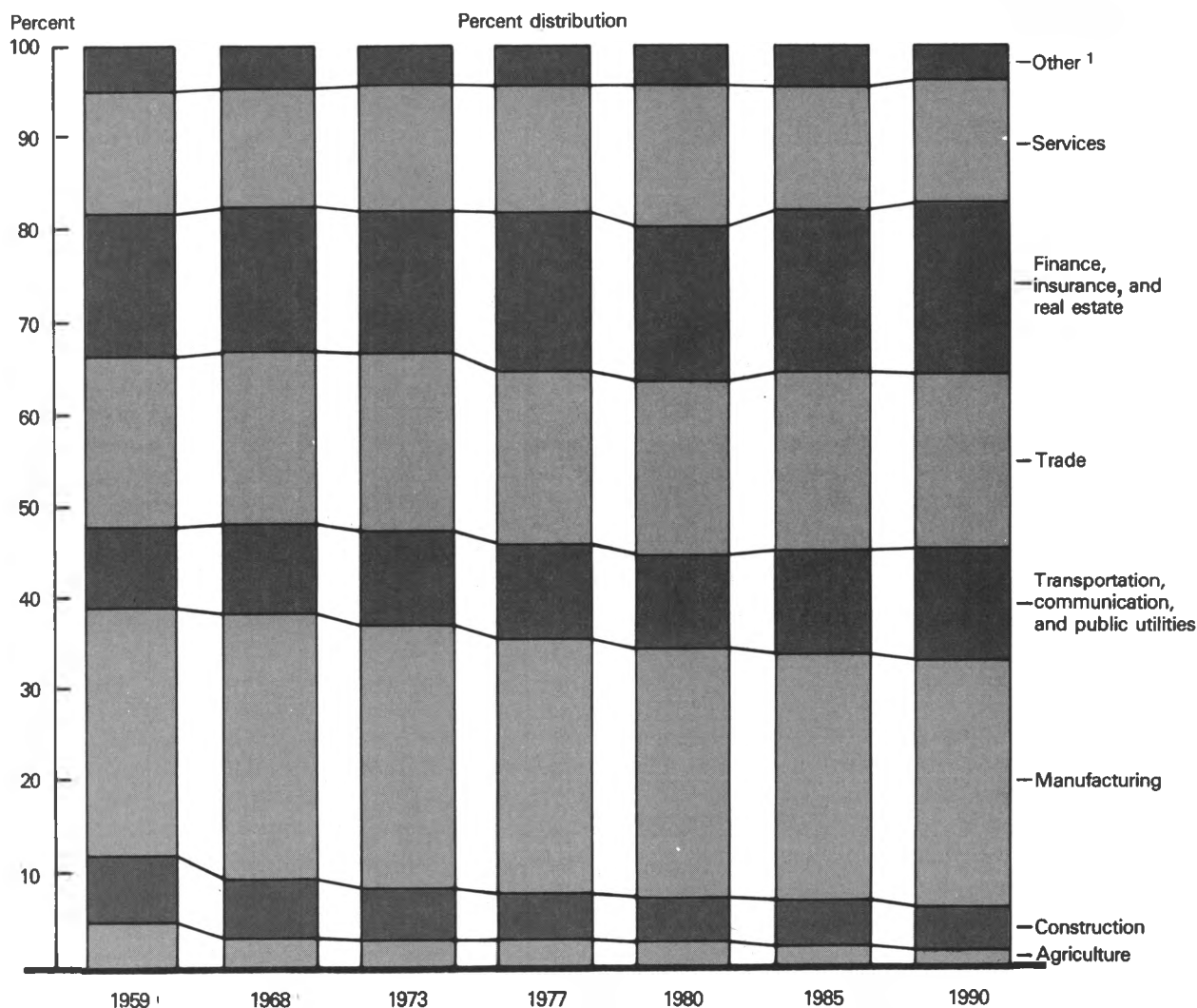
Services on the rise. The services sector of the economy is projected to grow somewhat faster than the total economy during 1980-90, reflecting a number of trends. The shift within personal consumption expenditures from goods to services, particularly medical services, is one such trend.

Doctors' and dentists' services are projected to grow 5.5 percent a year between 1977 and 1990; hospital growth is projected at 5.7 percent a year.

Another industry in the service sector showing rapid growth will be miscellaneous business services. The projected annual increase of 5.6 percent in this area reflects the rising demand by firms to contract for a wide variety of services rather than perform these functions in-house. Examples are computer data processing, temporary secretarial or clerical help, cleaning services, and protective services.

Finance, insurance, and real estate output will rise slightly as a share of total output in the 1980's, following a sharp rise between 1973 and 1977. The demand for finance and insurance is largely centered in business activity rather than consumer activity, thus the recent increase can be explained by the recovery of business investment. Because investment is projected to be strong through 1990, the share of output accounted for by this sector will move up slightly through the next decade. Also contributing to the rise will be an increased demand for consumer credit services.

Chart 1. Gross product originating in the total private economy, by major sector, selected years 1959-77, and projections to 1980, 1985, and 1990



¹ Includes mining, government enterprises, and rest of the world industry plus statistical discrepancy.

Table 4. Employment by industry, actual and projected, selected years 1968-90

[In thousands]

Industry	Actual		Base case			High employment alternative		
	1968	1977	1980	1985	1990	1980	1985	1990
Total private	67,990	78,526	85,893	94,966	101,108	86,179	97,660	106,339
Agriculture:								
Dairy and poultry products	891	531	493	457	427	495	456	424
Meat animals and livestock	794	548	585	573	494	587	571	491
Cotton	178	147	172	169	155	173	171	158
Food and feed grains	669	664	734	747	687	727	748	689
Other agricultural products	1,131	1,032	991	976	871	992	975	871
Mining:								
Iron and ferroalloy ores mining	28	26	36	32	27	36	33	28
Copper ore mining	28	35	47	53	57	47	55	60
Other nonferrous ore mining	26	29	31	31	29	32	31	30
Coal mining	145	233	268	311	354	269	318	370
Crude petroleum and natural gas	164	195	248	234	210	250	239	217
Stone and clay mining and quarrying	97	97	102	103	97	103	106	103
Chemical and fertilizer mineral mining	19	22	15	14	14	15	15	14
Oil and gas well drilling and exploration	127	230	255	277	285	256	285	300
Construction:								
New residential building construction	1,185	1,302	1,428	1,618	1,607	1,433	1,661	1,681
New nonresidential building construction	964	1,070	1,217	1,316	1,419	1,218	1,351	1,505
New public utility construction	436	584	639	722	809	638	739	852
New highway construction	272	213	229	224	211	230	232	225
All other new construction	205	254	227	230	220	228	235	230
Maintenance and repair construction	886	1,249	1,347	1,447	1,482	1,360	1,496	1,572
Manufacturing:								
Durables								
Ordnance	188	74	75	71	67	76	73	70
Complete guided missiles	150	81	95	91	86	97	95	90
Logging	125	128	120	119	117	120	122	121
Sawmills and planing mills	253	241	226	218	199	227	224	209
Millwork, plywood, and other wood products	252	331	337	397	438	339	410	463
Wooden containers	37	21	18	16	14	19	17	15
Household furniture	336	374	413	466	502	415	483	530
Other furniture and fixtures	143	146	165	175	184	165	179	195
Glass	175	192	205	221	225	206	228	238
Cement and concrete products	221	235	252	269	267	253	278	283
Structural clay products	69	56	45	43a	38	46	44	40
Pottery and related products	43	41	42	43	42	42	44	44
Miscellaneous stone and clay products	137	138	145	154	156	146	160	165
Blast furnaces and basic steel products	636	544	593	590	553	596	610	586
Iron and steel foundries and forgings	300	290	323	348	355	324	360	378
Primary copper and copper products	145	140	165	176	177	166	182	188
Primary aluminum and aluminum products	144	145	153	166	171	154	172	181
Other primary nonferrous products	93	87	97	103	102	98	106	108
Metal containers	80	74	82	88	89	83	91	94
Heating apparatus and plumbing fixtures	82	75	76	80	77	77	83	82
Fabricated structural metal	412	468	541	628	693	543	649	738
Screw machine products	117	113	119	124	122	120	128	129
Metal stampings	252	242	279	297	301	280	307	319
Cutlery, handtools, and general hardware	163	177	199	220	229	200	227	243
Other fabricated metal products	302	323	344	374	387	345	386	409
Engines, turbines, and generators	110	115	130	141	145	131	145	154
Farm machinery	143	147	165	177	182	164	182	193
Construction, mining, and oilfield machinery	192	252	247	296	334	247	305	356
Material handling equipment	89	97	116	129	138	115	133	146
Metal working machines	342	329	371	414	436	371	427	462
Special industry machinery	199	179	206	222	230	206	230	245
General industrial machinery	282	298	333	370	391	333	382	414
Machine shop products	245	298	320	357	380	322	368	401
Computers and peripheral equipment	202	279	322	400	479	322	413	509
Typewriters and other office equipment	49	43	49	48	45	50	50	48
Service industry machines	136	174	207	239	261	208	246	277
Electric transmission equipment	206	205	236	260	276	237	269	292
Electrical industrial apparatus	213	224	247	275	291	248	284	308
Household appliances	179	178	193	210	215	193	216	226
Electric lighting and wiring	201	207	246	280	301	247	290	319
Radio and television receiving sets	153	134	135	140	137	136	143	141
Telephone and telegraph apparatus	132	145	184	204	219	184	210	231
Radio and communication equipment	390	294	322	317	307	324	328	321
Electronic components	381	391	463	541	607	464	558	640
Miscellaneous electrical products	124	163	166	177	177	167	182	187
Motor vehicles	876	893	1,006	1,108	1,156	1,014	1,146	1,227
Aircraft	852	479	571	554	519	573	574	547
Ship and boat building and repair	186	231	247	255	261	249	265	276
Railroad equipment	47	46	55	61	65	55	63	68
Motorcycles, bicycles, and parts	18	26	35	37	39	35	38	40
Other transportation equipment	72	137	152	232	307	153	239	326
Scientific and controlling instruments	197	185	196	203	201	196	210	213
Medical and dental instruments	74	116	129	154	176	129	159	189
Optical and ophthalmic equipment	52	70	89	92	91	90	95	96
Photographic equipment and supplies	107	130	151	171	186	151	177	198
Watches, clocks, and clock operated devices	37	32	35	38	39	35	39	40
Jewelry and silverware	79	83	92	98	99	92	101	104
Musical instruments and sporting goods	148	146	173	191	199	173	197	209
Other miscellaneous manufactured products	225	209	229	228	215	231	236	228

Table 4. Continued—Employment by industry, actual and projected, selected years 1968–90

[In thousands]

Industry	Actual		Base case			High employment alternative		
	1968	1977	1980	1985	1990	1980	1985	1990
Nondurables								
Meat products	337	367	369	382	366	371	394	385
Dairy products	264	199	171	150	142	172	154	149
Canned and frozen foods	280	289	341	360	370	343	371	389
Grain mill products	132	147	148	153	156	148	158	164
Bakery products	285	246	240	228	213	241	235	223
Sugar	37	30	35	35	34	36	36	36
Confectionery products	89	84	89	89	87	90	91	91
Alcoholic beverages	103	91	86	82	81	86	84	84
Soft drinks and flavorings	138	149	146	156	165	146	161	174
Miscellaneous food products	151	155	171	180	181	172	185	191
Tobacco manufacturing	85	70	71	66	60	71	68	63
Fabrica, yarn, and thread mills	617	582	542	545	541	544	563	572
Floor coverings	51	64	75	88	104	75	91	110
Miscellaneous textile goods	84	71	82	86	87	83	89	92
Hosiery and knit goods	247	270	301	315	337	302	326	356
Apparel	1,234	1,112	1,222	1,291	1,330	1,226	1,334	1,403
Miscellaneous fabricated textile products	184	189	206	223	241	207	230	255
Paper products	471	483	490	513	532	492	530	565
Paperboard	222	217	233	253	270	234	261	286
Newspaper printing and publishing	370	408	464	486	492	465	500	519
Periodicals and book printing, publishing	217	213	235	242	246	236	250	260
Miscellaneous printing and publishing	502	520	567	577	577	570	596	615
Industrial inorganic and organic chemicals	316	346	341	366	398	342	379	423
Agricultural chemicals	57	57	58	58	58	58	60	62
Miscellaneous chemical products	123	86	105	113	120	105	117	127
Plastic materials and synthetic rubber	106	103	96	103	110	96	104	114
Synthetic fibers	110	101	125	150	184	125	155	195
Drugs	137	175	177	197	224	177	203	241
Cleaning and toilet preparations	117	125	131	148	168	131	153	178
Paints and allied products	70	70	77	87	93	78	90	99
Petroleum refining and related products	187	209	190	184	180	191	187	184
Tires and inner tubes	115	124	129	141	153	130	145	162
Miscellaneous rubber products	185	175	184	192	197	185	198	209
Plastic products	265	380	398	431	471	400	442	494
Leather tanning and industrial leather	34	25	22	19	16	22	20	17
Footwear and other leather products	324	241	243	228	203	244	233	208
Transportation:								
Railroad transportation	662	539	557	514	450	559	532	479
Local transit, intercity buses	311	297	304	316	323	306	325	340
Truck transportation	1,179	1,290	1,446	1,552	1,587	1,452	1,600	1,675
Water transportation	241	198	198	193	192	199	196	196
Air transportation	329	380	397	464	511	399	480	543
Pipeline transportation	19	17	17	17	17	17	18	19
Transportation services	99	155	178	213	252	179	220	268
Communications:								
Communications, except radio and television	893	1,041	1,126	1,173	1,221	1,132	1,178	1,260
Radio and television broadcasting	124	162	178	217	252	179	225	267
Public utilities:								
Electric utilities	371	434	477	515	522	477	529	551
Gas utilities	219	214	209	196	168	210	202	178
Water and sanitary services	74	111	123	145	163	123	149	170
Trade:								
Wholesale trade	4,118	4,991	5,511	5,834	5,888	5,522	6,004	6,200
Retail trade	12,211	15,917	17,840	20,073	21,482	17,881	20,632	22,520
Finance, insurance, and real estate:								
Banking	916	1,342	1,426	1,764	2,054	1,434	1,829	2,200
Credit agencies and financial brokers	605	790	895	1,048	1,167	900	1,084	1,237
Insurance	1,367	1,687	1,811	2,004	2,117	1,812	2,062	2,227
Real estate	784	1,069	1,181	1,297	1,358	1,182	1,331	1,425
Services:								
Hotels and lodging places	819	1,185	1,326	1,565	1,747	1,332	1,618	1,854
Personal and repair services	1,319	1,231	1,263	1,270	1,244	1,268	1,292	1,281
Barber and beauty shops	429	389	429	460	475	431	470	493
Miscellaneous business services	1,428	2,341	2,788	3,585	4,385	2,803	3,705	4,663
Advertising	192	215	216	221	219	216	226	228
Miscellaneous professional services	994	1,548	1,646	1,932	2,174	1,651	1,982	2,283
Automobile repair	764	935	1,028	1,099	1,137	1,032	1,122	1,178
Motion pictures	196	206	223	236	239	225	248	258
Amusements and recreation services	516	700	822	932	1,010	822	952	1,050
Doctors' and dentists' services	746	1,275	1,411	1,656	1,882	1,417	1,695	1,968
Hospitals	1,751	2,604	2,935	3,642	4,307	2,950	3,785	4,634
Other medical services	506	1,254	1,603	2,228	3,055	1,612	2,283	3,191
Educational services	1,176	1,430	1,538	1,709	1,785	1,556	1,769	1,890
Nonprofit organizations	1,704	2,064	2,301	2,543	2,673	2,309	2,617	2,810
Forestry and fishery products	30	41	41	45	46	40	44	45
Agricultural, forestry, and fishery services	178	256	290	334	366	292	345	387
Private households	2,437	1,913	1,602	1,447	1,307	1,602	1,446	1,306

Technology affects growth. Technological change also can have a pronounced impact on output growth. Some of the most rapidly growing industries, synthetic fibers and electronic components, reflect this. It is assumed that these products will be used more and more in the manufacture of final goods through the coming decade. Industries showing little or no output growth during 1980-90 because of changes in the production process include wooden containers, structural clay products, and leather tanning and industrial leather.

Employment by industry

Table 4 shows actual and projected employment by industry over the period 1968-90. Employment trends at the industry level are derived from industry output trends, but the two are not strictly parallel. The differences are related to estimates of labor productivity and of average weekly hours, which combine with industry output projections to yield the projections of employment by industry. For example, during cyclical swings, output in manufacturing falls and rises more markedly than employment because labor productivity and the average workweek absorb some of the impact. However, employment in retail trade and other services sectors demonstrates little sensitivity to business cycle peaks and troughs.

Table 5 and chart 2 present the projection of employment by major economic sector. Rapid growth is expected for most sectors during 1977-80 compared with 1973-77. After 1980, however, the projections of industry employment growth are generally below historical rates, because of the anticipated labor force slowdown.

Distribution virtually unchanged. In terms of shares of total jobs, most of the major sectors continue past trends. Agriculture, manufacturing, transportation, wholesale trade, and private households are projected to hold smaller shares of total employment. Other services, retail trade, finance, insurance, and real estate will hold larger shares; the remaining sectors are projected to hold steady shares.

One sector projected to diverge from historical trends is the government sector. Historically, civilian government employment has risen consistently as a proportion of total civilian employment, reaching 16.2 percent in 1977. (See table 6.) The increase in the past has come in State and local government jobs, with the Federal sector holding a fairly steady 3-percent share. In the 1980's, declining school enrollment will more than compensate for factors which might cause educational employment to grow, such as smaller class size, expanded special educational programs, and rising staff-teacher ratios. In addition to declining school enrollment, an apparent desire by voters for smaller governments will cause the number of public sector jobs to fall to 14.8 percent of all civilian jobs by 1990.

Other State and local functions with projected slowdowns in employment growth include highway construction and maintenance, police services, and public utilities. Employment in public health care industries, however, will rise as a share of total jobs, offsetting the slow growth of some of the other functions. Although the rate of growth of government jobs will be slower during 1977-90 than the rate for private jobs, the State and local

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

[Level in thousands]

Industry sector	Level							Average annual rate of change					
	1959	1968	1973	1977	1980	1985	1990	1959-68	1968-73	1973-77	1977-80	1980-85	1985-90
Total civilian employment ¹	67,563	79,836	88,408	93,715	101,761	111,851	118,615	1.9	2.1	1.5	2.8	1.9	1.2
Government ²	8,083	11,846	13,738	15,189	15,868	16,865	17,507	4.3	3.0	2.5	1.5	1.2	.8
Total private	59,480	67,990	74,670	78,526	85,893	94,986	101,108	1.5	1.9	1.3	3.0	2.0	1.3
Agriculture	5,491	3,663	3,206	2,922	2,974	2,922	2,634	-4.4	-2.6	-2.3	.6	-4	-2.1
Nonagriculture	53,989	64,327	71,464	75,604	82,919	92,064	98,474	2.0	2.1	1.4	3.1	2.1	1.4
Mining	765	634	677	867	1,002	1,055	1,072	-2.1	1.3	6.4	5.0	1.0	.3
Contract construction	3,680	3,948	4,766	4,672	5,087	5,556	5,748	.8	3.8	-5	2.9	1.8	.7
Manufacturing	17,001	20,038	20,352	19,844	21,492	23,014	23,882	1.8	.3	-6	2.7	1.4	.7
Durable goods	9,577	11,792	12,029	11,671	12,929	14,098	14,692	2.3	.4	-8	3.5	1.7	.8
Nondurable goods	7,424	8,246	8,323	8,173	8,563	8,915	9,189	1.2	.2	-5	1.6	.8	.6
Transportation, communication, and public utilities	4,241	4,521	4,867	4,838	5,212	5,516	5,658	.7	1.5	-1	2.5	1.1	.5
Transportation	2,743	2,840	2,919	2,876	3,098	3,270	3,332	.4	.6	-4	2.5	1.1	.4
Communication	874	1,017	1,207	1,203	1,304	1,391	1,473	1.7	3.5	-1	2.7	1.3	1.2
Public utilities	624	664	741	759	809	856	853	.7	2.2	.6	2.2	1.1	-1
Wholesale and retail trade	13,758	16,329	19,026	20,908	23,351	25,907	27,370	1.9	3.1	2.4	3.8	2.1	1.1
Wholesale	3,527	4,118	4,688	4,991	5,511	5,834	5,888	1.7	2.6	1.6	3.4	1.1	.2
Retail	10,231	12,211	14,338	15,917	17,840	20,073	21,482	2.0	3.3	2.6	3.9	2.4	1.4
Finance, insurance, and real estate	2,882	3,672	4,433	4,888	5,312	6,113	6,695	2.7	3.8	2.5	2.8	2.8	1.8
Other services	9,088	12,748	15,254	17,674	19,861	23,457	26,742	3.8	3.7	3.7	4.0	3.4	2.7
Private households	2,574	2,437	2,089	1,913	1,802	1,447	1,307	-6	-3.0	-2.2	-5.7	-2.0	-2.0

¹Employment is on a jobs concept and includes wage and salary workers, the self-employed, unpaid family workers, and private household workers.

²Government employment used in this table is based on BLS concepts. The figure includes government enterprise employment.

sector (not including education) will rank among the top 10 job-gaining industries, because of its relative size.

Rapidly growing industries. The service sector is projected to be the fastest growing segment of the economy, continuing its historical increase as a share of total jobs. In 1959, jobs in service industries accounted for 13.5 percent of total jobs. In 1977, the share was 18.9 percent; by 1990, it is projected to reach 22.5 percent. Two groups of services—private medical care services and miscellaneous business services—have been and will continue to be primarily responsible for this gain. As shown in the following tabulation, these service industries are among the leaders in projected average annual employment growth during 1977–90:

<i>Industries</i>	<i>Average annual rate of job growth, 1977–90</i>
Other medical services	7.1
Other transportation equipment	6.4
Miscellaneous business services	4.9
Synthetic fibers	4.7
Computers and peripheral equipment ..	4.2
Hospitals	3.9
Floor coverings	3.8
Transportation services	3.8
Copper ore mining	3.8
Radio and television broadcasting ..	3.5

Private medical care services include hospitals, offices of physicians and dentists, and such other medical services as medical laboratories, nursing services, blood banks, and nursing and convalescent homes. Between 1959 and 1977, employment in these industries grew by 3.3 million jobs, an average annual rate of 6.0 percent. Job growth in the medical sector is projected to taper off somewhat from this pace but to continue as one of the most rapidly growing areas of the economy through the next decade, partially the result of an aging population. Over 4.1 million new jobs will be added in private medical care services between 1977 and 1990, an average yearly gain of 4.6 percent.

Miscellaneous business services, which include janitorial, photocopying, temporary office help, equipment rental and leasing, and other related services, also will continue to be increasingly important in the total job-growth picture. Employment in this industry more than tripled between 1959 and 1977, rising 6.6 percent a year to total 2.3 million jobs by 1977. Employment growth is projected to average 4.9 percent a year through

1990, compared to the 1.8-percent annual growth rate for total civilian employment 1977–90.

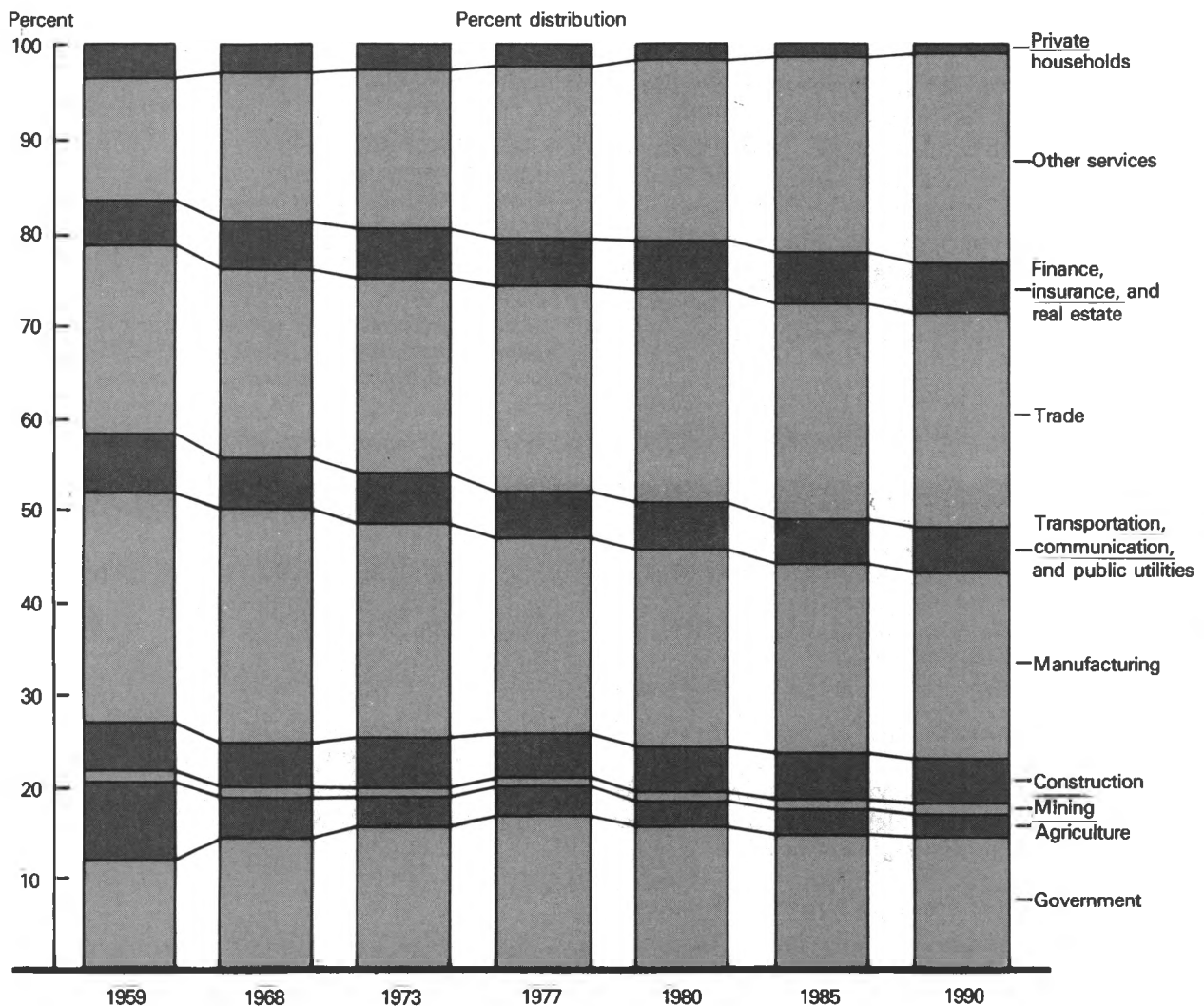
In terms of the absolute number of new jobs created between 1977–90, retail trade ranks number one, primarily because of the size of the industry:

<i>Industries</i>	<i>Employment gain, 1977–90 (thousands)</i>
Retail trade	5,565
State and local government other than education	2,148
Miscellaneous business services	2,044
Other medical services	1,801
Hospitals	1,703
Wholesale trade	897
Banking	712
Miscellaneous professional services	626
Nonprofit organizations	609
Doctors' and dentists' services	607

Of the more than 5 million new retail trade jobs, most will be in eating and drinking establishments, general merchandise stores, and food stores. Employment growth for this sector reflects not only demand factors but supply factors as well, particularly an extensive use of part-time help. The average workweek for all retail trade establishments declined almost 7 hours, from 39.9 hours per week in 1959 to 33.1 hours per week in 1977; by 1990, it is projected to decline even further, to an average of 30.3 hours per week. At the same time, retail establishments will continue to introduce many cost-saving technologies, such as computerized checkout systems and standardized menus, somewhat dampening the jobs forecast.

Slowdowns or declines expected. Several industries are projected to have relatively small employment gains compared with past trends. Employment in the steel industry, for example, is projected to rise to 593,000 jobs in 1980, as the economy fully recovers from recession, but then will remain constant through 1985 and decline to 553,000 by 1990. Part of the reason behind the leveling off is a projected continued substitution of aluminum and plastic for steel in the production of new cars, as energy demands continue to require lighter weight vehicles. In addition, steel users are expected to continue shifting their purchases from domestic to foreign suppliers.

Employment growth in the motor vehicle industry also is projected to slow somewhat. The underlying causes of this slowdown are a rise in productivity in the auto industry and the change in the age composition of the population. During the

Chart 2. Total employment by major sector, selected years 1959-77, and projections to 1980, 1985, and 1990

1960's and 1970's, the baby-boom generation entered the marketplace and created a large, new demand for automobiles. During the next decade, this cohort will reach middle age; the demand for new cars will still be strong, but the unusual surge experienced in the 1960's will not be repeated. Somewhat offsetting these trends, however, is the expectation that the devalued dollar and the increasing competitiveness of domestic manufacturers in the small-car market will halt the historical rise of imports as a share of new cars sold

in the United States.

Communications is another industry projected to experience little employment growth during 1977-90. Although output growth in this sector is projected to outrank growth in all other industries, technological innovations, resulting in top productivity gains, will offset output growth. As a consequence, telephone and telegraph employment is projected to rise only modestly through 1990.

Several industries are projected to experience actual job declines over the next decade.

<i>Industries</i>	<i>Average annual rate of job decline, 1977-90</i>
Chemical and fertilizer mineral mining	-3.7
Leather tanning and industrial leather	-3.2
Structural clay products	-2.9
Private households	-2.9
Wooden containers	-2.8
Dairy products (nonmanufactured) ..	-2.6
Gas utilities	-1.8
Dairy and poultry products	-1.7
Sawmills and planing mills	-1.4
Railroad transportation	-1.4

The largest cutback is expected to occur in the private household sector, reflecting a continued drop in the supply of domestic workers. Demand factors play the primary role in job reductions in some food products industries, tobacco manufacturing, gas utilities, and ordnance manufacturing; changes in the manufacturing process will cause job declines in the wooden container and leather tanning industries.

Farm employment is expected to continue to decline through the next decade; however, the drop will not be as rapid as in the past few decades. In the past, productivity gains in agriculture have been very large; between 1959 and 1977, output per hour of all persons in the farm sector rose almost 5 percent a year, compared with about 2 or 3 percent for the nonfarm economy before 1973 and about 1 percent a year since then. The rapid pace of productivity gains in farming is already beginning to slow, however, and the continued slowdown in the 1980's will moderate the projected rate of decline in farm jobs.

Output the main factor in job forecast

What is the relative importance of output versus productivity in the projection of employment? To answer this question, estimates of 1990 employment were prepared that isolate the effects of projected output, projected unit labor requirements, and projected average weekly hours on employment by industry. For the effect of output alone, productivity and average weekly hours were held at their 1977 levels, and projected levels were used only for output to compute 1990 employment. Comparing this forecast with the actual forecast thus measures the effect of output changes alone. For the effect of productivity projections, employment was projected holding output and average hours at their 1977 levels; for the effect of the workweek forecast, output and productivity were held constant.

Table 6. Changing share of government employment, actual and projected, selected years 1959-90

[In percent]							
Components	1959	1966	1973	1977	1980	1985	1990
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Government ¹	12.0	14.8	15.5	16.2	15.6	15.1	14.8
Federal (civilian)	3.3	3.4	3.0	2.9	2.7	2.6	2.5
General government	2.3	2.3	2.0	2.0	1.9	1.8	1.7
Enterprises ²	1.0	1.1	1.0	.9	.9	.8	.8
State and local	8.7	11.4	12.5	13.3	12.9	12.5	12.3
Education	4.0	5.9	6.5	6.9	6.4	5.9	5.4
Noneducation general government ..	4.2	4.9	5.4	5.7	5.7	5.7	5.9
Enterprises ³ .....	.5	.6	.6	.7	.8	.9	.9
Private	88.0	85.2	84.5	83.8	84.4	84.9	85.2

¹Based on BLS concept.

²Includes the Postal Service, TVA, military post exchanges, and other federally operated services receiving more than half their revenue from sales.

³Includes local transit, water and sanitary utilities, State liquor stores, municipal parking facilities, and other State or local government-operated services receiving more than half their revenue from sales.

For the private economy as a whole, the projected increase in output was found to be most responsible for the 22.6-million increase in employment between 1977 and 1990. The increase in output more than offsets the decline that would have taken place as a result of the decline in unit labor requirements alone. Changes in the average workweek were shown to have very little effect on the employment change. Most of the 149 industries follow this general pattern—positive effect of increases in demand and negative effect of declines in unit labor requirements (or increases in productivity)—but the relative importance of the changes in each factor result in differential industry employment growth.

High employment alternative

An alternative set of projections was developed which allows for much higher levels of employment in the 1980's. The alternate case assumes a higher rate of growth for the labor force than does the base case and also assumes that the unemployment rate will be lower. The result of these two assumptions is that total civilian employment in the alternate case will be more than 7 million higher than the base case in 1990. In the following tabulation, the major differences in assumptions between the two sets of projections are summarized (labor force data in thousands):

	<i>Labor force</i>	<i>Unemployment rate</i>
1980:		
Base	106,099	5.5
Alternate	107,554	5.5
1985:		
Base	115,041	4.7
Alternate	119,095	4.0
1990:		
Base	121,456	4.5
Alternate	127,692	4.0

The lower unemployment rate is assumed to be achieved initially through increased Federal grants to State and local governments. These grants would be used to hire more workers in State and local government functions other than education, principally in health, highways, parks and recreation, and natural resources.

The increased demand generated by the additional hirings then would stimulate the rest of the economy. Contributing to the higher employment growth in the private sector during 1980–90 is the assumption that productivity gains will be somewhat slower in the alternate case than in the base case, the result of more inexperienced workers entering the labor force. By 1985, it is assumed that a majority of the extra jobs in the alternate case compared to the base case will be in the private sector.

The impact of these assumptions is to raise the output and employment projections of virtually every industry. (See table 4.) Total private GNP in 1980 is 0.5 percent higher in the alternate case compared to the base case, 2.0 percent higher in

1985, and 3.6 percent higher in 1990. Output at the industry level in the alternate case generally mirrors this pattern, although industries that are most dependent on State and local government demand will have even greater output in the alternate case than the average for all industries. Examples where 1990 output in the high employment alternative is more than 6 percent larger than in the base forecast are other medical services, highway construction, other nonbuilding construction, drugs, hospitals, maintenance and repair construction, nonresidential building construction, and medical and dental instruments.

Employment in the alternate case is also higher than in the base case in most industries. As mentioned earlier in this article, at first, most of the additional jobs will be in State and local government, but in 1990 the private sector job level is 5.2 million higher than in the base case. Industries gaining more than the average include drugs, hospitals, and banking; sectors relatively unaffected by the changed assumptions in the alternate case are private households, farms, and farm services. □

FOOTNOTES

¹ The first article (Paul O. Flaim and Howard N. Fullerton, Jr., "Labor force projections to 1990: three possible paths," *Monthly Labor Review*, December 1978, pp. 25–35) reported on labor force projections. The second (Norman C. Saunders, "The U.S. economy in 1990: two projections for growth," *Monthly Labor Review*, December 1978, pp. 36–46) presented the macroeconomic forecast and the underlying assumptions upon which the industry projections rest. The third (Arthur Andreassen, "Changing patterns of demand: BLS projections to 1990," *Monthly Labor Review*, December 1978, pp. 47–55) described projected changes in demand by private consumers, government, investors, and the foreign sector.

² This projection is the intermediate growth forecast of the labor force prepared by the BLS. Two alternate forecasts of the labor force were also prepared—a high-growth case and a low-growth case. For more details on the three labor force projections, see Flaim and Fullerton, "Labor force projections."

³ Ronald E. Kutscher, Jerome A. Mark, and John R. Norsworthy, "The productivity slowdown and the outlook to 1985," *Monthly Labor Review*, May 1977, pp. 3–8.

⁴ The energy projections included in this study are based on the Data Resources, Inc. (DRI) Energy Model (version of March 1977). The model was solved with BLS macroeconomic and DRI energy assumptions. The resulting demand figures for different fuels were used to develop target output and import levels for the energy industries. The energy coefficients of the input-output table were projected independently, based primarily on the projected relative fuel prices implicit in the energy output projections.

⁵ For a detailed description of how the factors determine the projections of industry output, see Richard P. Oliver, *Methodology: Bureau of Labor Statistics Projections of Employment to 1990*, a BLS report to be published later this year.

Appendix. Supplementary Tables

Table A-1. Gross domestic output by industry, actual and projected, selected years 1959-90

(In millions of 1972 dollars)

Industry	1959	1968	1973	1977	1980	1985	1990
Total private	1,230,688	1,788,200	2,152,478	2,317,860	2,625,434	3,160,721	3,740,024
Agriculture:							
Dairy and poultry products	12,343	11,962	12,435	15,002	13,237	14,043	16,023
Meat animals and livestock	24,233	29,641	34,098	37,798	38,366	42,998	45,290
Cotton	2,520	1,765	2,118	3,122	3,476	3,921	4,379
Food and feed grains	12,067	15,686	19,832	23,950	25,186	29,323	32,877
Other agricultural products	11,688	14,759	18,089	22,676	20,711	23,338	25,412
Mining:							
Iron and ferroalloy ores mining	761	1,311	1,500	1,179	2,148	2,291	2,358
Copper ore mining	751	1,170	1,665	967	1,729	2,017	2,291
Other nonferrous ore mining	696	662	709	478	711	757	798
Coal mining	4,256	5,173	5,342	6,844	7,646	9,867	12,199
Crude petroleum and natural gas	11,981	16,445	17,381	15,301	18,550	19,001	19,033
Stone and clay mining and quarrying	2,094	2,721	3,216	3,481	3,899	4,495	5,023
Chemical and fertilizer mineral mining	503	627	820	1,443	1,025	1,220	1,441
Construction:							
New residential building construction	36,643	39,429	52,615	41,979	50,802	66,977	70,639
New nonresidential building construction	22,337	38,095	37,031	30,039	36,128	38,333	44,224
New public utility construction	9,600	16,818	17,874	18,152	19,067	21,464	25,899
New highway construction	9,096	12,012	9,540	6,961	8,343	8,337	8,348
All other new construction	7,192	7,456	7,333	8,029	7,588	8,416	8,870
Oil and gas well drilling and exploration	3,475	3,009	2,740	3,852	4,084	4,740	5,398
Maintenance and repair construction	24,762	33,070	33,274	34,547	37,300	40,263	42,559
Manufacturing:							
Durables:							
Ordnance	3,322	9,084	5,026	5,050	5,137	5,640	6,090
Complete guided missiles	4,072	5,842	2,938	3,280	3,442	3,651	4,086
Logging	3,438	4,968	5,452	7,636	6,294	7,682	8,588
Sawmills and planing mills	6,478	6,416	7,063	7,501	6,595	7,342	7,472
Millwork, plywood, and other wood products	4,806	7,440	10,520	11,926	13,735	19,378	24,062
Wooden containers	566	681	444	613	427	459	482
Household furniture	4,831	6,287	7,845	7,399	9,450	12,035	14,514
Other furniture and fixtures	2,066	3,456	4,762	4,386	5,422	6,241	7,208
Glass	3,501	4,971	6,758	6,818	7,872	9,385	10,944
Cement and concrete products	6,137	8,031	10,105	10,263	11,456	13,678	15,368
Structural clay products	1,101	1,173	1,240	1,422	1,132	1,234	1,245
Pottery and related products	657	755	925	1,060	948	1,132	1,284
Miscellaneous stone and clay products	3,302	4,447	4,971	5,810	5,311	6,083	6,830
Blast furnaces and basic steel products	24,299	31,617	34,837	29,250	37,764	40,797	42,785
Iron and steel foundries and forgings	6,161	8,937	10,337	11,183	12,341	14,430	16,630
Primary copper and copper products	7,508	10,606	13,894	12,715	15,415	18,028	20,587
Primary aluminum and aluminum products	4,483	7,884	10,925	11,150	11,982	14,638	17,525
Other primary nonferrous products	3,789	5,890	6,073	5,840	7,211	8,235	9,194
Metal containers	3,214	4,779	5,615	5,901	6,704	8,121	9,600
Heating apparatus and plumbing fixtures	2,090	2,598	3,202	2,862	3,464	4,263	4,841
Fabricated structural metal	8,372	13,089	15,335	13,209	19,232	24,471	30,816
Screw machine products	3,061	3,772	3,801	3,419	3,796	3,947	4,009
Metal stampings	5,551	8,821	9,502	9,055	11,096	12,942	14,861
Cutlery, handtools, and general hardware	3,219	4,777	5,822	6,171	7,171	8,850	10,596

Table A-1. Continued—Gross domestic output by industry, actual and projected, selected years 1959-90

(In millions of 1972 dollars)

Industry	1959	1968	1973	1977	1980	1985	1990
Other fabricated metal products	7,129	10,983	13,492	16,127	16,266	18,891	21,564
Engines, turbines, and generators	3,279	5,066	7,552	7,373	8,800	10,453	12,417
Farm machinery	3,799	5,176	6,705	6,991	8,547	10,212	12,250
Construction, mining, and oilfield machinery ..	5,679	7,554	9,804	12,238	11,772	14,847	18,229
Material handling equipment	1,726	3,066	3,722	3,603	5,125	6,145	7,376
Metal working machines	5,744	9,262	9,617	9,598	11,309	13,690	16,152
Special industry machinery	4,289	6,621	7,505	7,165	8,236	10,153	12,592
General industrial machinery	5,860	8,719	10,739	11,104	13,075	15,790	18,822
Machine shop products	2,828	4,983	5,842	6,939	7,772	9,092	10,605
Computers and peripheral equipment	2,095	5,300	8,129	10,697	14,354	19,158	25,835
Typewriters and other office equipment	856	1,442	1,596	1,832	2,283	2,578	2,837
Service industry machines	2,903	6,207	10,134	8,218	12,204	15,548	19,434
Electric transmission equipment	3,219	4,799	6,638	6,065	7,962	9,513	11,486
Electrical industrial apparatus	3,853	6,376	7,155	6,783	7,938	9,812	12,062
Household appliances	3,745	6,576	8,982	9,258	11,340	14,562	18,010
Electric lighting and wiring	3,527	5,169	6,667	5,759	7,862	9,085	10,218
Radio and television receiving sets	1,671	4,442	6,194	6,032	9,347	12,047	15,162
Telephone and telegraph apparatus	1,565	3,500	5,392	4,387	6,761	8,384	10,631
Radio and communication equipment	4,371	12,751	9,867	10,883	11,473	12,162	13,596
Electronic components	2,975	7,364	10,378	10,159	15,220	20,838	28,715
Miscellaneous electrical products	2,451	4,023	5,676	6,151	7,324	8,514	9,580
Motor vehicles	34,200	60,579	77,468	80,473	91,378	110,936	132,423
Aircraft	18,404	27,418	19,302	16,334	21,447	24,483	28,447
Ship and boat building and repair	2,628	3,674	4,730	6,102	7,159	7,816	9,234
Railroad equipment	1,584	2,560	3,322	2,676	3,791	4,822	6,088
Motorcycles, bicycles, and parts	183	452	976	837	1,472	1,921	2,670
Other transportation equipment	807	2,477	5,521	4,301	5,525	7,750	9,145
Scientific and controlling instruments	3,741	4,193	5,094	6,198	6,041	6,975	7,972
Medical and dental instruments	1,055	2,218	3,534	4,950	4,793	5,886	7,196
Optical and ophthalmic equipment	446	1,053	1,460	2,017	2,122	2,506	2,930
Photographic equipment and supplies	1,506	4,000	6,889	7,643	9,895	12,732	16,406
Watches, clocks, and clock operated devices ..	554	1,100	1,138	1,235	1,491	2,057	2,688
Jewelry and silverware	1,496	2,548	2,576	2,639	3,361	4,390	5,567
Musical instruments and sporting goods	2,264	3,295	4,517	4,587	5,974	7,799	9,772
Other miscellaneous manufactured products	3,256	4,865	6,737	7,392	8,293	10,272	12,452
Nondurables:							
Meat products	21,786	29,418	30,571	34,645	36,397	40,896	43,036
Dairy products	14,850	15,140	17,260	19,865	17,534	18,072	21,263
Canned and frozen foods	7,784	11,628	14,407	15,435	18,232	21,159	23,719
Grain mill products	8,477	11,170	13,415	17,601	16,213	19,065	21,746
Bakery products	7,768	8,552	8,902	9,352	9,133	9,572	9,941
Sugar	2,407	3,139	3,411	3,798	3,757	4,333	4,823
Confectionery products	2,664	3,569	4,179	4,594	4,487	5,006	5,445
Alcoholic beverages	6,689	9,707	12,813	14,171	17,383	20,642	23,655
Soft drinks and flavorings	3,407	5,547	7,499	9,310	9,506	11,836	13,948
Miscellaneous food products	9,670	12,699	13,666	13,261	16,619	19,664	22,284
Tobacco manufacturing	8,607	9,371	10,483	11,098	11,039	11,691	12,242
Fabrics, yarn, and thread mills	13,703	18,389	19,804	23,426	22,548	26,224	29,952
Floor coverings	757	2,109	3,637	3,141	4,933	7,176	9,718
Miscellaneous textile goods	2,113	3,164	3,515	3,361	4,338	5,251	6,128
Hosiery and knit goods	2,747	5,083	8,467	8,190	11,407	14,909	18,906
Apparel	17,232	23,775	28,467	30,155	36,497	45,375	54,632
Miscellaneous fabricated textile products	2,996	5,002	6,939	6,793	8,509	10,673	13,037
Paper products	12,456	18,225	23,686	26,071	28,056	33,859	39,977
Paperboard	4,748	7,492	9,272	9,706	11,172	13,675	16,541
Newspaper printing and publishing	5,725	7,391	8,609	8,484	9,571	10,330	11,989
Periodicals and book printing, publishing	5,404	8,386	10,493	10,824	12,780	14,041	15,430
Miscellaneous printing and publishing	8,433	12,529	17,149	16,989	18,952	20,520	21,798
Industrial inorganic and organic chemicals ...	10,314	17,169	23,841	29,715	30,671	39,752	50,830

Table A-1. Continued—Gross domestic output by industry, actual and projected, selected years 1959-90

(In millions of 1972 dollars)

Industry	1959	1968	1973	1977	1980	1985	1990
Agricultural chemicals	1,599	2,785	3,246	4,156	4,360	5,011	5,573
Miscellaneous chemical products	3,302	5,221	5,489	4,554	6,570	8,264	10,256
Plastic materials and synthetic rubber	2,872	5,854	10,012	15,662	13,249	15,750	18,852
Synthetic fibers	1,505	3,760	5,757	7,255	8,959	13,332	19,355
Drugs	3,166	6,200	9,746	13,071	13,304	17,138	21,679
Cleaning and toilet preparations	4,797	8,428	11,278	12,787	12,883	17,087	22,146
Paints and allied products	2,673	3,532	4,528	3,757	5,520	6,994	8,593
Petroleum refining and related products	20,573	30,265	35,752	45,996	43,869	46,347	47,974
Tires and inner tubes	3,360	4,817	6,876	7,622	8,697	10,888	13,494
Miscellaneous rubber products	3,145	4,920	5,665	5,738	6,431	7,367	8,331
Plastic products	2,397	7,605	13,176	18,280	16,886	20,721	25,241
Leather tanning and industrial leather	1,468	1,424	1,266	1,333	1,219	1,233	1,196
Footwear and other leather products	4,840	5,450	4,725	4,282	4,759	4,939	4,872
Transportation:							
Railroad transportation	12,376	16,359	18,679	16,259	21,012	23,937	26,821
Local transit, intercity buses	7,165	6,070	5,787	5,516	6,811	7,626	9,078
Truck transportation	19,358	25,591	32,603	32,806	38,185	44,842	51,743
Water transportation	3,883	6,231	9,344	9,438	12,658	15,076	17,925
Air transportation	4,125	11,759	14,351	16,697	20,716	27,691	36,029
Pipeline transportation	768	1,330	1,702	1,786	2,192	2,429	2,642
Transportation services	1,483	1,374	1,861	1,800	2,582	2,963	3,654
Communications:							
Communication, except radio and television .	12,036	22,897	34,446	45,657	53,522	74,041	101,544
Radio and television broadcasting	2,894	3,675	5,290	4,435	6,476	8,349	10,612
Public utilities:							
Electric utilities	14,082	24,927	34,198	33,826	42,483	56,135	71,875
Gas utilities	11,214	18,367	20,192	18,910	15,746	16,983	16,653
Water and sanitary services	3,999	5,328	6,161	6,427	7,228	8,543	9,914
Trade:							
Wholesale trade	47,087	80,325	96,907	103,675	123,563	145,602	168,812
Retail trade	99,926	131,383	151,365	162,346	184,729	226,537	271,552
Finance, insurance, and real estate:							
Banking	14,444	20,612	25,978	29,661	35,518	44,376	53,685
Credit agencies and financial brokers	11,860	15,239	11,982	12,725	15,577	18,171	20,873
Insurance	26,045	33,219	43,009	50,815	53,140	63,636	75,281
Owner-occupied real estate	45,635	63,726	80,558	98,921	110,692	136,085	164,546
Real estate	49,792	77,672	101,237	112,114	136,394	168,913	204,777
Services:							
Hotels and lodging places	5,100	7,176	9,109	9,172	11,558	14,859	18,461
Personal and repair services	12,757	14,382	13,976	13,302	14,131	14,856	15,655
Barber and beauty shops	4,330	4,165	3,870	3,630	3,882	4,067	4,262
Miscellaneous business services	14,258	31,583	42,714	51,272	63,677	82,315	104,744
Advertising	17,003	20,853	22,504	26,069	23,987	26,345	28,490
Miscellaneous professional services	15,993	22,191	28,802	34,912	35,070	42,150	49,596
Automobile repair	13,767	21,026	25,702	27,463	32,144	40,136	49,056
Motion pictures	5,249	5,333	8,103	10,420	10,766	13,148	16,086
Amusements and recreation services	5,337	7,666	8,835	10,093	10,554	12,192	13,957
Doctors' and dentists' services	12,463	19,031	25,774	27,261	34,853	43,668	54,877
Hospitals	8,636	16,460	25,568	31,876	36,047	48,803	65,339
Other medical services	3,576	7,078	11,077	13,133	15,824	19,277	23,754
Educational services	6,906	11,226	13,650	14,620	14,518	16,163	17,230
Nonprofit organizations	9,969	15,300	17,688	19,953	20,607	23,254	25,993
Forestry and fishery products	2,690	2,206	2,459	3,153	3,171	3,849	4,269
Agricultural, forestry, and fishery services	2,621	3,491	3,690	4,343	4,278	4,882	5,479
Private households	6,717	6,091	5,252	4,431	3,643	3,289	2,971

Table A-2. Average weekly hours and hours of all persons by industry, actual and projected, selected years 1977-90

Industry	Average weekly hours				Hours of all persons (in millions)			
	1977	1980	1985	1990	1977	1980	1985	1990
Total private	36.7	36.5	35.8	35.3	150,011	163,012	177,017	185,632
Agriculture:								
Dairy and poultry products	44.4	43.0	41.9	40.9	1,225	1,101	996	908
Meat animals and livestock	44.4	43.0	41.9	40.9	1,264	1,307	1,248	1,051
Cotton	44.3	43.0	41.9	40.9	339	384	369	329
Food and feed grains	44.3	43.0	41.9	40.9	1,531	1,641	1,629	1,460
Other agricultural products	44.3	43.0	41.9	40.9	2,378	2,215	2,128	1,852
Mining:								
Iron and ferroalloy ores mining	42.2	43.3	43.5	43.7	57	82	73	61
Copper ore mining	39.0	41.0	41.0	41.0	71	101	113	121
Other nonferrous ore mining	41.8	41.0	41.0	41.1	63	66	66	62
Coal mining	41.3	40.1	40.1	40.3	500	558	648	743
Crude petroleum and natural gas	41.0	41.0	40.9	41.0	416	529	498	447
Stone and clay mining and quarrying	43.2	43.6	43.6	43.6	218	232	233	220
Chemical and fertilizer mineral mining	42.8	43.5	43.5	43.7	49	33	33	31
Construction:								
New residential building construction	37.8	37.9	37.7	37.8	2,559	2,815	3,175	3,161
New nonresidential building construction	37.8	37.9	37.8	37.8	2,105	2,398	2,583	2,789
New public utility construction	37.9	37.9	37.7	37.8	1,152	1,259	1,416	1,589
New highway construction	37.9	37.9	37.8	37.9	420	450	439	416
All other new construction	37.7	38.0	37.9	38.0	498	448	453	435
Oil and gas well drilling and exploration	46.6	46.4	46.4	46.6	557	614	668	690
Maintenance and repair construction	37.8	37.9	37.8	37.9	2,457	2,656	2,841	2,918
Manufacturing:								
Durables:								
Ordnance	40.5	40.7	40.7	40.8	156	158	151	143
Complete guided missiles	39.9	39.9	39.9	39.8	168	198	190	178
Logging	39.7	39.9	39.6	39.9	264	249	246	243
Sawmills and planing mills	41.1	41.0	40.9	41.0	515	482	463	425
Millwork, plywood, and other wood products	39.9	40.3	40.2	40.3	687	707	831	917
Wooden containers	39.4	38.9	38.8	38.8	43	37	33	29
Household furniture	38.6	38.9	38.8	38.9	750	836	941	1,014
Other furniture and fixtures	39.8	39.7	39.6	39.7	302	340	360	380
Glass	40.4	40.8	40.7	40.8	403	434	467	476
Cement and concrete products	42.1	42.0	41.9	41.9	515	549	586	581
Structural clay products	40.9	40.9	40.9	41.0	119	97	91	81
Pottery and related products	39.4	38.8	38.7	38.7	84	85	87	84
Miscellaneous stone and clay products	40.7	40.6	40.6	40.7	292	306	326	329
Blast furnaces and basic steel products	40.2	40.2	40.2	40.2	1,138	1,239	1,233	1,157
Iron and steel foundries and forgings	40.8	40.8	40.8	40.9	616	684	737	755
Primary copper and copper products	42.2	41.4	41.4	41.4	307	356	379	381
Primary aluminum and aluminum products	41.4	41.4	41.3	41.4	312	330	358	368
Other primary nonferrous products	40.5	41.1	41.1	41.2	183	208	219	219
Metal containers	43.1	43.1	43.0	43.1	166	184	197	199
Heating apparatus and plumbing fixtures	39.7	40.1	40.1	40.1	155	159	167	161

Table A-2. Continued—Average weekly hours and hours of all persons by industry, actual and projected, selected years 1977-90

Industry	Average weekly hours				Hours of all persons (in millions)			
	1977	1980	1985	1990	1977	1980	1985	1990
Fabricated structural metal	40.1	40.3	40.2	40.3	977	1,132	1,313	1,451
Screw machine products	41.9	41.3	41.2	41.3	246	255	265	262
Metal stampings	41.2	41.1	41.1	41.1	518	596	635	643
Cutlery, handtools, and general hardware	40.6	40.5	40.4	40.5	374	418	462	482
Other fabricated metal products	40.4	40.4	40.4	40.4	679	723	786	813
Engines, turbines, and generators	40.8	40.6	40.6	40.6	244	275	296	306
Farm machinery	40.6	40.7	40.7	40.8	310	350	375	386
Construction, mining, and oilfield machinery ..	41.1	40.6	40.7	40.7	538	522	625	708
Material handling equipment	40.2	40.1	40.0	40.0	203	241	269	287
Metal working machines	42.3	41.5	41.5	41.5	723	801	892	940
Special industry machinery	40.7	40.7	40.6	40.6	379	436	470	486
General industrial machinery	40.8	40.5	40.5	40.5	633	701	779	825
Machine shop products	41.6	41.3	41.2	41.3	644	688	764	816
Computers and peripheral equipment	40.4	40.2	40.0	39.7	586	672	832	989
Typewriters and other office equipment	41.1	41.2	41.0	40.9	92	105	103	96
Service industry machines	40.0	40.2	40.1	40.2	362	433	499	544
Electric transmission equipment	40.1	40.0	40.0	40.0	428	492	541	574
Electrical industrial apparatus	40.2	40.0	40.0	40.0	468	514	571	606
Household appliances	39.6	39.8	39.7	39.8	367	399	434	444
Electric lighting and wiring	39.8	40.1	40.1	40.1	428	513	584	628
Radio and television receiving sets	38.9	39.1	39.1	39.1	271	275	284	278
Telephone and telegraph apparatus	41.1	40.6	40.6	40.6	310	388	431	462
Radio and communication equipment	40.2	39.9	39.9	39.9	615	668	658	637
Electronic components	39.7	39.9	39.8	39.8	808	959	1,121	1,257
Miscellaneous electrical products	40.9	41.3	41.2	41.3	347	356	379	381
Motor vehicles	43.1	42.5	42.5	42.6	2,001	2,225	2,449	2,560
Aircraft	40.7	40.4	40.3	40.3	1,014	1,198	1,161	1,088
Ship and boat building and repair	39.0	39.8	39.7	39.7	469	511	526	540
Railroad equipment	40.1	39.9	39.9	40.0	96	114	127	134
Motorcycles, bicycles, and parts	39.2	40.1	39.9	39.9	53	73	77	81
Other transportation equipment	38.9	39.5	39.4	39.4	277	313	475	628
Scientific and controlling instruments	34.4	33.9	34.0	34.2	331	346	360	357
Medical and dental instruments	39.5	39.7	39.7	39.7	238	267	319	364
Optical and ophthalmic equipment	39.8	40.3	40.3	40.3	145	187	193	190
Photographic equipment and supplies	40.7	40.7	40.6	40.5	275	319	361	391
Watches, clocks, and clock operated devices .	39.7	40.2	40.2	40.3	66	74	80	81
Jewelry and silverware	37.8	38.3	38.2	38.3	163	182	195	197
Musical instruments and sporting goods	38.9	39.1	39.1	39.1	295	351	389	404
Other miscellaneous manufactured products ...	40.0	39.4	39.3	39.3	435	471	467	440
Nondurables:								
Meat products	39.6	40.4	40.3	40.4	756	775	801	769
Dairy products	41.0	40.6	40.6	40.6	424	362	316	299
Canned and frozen foods	37.7	38.7	38.7	38.8	567	688	725	746
Grain mill products	42.3	42.5	42.5	42.5	323	326	337	344
Bakery products	39.3	39.5	39.4	39.5	503	494	468	437
Sugar	39.7	40.6	40.5	40.4	62	75	74	72
Confectionery products	39.6	39.8	39.7	39.8	173	185	184	180
Alcoholic beverages	41.4	41.1	41.1	41.1	196	184	176	172
Soft drinks and flavorings	39.2	39.4	39.4	39.4	304	299	319	338
Miscellaneous food products	41.2	41.2	41.1	41.1	332	367	384	387
Tobacco manufacturing	38.5	38.7	38.6	38.7	140	143	133	121
Fabrics, yarn, and thread mills	40.7	40.8	40.8	40.8	1,233	1,150	1,155	1,148
Floor coverings	41.5	41.2	41.1	41.2	138	160	187	223
Miscellaneous textile goods	40.9	40.9	40.8	40.9	151	175	182	186
Hosiery and knit goods	39.0	38.8	38.8	38.8	547	607	635	680
Apparel	35.6	36.1	36.1	36.2	2,060	2,295	2,423	2,503
Miscellaneous fabricated textile products ...	38.9	38.4	38.4	38.4	382	412	445	482
Paper products	42.3	42.2	42.2	42.1	1,062	1,077	1,124	1,165
Paperboard	41.2	41.1	41.0	41.0	465	499	539	577

Table A-2. Continued—Average weekly hours and hours of all persons by industry, actual and projected, selected years 1977-90

Industry	Average weekly hours				Hours of all persons (in millions)			
	1977	1980	1985	1990	1977	1980	1985	1990
Newspaper printing and publishing	37.3	37.4	37.5	37.6	791	902	946	962
Periodicals and book printing, publishing ...	39.2	39.2	39.2	39.2	434	480	494	502
Miscellaneous printing and publishing	39.0	39.1	39.1	39.1	1,055	1,154	1,172	1,175
Industrial inorganic and organic chemicals ..	41.1	41.0	40.9	40.9	739	727	778	846
Agricultural chemicals	41.8	41.4	41.3	41.2	124	125	124	125
Miscellaneous chemical products	41.1	40.8	40.7	40.7	184	222	239	254
Plastic materials and synthetic rubber	41.8	42.1	42.2	42.2	224	210	226	241
Synthetic fibers	40.2	40.3	40.3	40.3	211	262	314	386
Drugs	39.9	40.2	40.2	40.2	363	369	411	467
Cleaning and toilet preparations	40.0	40.3	40.3	40.3	260	274	311	351
Paints and allied products	40.1	40.2	40.2	40.2	146	162	182	195
Petroleum refining and related products	41.8	41.5	41.5	41.6	454	410	398	391
Tires and inner tubes	43.4	43.1	43.1	43.2	280	289	316	344
Miscellaneous rubber products	40.5	40.6	40.6	40.6	369	388	405	416
Plastic products	39.9	40.1	40.0	40.0	789	830	897	981
Leather tanning and industrial leather	39.2	39.7	39.7	39.7	51	45	40	34
Footwear and other leather products	37.4	37.8	37.8	37.9	469	478	448	400
Transportation:								
Railroad transportation	43.4	44.1	44.2	44.3	1,217	1,278	1,181	1,037
Local transit, intercity buses	36.0	36.2	36.0	35.9	556	572	591	604
Truck transportation	40.7	40.8	40.7	40.8	2,732	3,072	3,288	3,368
Water transportation	32.8	33.4	33.3	33.4	338	343	335	332
Air transportation	39.1	39.9	39.8	39.8	773	825	960	1,056
Pipeline transportation	40.7	41.2	41.4	41.6	36	37	36	36
Transportation services	38.0	38.0	37.8	37.7	306	352	419	494
Communications:								
Communication, except radio and television ..	40.3	39.2	38.9	38.7	2,182	2,295	2,373	2,458
Radio and television broadcasting	39.3	40.1	40.3	40.6	331	371	456	532
Public utilities:								
Electric utilities	41.7	42.3	42.4	42.7	941	1,049	1,135	1,158
Gas utilities	40.9	41.1	41.1	41.2	455	446	420	361
Water and sanitary services	41.4	41.8	41.5	41.3	239	268	313	349
Trade:								
Wholesale trade	38.9	39.1	38.8	38.6	10,108	11,209	11,760	11,819
Retail trade	33.1	32.5	31.3	30.3	27,357	30,127	32,660	33,885
Finance, insurance, and real estate:								
Banking	36.4	36.8	36.5	36.4	2,541	2,725	3,352	3,889
Credit agencies and financial brokers	37.8	37.7	37.5	37.4	1,554	1,757	2,046	2,271
Insurance	37.8	37.8	37.5	37.3	3,312	3,559	3,906	4,111
Real estate	36.8	36.2	35.7	35.3	2,046	2,224	2,404	2,494
Services:								
Hotels and lodging places	32.1	32.2	31.4	30.7	1,979	2,221	2,554	2,791
Personal and repair services	38.2	37.3	36.7	36.6	2,445	2,453	2,424	2,367
Barber and beauty shops	36.0	35.3	34.4	33.9	728	787	822	837
Miscellaneous business services	31.6	31.3	30.5	29.8	3,846	4,539	5,687	6,800
Advertising	38.9	37.5	36.9	36.7	435	421	424	418
Miscellaneous professional services	39.4	38.7	37.8	37.1	3,169	3,314	3,794	4,188
Automobile repair	39.3	38.3	37.5	37.1	1,913	2,049	2,141	2,195
Motion pictures	30.5	30.6	30.2	29.8	327	355	371	371
Amusements and recreation services	32.1	32.4	31.5	30.8	1,170	1,384	1,526	1,620
Doctors' and dentists' services	35.2	34.4	33.4	32.6	2,332	2,523	2,872	3,188
Hospitals	33.6	33.3	32.5	31.8	4,547	5,080	6,151	7,122
Other medical services	33.2	33.0	32.2	31.4	2,168	2,750	3,728	4,994
Educational services	35.1	34.5	33.7	33.1	2,607	2,761	2,995	3,069
Nonprofit organizations	31.1	31.1	30.4	29.7	3,338	3,723	4,017	4,132
Forestry and fishery products	34.7	34.3	33.4	32.9	74	74	78	78
Agricultural, forestry, and fishery services ..	33.7	33.3	33.1	33.0	448	502	575	629
Private households	22.7	22.8	22.6	22.4	2,258	1,901	1,699	1,519

Table A-3. Factors affecting changes in employment, 1977-90

(In thousands)

Industry	Total change, 1977-90	Change attributable to-		
		Output	Produc- tivity	Average weekly hours
Total private	22,582	39,667	-20,129	2,439
Agriculture:				
Dairy and poultry products	-104	33	-178	41
Meat animals and livestock	-54	95	-189	41
Cotton	8	50	-52	10
Food and feed grains	23	209	-234	47
Other agricultural products	-161	111	-349	77
Mining:				
Iron and ferroalloy ores mining	1	18	-16	-1
Copper ore mining	22	36	-12	-2
Other nonferrous ore mining	-0	15	-15	0
Coal mining	121	160	-43	5
Crude petroleum and natural gas	15	43	-29	-0
Stone and clay mining and quarrying	-0	35	-34	-1
Chemical and fertilizer mineral mining	-8	-0	-8	-0
Construction:				
New residential building construction	305	719	-412	-1
New nonresidential building construction	349	464	-116	0
New public utility construction	225	242	-20	2
New highway construction	-2	38	-40	0
All other new construction	-34	25	-57	-2
Oil and gas well drilling and exploration	55	84	-29	-0
Maintenance and repair construction	233	281	-46	-1
Manufacturing:				
Durables:				
Ordnance	-7	14	-20	-1
Complete guided missiles	5	18	-13	0
Logging	-11	15	-25	-1
Sawmills and planing mills	-42	-1	-41	1
Millwork, plywood, and other wood products	107	251	-141	-4
Wooden containers	-7	-4	-3	0
Household furniture	128	275	-144	-4
Other furniture and fixtures	38	78	-40	0
Glass	33	95	-60	-2
Cement and concrete products	32	98	-67	1
Structural clay products	-18	-6	-11	-0
Pottery and related products	1	8	-8	1
Miscellaneous stone and clay products	18	23	-6	0
Blast furnaces and basic steel products	9	205	-196	-0
Iron and steel foundries and forgings	65	123	-58	-0
Primary copper and copper products	37	73	-38	2
Primary aluminum and aluminum products	26	68	-43	0
Other primary nonferrous products	15	42	-24	-2
Metal containers	15	38	-23	0
Heating apparatus and plumbing fixtures	2	39	-36	-1

Table A-3. Continued—Factors affecting changes in employment, 1977-90

(In thousands)

Industry	Total change, 1977-90	Change attributable to-		
		Output	Productivity	Average weekly hours
Fabricated structural metal	225	445	-219	-2
Screw machine products	9	18	-11	1
Metal stampings	59	128	-69	0
Cutlery, handtools, and general hardware	52	104	-52	1
Other fabricated metal products	64	100	-36	0
Engines, turbines, and generators	30	64	-35	0
Farm machinery	35	87	-51	-1
Construction, mining, and oilfield machinery ..	82	112	-32	2
Material handling equipment	41	78	-37	0
Metal working machines	107	188	-87	5
Special industry machinery	51	109	-58	0
General industrial machinery	93	172	-81	2
Machine shop products	82	138	-57	2
Computers and peripheral equipment	200	300	-104	3
Typewriters and other office equipment	2	19	-17	0
Service industry machines	87	169	-82	-1
Electric transmission equipment	71	143	-73	0
Electrical industrial apparatus	67	139	-73	1
Household appliances	37	123	-85	-1
Electric lighting and wiring	94	137	-41	-2
Radio and television receiving sets	3	117	-113	-1
Telephone and telegraph apparatus	74	145	-72	1
Radio and communication equipment	13	66	-55	2
Electronic components	216	456	-239	-1
Miscellaneous electrical products	14	73	-57	-2
Motor vehicles	263	484	-231	9
Aircraft	40	266	-230	4
Ship and boat building and repair	30	99	-64	-5
Railroad equipment	19	41	-23	0
Motorcycles, bicycles, and parts	13	33	-19	-1
Other transportation equipment	170	162	10	-2
Scientific and controlling instruments	16	48	-33	1
Medical and dental instruments	60	55	6	-1
Optical and ophthalmic equipment	21	29	-7	-1
Photographic equipment and supplies	56	111	-55	0
Watches, clocks, and clock operated devices ..	7	26	-18	-1
Jewelry and silverware	16	64	-46	-1
Musical instruments and sporting goods	53	120	-66	-1
Other miscellaneous manufactured products	6	108	-104	3
Nondurables:				
Meat products	-1	80	-73	-8
Dairy products	-57	13	-72	2
Canned and frozen foods	81	136	-47	-9
Grain mill products	9	32	-22	-1
Bakery products	-33	15	-47	-1
Sugar	4	8	-3	-1
Confectionery products	3	14	-11	-0
Alcoholic beverages	-10	44	-55	0
Soft drinks and flavorings	16	62	-45	-1
Miscellaneous food products	26	83	-58	0
Tobacco manufacturing	-10	7	-16	-0
Fabrics, yarn, and thread mills	-41	140	-180	-1
Floor coverings	40	82	-42	0
Miscellaneous textile goods	16	45	-28	0
Hosiery and knit goods	67	233	-167	1
Apparel	218	691	-452	-21
Miscellaneous fabricated textile products	52	131	-81	2
Paper products	49	210	-163	1
Paperboard	53	123	-71	1

Table A-3. Continued—Factors affecting changes in employment, 1977-90

(In thousands)

Industry	Total change, 1977-90	Change attributable to-		
		Output	Productivity	Average weekly hours
Newspaper printing and publishing	84	151	-63	-4
Periodicals and book printing, publishing	33	79	-46	-0
Miscellaneous printing and publishing	57	134	-75	-1
Industrial inorganic and organic chemicals ...	52	191	-140	1
Agricultural chemicals	1	17	-16	1
Miscellaneous chemical products	34	76	-43	1
Plastic materials and synthetic rubber	7	20	-12	-1
Synthetic fibers	83	124	-40	-0
Drugs	49	96	-46	-1
Cleaning and toilet preparations	43	76	-32	-1
Paints and allied products	23	62	-38	-0
Petroleum refining and related products	-29	9	-38	1
Tires and inner tubes	29	75	-46	1
Miscellaneous rubber products	22	67	-45	-0
Plastic products	91	133	-41	-1
Leather tanning and industrial leather	-9	-2	-6	-0
Footwear and other leather products	-38	30	-65	-3
Transportation:				
Railroad transportation	-89	256	-331	-14
Local transit, intercity buses	26	149	-123	0
Truck transportation	297	626	-327	-3
Water transportation	-6	123	-125	-4
Air transportation	131	317	-178	-8
Pipeline transportation	-0	7	-6	-0
Transportation services	97	133	-37	1
Communications:				
Communication, except radio and television ...	180	840	-689	28
Radio and television broadcasting	90	164	-68	-7
Public utilities:				
Electric utilities	88	339	-238	-13
Gas utilities	-46	-24	-20	-2
Water and sanitary services	52	57	-6	0
Trade:				
Wholesale trade	897	2,537	-1,676	36
Retail trade	5,565	9,102	-4,750	1,213
Finance, insurance, and real estate:				
Banking	712	946	-234	-0
Credit agencies and financial brokers	377	463	-93	8
Insurance	430	719	-305	16
Real estate	289	688	-434	35
Services:				
Hotels and lodging places	562	948	-429	42
Personal and repair services	13	200	-236	49
Barber and beauty shops	86	69	-8	25
Miscellaneous business services	2,044	2,255	-339	128
Advertising	4	19	-27	13
Miscellaneous professional services	626	640	-110	95
Automobile repair	202	569	-410	43
Motion pictures	33	93	-64	4
Amusements and recreation services	310	278	1	31
Doctors' and dentists' services	607	1,021	-495	80
Hospitals	1,703	2,294	-713	122
Other medical services	1,801	1,278	432	91
Educational services	355	266	-1	90
Nonprofit organizations	609	618	-104	94
Forestry and fishery products	5	13	-10	2
Agricultural, forestry, and fishery services .	110	73	31	5
Private households	14	208	-202	9

Changing patterns of demand: BLS projections to 1990

With lower taxes, unemployment, and inflation, the Bureau's latest projections show consumers buying more durable goods, businesses investing in more energy-efficient, environmentally-safe equipment, and government's GNP share declining; foreign trade is expected to be in balance by 1990

ARTHUR ANDREASSEN

The latest Bureau of Labor Statistics projections of the U.S. economy estimate that by 1990

- Personal consumption expenditures (PCE) will continue to be the largest component of gross national product (GNP), increasing its share to 67.6 percent, with purchases of durable goods increasing faster than purchases of nondurables and services;
- Gross private domestic investment (GPDI) will increase slightly its portion of GNP, spurred mainly by more business investment in equipment and by increased household formation by adults of the post-World-War-II baby boom;
- the foreign trade accounts will be balanced in current dollars, as exports of capital goods offset oil and gas imports and as economies in less developed countries strengthen to support the purchase of U.S. products; and
- government purchases will continue to decrease as a share of GNP, reaching 15.5 percent, as Federal purchases slow and as State and local purchases ebb with lower demand for education and for highway construction.

Based on a set of assumptions concerning future economic conditions and policy, these projections supersede earlier projections for the 1980–85 period and present new estimates to 1990. Overall, the projections comprise final demand for goods

and services, as well as projected output and employment by industry.¹

This article presents the long-term trends of demand's four major components—personal consumption, investment, net exports, and government purchases. It also shows how total projected demand is distributed by industry and briefly presents projections based on an alternative set of assumptions. The table on page 41 of this issue includes actual or projected levels, distribution, and rates of change of the components of GNP for selected years.

Assumptions: laying the groundwork

The output of an economy is determined by the supply of its factors of production. An economy will produce at its maximum if the level of demand for goods and services is enough to support such production and if fiscal, monetary, and trade policies do not prohibit the full use of resources.

Over a projected period, an economy's major factor of production is its labor force. Therefore, to project future levels of output it is necessary to estimate the proportion of the present population that will be in the work force and the proportion that will be employed. For its projections to 1990, the Bureau derived output levels by first setting

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target rates of unemployment consistent with the Administration's near-term objectives, followed by high employment levels over the longer term. GNP growth was assumed to increase fast enough to allow unemployment to fall to 4.7 percent by 1985 and 4.5 percent by 1990 (from 7.0 percent in 1977). However, output was assumed to grow increasingly slower over the projected period as a result of the drop in the growth rate of the civilian labor force from 2.3 percent per year from 1975 to 1980, to 1.1 percent per year from 1985 to 1990. This decline was not expected to be offset by an increase in the growth rate of either productivity or hours paid.

These projections start at a point, 1977, when the economy was emerging from the severest recession since the Great Depression. The impact of high energy prices and unusually high rates of inflation tempered the recovery.

The rapidity with which an economy returns to levels of full employment is dependent on the growth of demand, and much of demand is a function of personal income. BLS assumed that, over the 1977-90 period, the percent of personal income that would go toward Federal income taxes would drop to 10.5 percent from 11.1 percent. Further, it was assumed that the rate of inflation as measured by the GNP deflator would gradually fall from 6.2 percent during 1975-80 to 4.6 percent during 1985-90. No additional restrictions governing imports, over the existing quotas on textiles, shoes, and color television sets, were assumed.

Certain major assumptions were made concerning energy. Energy usage was projected to increase at a rate of 1.3 percent per year from 1973 to 1980, less than one-third the 5.0 percent of 1963 to 1973. From 1980 to 1985, the growth rate of energy usage was assumed to recover to 3.3 percent per year, a rate not as high as the pre-embargo period, due to the expected higher energy prices over the latter period. From 1985 to 1990, the growth in usage was projected to be 2.9 percent due mainly to slower economic growth.

Over the projected period, the prices of natural gas and oil were expected to rise faster than coal and electricity. Along with these relative price movements, natural gas was assumed to be less available than during 1963-73, and utilities were expected to shift to coal, oil, and nuclear fuel. Petroleum's share of energy was assumed to increase to 38.5 percent from 37.4 percent over 1973-80, then begin to decline to a share equal to 1973's by 1990. This decrease in petroleum's share was assumed to result from oil's expected higher

price relative to coal and electricity, from a change in Government regulations, and from fear of possible future embargos.

Demographic shifts have a major impact on the economy. Along with slower growth of GNP due to the slow growth of the labor force, a changing distribution of GNP by sector and industry will reflect the changing age composition of the population. From 1977 to 1990, the fastest-growing age group will be those 25 to 44 years old, which will increase from 57 million to 78 million. The effect of this growth will be tempered by the stability of the 45- to 64-year-old group, which will remain at about 45 million, and by the decline in the number of persons ages 16 to 24 which will drop from 37 million to 31 million over the 1977 to 1990 period. The number of persons age 16 years and under will remain around 57 million, while the number over 64 will increase to 30 million from 23 million.²

Personal consumption expenditures

During 1977-90, the largest component of GNP, personal consumption expenditures, (PCE), is expected to continue to increase its share of GNP as it has done over the postwar period. In 1952, PCE represented 58.6 percent of GNP, while, by 1990, it is expected to be 67.6 percent. This increase will be abetted by the projected slowing in the growth of the share of personal income devoted to both Federal and State and local taxes, as well as by the continuous drop in the savings rate from 7.0 percent during most of the 1970's to 6.0 percent by 1990. The projected level of PCE is higher than the 66.5 percent reached in 1976, when PCE made the strongest recovery of all final-demand sectors from the cyclical low of early 1975.

PCE displays the least variation of the four demand sectors over business cycles, having a postwar drop in its growth rate only once, in 1974. However, greater variation will be displayed by the three major components of PCE—durable goods, nondurable goods, and services. Continuing trends begun in 1951, purchases of durable goods and services are projected to increase faster than GNP, while purchases of nondurable goods will increase at a slower rate.

Furniture leads durables' climb. Durable goods are generally high-priced goods that provide long periods of service, and their purchase can be more easily delayed during hard times than can be the purchases of low-priced but frequently purchased items. Durable goods purchases vary the most over the business cycle, reacting similarly in direction and timing with changes in nonresidential invest-

ment. Purchases of durable goods drop sharply during economic downturns and rise rapidly during recoveries—a pattern which can be seen over the 1961–65 period. This will be the 1977–80 pattern, with durables increasing rapidly from the already high level of 1976.

The durable goods component comprises three major product classes: motor vehicles and parts, furniture and household equipment, and other durables. Motor vehicles and parts, at present, the largest component of the three, is projected to grow the slowest, 4.5 percent per year from 1977 to 1990, yet faster than GNP. This slowdown from the 5.2-percent rate of 1963–76 is expected to result from diminished demand as population growth slows and the average age increases and from a shift to smaller, less expensive cars as fuel prices rise. In addition to a slow growth in auto output, an increase in the service lives of tires and batteries is expected to result in slower growth in these products—2.2 percent per year from 1977 to 1990, down from the 5.3-percent rate of 1960–77 (tables 1 and 2).

Furniture and household equipment is projected to grow 5.6 percent per year 1977–90, fueled by expenditures on furniture, appliances, and other household durables. A rapid increase from 1977 to 1985 in these items is expected due to the rapid increase projected in housing. Expenditures on radios and televisions are expected to grow at a 2.5-percent rate during 1985–90—down from the 5.8-percent rate of 1976–85, as a result of market saturation.

Other durable goods include primarily motorcycles and bicycles and are projected to grow 6.5 percent per year over 1977–90, continuing the healthy growth rate of 6.8 percent from 1967 to 1977.

Eating out high on nondurables' list. Nondurable purchases, the largest of the three PCE components, has displayed little variation over the business cycle, experiencing a year-to-year decline in growth only once—from 1973 to 1974—from 1951 to 1976. During this period, this component decreased in its share of PCE from a high of 48.8 percent, attained in 1952, to 38.5 percent in 1977. Nondurables will account for 35.4 percent of PCE by 1990.

The largest nondurable product class is food consumed in the home, which has accounted for more than 60 percent of nondurables since 1951. Because most of the U.S. population enjoys an adequate diet, increases in income levels have relatively less effect on households' food purchases, and these will grow only slightly faster than the population—1.9 percent per year—the same rate as from 1960 to 1977.

Food consumed away from home does vary significantly with personal income. Therefore, because of the continued increase in real income, the amount of food consumed away from home will increase faster than total nondurable purchases over the 1977–90 period—at 2.3 percent per year, versus the 1.9-percent rate of 1960 to 1977.

Consumer expenditures for clothing, another item that shows larger than average income elasticity, will grow 4.0 percent per year from 1977 to 1990, up from the 3.1-percent annual rate of 1951–77. Along with rising income levels, a major source of demand for clothing will be the increase in the number of persons age 25 to 44 years who purchase large quantities of clothes.

The projected rate of increase in consumer purchases of gasoline and oil will be 2.9 percent per year slower than the 3.8-percent rate of 1960–77. This reduction is based on an increase in

Table 1. Personal consumption expenditures, actual and projected, selected years 1959–90

[Amounts in billions of 1972 dollars]

Expenditure	Amount								Percent distribution							
	1959	1963	1968	1973	1977	1980	1985	1990	1959	1963	1968	1973	1977	1980	1985	1990
Personal consumption expenditures	441.5	501.4	633.4	767.7	857.7	966.5	1,184.4	1,428.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Durables	51.8	60.7	88.2	121.8	137.8	160.3	207.3	262.7	11.7	12.1	13.9	15.9	16.0	16.6	17.5	18.4
Motor vehicles and parts	24.4	29.7	40.2	54.6	61.0	69.2	86.7	108.2	5.5	5.9	6.3	7.1	7.1	7.2	7.3	7.6
Furniture and household equipment	20.0	22.7	34.9	49.9	56.6	67.8	89.9	115.4	4.5	4.5	5.5	6.5	6.6	7.0	7.6	8.1
Other durables	7.4	8.3	13.1	17.3	20.2	23.4	30.7	39.0	1.7	1.7	2.1	2.3	2.4	2.4	2.6	2.7
Nondurables	205.0	223.0	270.2	309.3	330.4	368.1	436.1	505.5	46.4	44.5	42.7	40.3	38.5	38.1	36.8	35.4
Food	114.4	120.7	142.0	150.6	165.1	179.1	204.4	229.3	25.9	24.1	22.4	19.6	19.2	18.5	17.3	16.0
Clothing	36.3	39.6	48.6	59.2	66.6	75.2	92.0	110.5	8.2	7.9	7.7	7.7	7.8	7.8	7.8	7.7
Gas and oil	13.7	15.3	19.6	25.5	28.6	28.5	34.9	38.5	3.1	3.1	3.1	3.3	3.1	2.9	2.9	2.7
Fuel oil and coal	5.2	4.9	5.7	6.7	5.6	6.1	6.9	7.8	1.2	1.0	.9	.9	.7	.6	.6	.5
Other nondurables	35.5	42.5	54.3	67.3	66.4	79.2	98.0	119.5	8.0	8.5	8.6	8.8	7.7	8.2	8.3	8.4
Services	184.7	217.6	275.0	336.5	389.5	438.1	540.9	660.5	41.8	43.4	43.4	43.8	45.4	45.5	45.7	46.2
Housing	60.9	74.0	93.6	117.7	140.3	159.3	196.2	237.6	13.8	14.8	14.8	15.3	16.4	16.5	16.6	16.6
Household operation	26.4	30.9	39.4	48.1	55.4	61.7	76.9	97.0	6.0	6.2	6.2	6.3	6.5	6.4	6.5	6.8
Transportation	16.3	18.1	22.9	27.5	30.8	35.5	44.8	54.9	3.7	3.6	3.6	3.6	3.6	3.7	3.8	3.8
Other services	81.0	94.6	119.0	143.2	158.9	181.5	223.0	271.0	18.3	18.9	18.8	18.7	18.5	18.8	18.8	19.0

Table 2. Personal consumption expenditures, average annual rates of changes, actual and projected, 1959-90

Expenditure	1959 to 1963	1963 to 1968	1968 to 1973	1973 to 1977	1977 to 1980	1980 to 1985	1985 to 1990	1977 to 1990
Personal consumption expenditures	3.2	4.8	3.9	2.8	4.1	4.2	3.8	4.0
Durables	4.0	7.8	6.7	3.1	5.2	5.3	4.9	5.1
Motor vehicles and parts	5.0	6.2	6.3	2.8	4.3	4.6	4.5	4.5
Furniture and household equipment	3.2	9.0	7.4	3.2	8.2	5.8	5.1	5.6
Other durables	2.9	9.6	5.7	4.0	5.0	5.6	4.9	5.2
Nondurables	2.1	3.9	2.7	1.7	3.7	3.4	3.0	3.3
Food	1.3	3.3	1.2	2.3	2.8	2.7	2.3	2.6
Clothing	2.2	4.2	4.0	3.0	4.1	4.1	3.7	4.0
Gas and oil	2.8	5.1	5.4	1.1	2.3	4.2	2.0	2.9
Fuel oil and coal	-1.5	3.1	3.3	-4.3	2.9	2.5	2.5	2.6
Other nondurables	4.6	5.0	4.4	-3	6.1	4.4	4.0	4.6
Services	4.2	4.8	4.1	3.7	4.0	4.3	4.1	4.2
Housing	5.0	4.8	4.7	4.5	4.3	4.3	3.9	4.1
Household operation	4.0	5.0	4.3	3.6	3.7	4.5	4.8	4.4
Transportation	2.7	4.8	3.7	2.9	4.8	4.7	4.1	4.5
Other services	4.0	4.7	3.8	2.6	4.5	4.2	4.0	4.2

purchases of fuel-efficient autos and a drop in demand caused by gasoline prices, which will increase more rapidly than the prices of other goods.

Personal consumption expenditures for the remaining nondurables—drugs, toiletries, and cleaning and polishing products—will continue their healthy growth of the past.

Services coast as housing booms. The remaining major PCE component, services, showed the most stability over the 1951-77 period, with a continuous annual growth rate usually equal to or greater than GNP. From a share of 40.0 percent of PCE in 1953, services increased to 45.4 percent by 1977, and they will increase to 46.2 percent by 1990.

Housing, the largest product class within services, includes the imputed rental value of owner-occupied dwellings and the rent paid by tenants. Due to an expected rapid increase in household formation and home purchases, housing expenditures will accelerate rapidly through 1985, at an annual rate of 4.3 percent.

Projections for other PCE services vary. Consumer purchases of telephone communications will continue their rapid growth at a rate of 6.9 percent per year from 1977 to 1990. Purchases of airline transportation and foreign travel will both increase more than 5.5 percent, compared with their 8.0-percent and 4.4-percent growth rates of 1960 to 1977 due to rapid income growth. Demand for electric utilities will grow 4.5 percent per year from 1977 to 1990, down from the 7.0 percent prior to the quadrupling of oil prices in 1973. Purchases of natural gas from utilities will grow at 1.8 percent per year—down from the 2.6-percent rate of 1960-77—because homes are expected to use electricity rather than gas. Lower total energy usage is

expected due to homeowner conservation aided by better insulation of homes, appliances with increased energy efficiency, and less heating and cooling of homes throughout the year. Consumer purchases of services of physicians, dentists, and private hospitals will increase faster than average.

Gross private domestic investment

Demand for investment goods shows the greatest variability of all GNP sectors over the business cycle. Investment comprises four components: business equipment, business structures, residential structures, and net change in business inventories. During the 1974-75 downturn, private investment experienced the largest drop for the longest period since 1951. In the early stages of the present upturn, investment did not react in the typical fashion of increasing faster than GNP; rather, it declined throughout 1976. However, from 1976 to 1980 investment is projected to increase 7.7 percent per year and, from 1980 to 1985, at 4.2-percent rates—both faster than that of GNP. As the economy maintains an unemployment rate of 4.5 percent from 1985 to 1990, investment growth will slow down to 3.0 percent per year. The following tabulation shows the percent distribution of GPD components for selected years 1963-90, actual and projected:

Investment	1963	1967	1973	1980	1985	1990
Total	100.0	100.0	100.0	100.0	100.0	100.0
Nonresidential	59.5	68.3	63.8	67.4	64.7	68.2
Equipment	34.8	41.4	41.9	47.8	46.4	48.6
Structure	24.7	26.9	21.9	19.6	18.3	19.6
Residential	34.2	23.8	28.2	25.0	27.3	24.9
Change in business inventories	6.2	7.9	8.0	7.6	8.0	6.9

Business to invest in better machines. By 1990, business investment in plant and equipment is projected to increase its share of GNP from the 1951-76 low of 9.4 percent in 1976 to 10.7 percent—a share equal to that which it held from 1965 to 1974. Investment in equipment is projected to be a major force in this upturn, rising from 6.4 percent of GNP in 1976 to 7.6 percent by 1990. Increased equipment investment will result from new needs for equipment to control pollution, the need to shift from equipment that uses scarce energy sources to types that use more plentiful sources such as coal, and the replacement of energy-inefficient machines. Along with these considerations are specific investment goods for which demand grows more strongly than for others due to more rapid output growth and to the

concomitant need for investment to produce this output.

Table 3 shows annual growth rates, projected or actual, of equipment investment, for selected periods, 1963–90. Railroad equipment is projected to have an average annual growth rate from 1973 to 1990 of 4.5 percent—up from the 2.9-percent rate of 1963–73—as a result of increased output of coal and the need to transport it. As a result of increased petroleum mining on the outer-continental shelf, the shipbuilding and boatbuilding industry, which includes offshore drilling rigs, is expected to grow 7.1 percent per year from 1973 to 1990, compared with the 8.9-percent rate of 1963–73. Investment in computers is projected to have the largest average annual growth during 1973–90—7.5 percent—a rate less than the 13.3-percent rate of 1963–73, but still maintaining rapid growth little affected by cyclical movements.

Business investment in plant, the other major component of business investment, is projected to grow more slowly than investment in equipment, 2.1 percent per year from 1973 to 1990. This deceleration will result from a decreased need for private schools brought on by the diminishing population of school-age children. Contributing further to this slow growth will be the post-Alaskan oil pipeline decrease in construction and a slowing of public utilities construction as growth in demand for utilities diminishes.

Investment output ratios relate industry investment levels to industry output levels. Industries with ratios increasing faster than average are expected to be nonferrous ores mining, chemical and fertilizer mineral mining, and lumber, as these

industries expand capacity and as natural resources become more difficult to extract. Growth in the plastics industry is expected to be less than average, as excess capacity is worked off. The forestry and fishery industry is expected to have rapid investment growth as the U.S. fishing fleet increasingly takes advantage of the opportunities offered by the 200-mile limit.

Residential boom to wane. Residential construction is projected to grow faster than GNP at 5.9 percent per year, causing the share of GNP devoted to these purchases to rise from 3.7 percent in 1976 to 4.3 percent in 1985. This growth should result from both a cyclical upturn from the low 1976 level and the demographic changes as the baby boom cohorts of the late 1940's and the 1950's reach middle age. From a level of 55 million persons in 1976, the population between 25 and 44 years of age will increase to about 72 million in 1985. An increase in rental units and in the sales of mobile homes that replace some single-family home purchases will somewhat temper the growth in home purchases. From 1985 to 1990, the annual growth in residential investment will drop to 1.1 percent, as the impact of the baby boom on household formation begins to wane.

Inventories in balance. Because inventories are a function of the sales of each industry, continuous growth in industry output should enable industries to keep inventories in good balance. Therefore, inventory increases brought on by either precautionary stockpiling, caused by such fears of shortages as occurred in 1972–73, or by decreased sales as occurred in 1974–75, are not projected for 1977–90.

Table 3. Gross private domestic investment, actual and projected, selected years 1963–90

[Amounts in billions of 1972 dollars]

Investment	Amount						Average annual rates of change					
	1963	1967	1973	1980	1985	1990	1963 to 1967	1967 to 1973	1973 to 1980	1980 to 1985	1985 to 1990	1973 to 1990
Total	124.5	152.7	207.2	233.0	286.0	331.0	5.2	5.2	1.7	4.2	3.0	2.8
Nonresidential investment	74.2	104.3	132.2	157.1	185.1	226.0	8.9	4.0	2.5	3.3	4.1	3.2
Equipment	43.3	63.2	86.7	111.4	132.7	161.0	9.9	5.4	3.6	3.6	3.9	3.7
Furniture and fixtures	1.7	2.2	2.7	3.2	3.8	4.6	7.2	3.6	2.4	3.5	3.8	3.1
Construction, mining, and oilfield machinery	2.5	3.1	4.6	5.3	6.8	8.1	5.6	6.7	2.1	5.1	3.5	3.4
Computer and peripheral equipment	1.1	2.3	3.7	7.2	9.5	12.7	20.9	8.5	10.1	5.4	6.0	7.5
Electric transmission equipment	1.5	2.1	2.6	3.1	3.8	4.6	9.0	3.8	2.6	3.6	4.3	3.4
Telephone and telegraph apparatus	1.3	1.9	2.7	3.7	4.4	5.4	10.8	5.8	4.4	3.6	4.2	4.1
Radio and communication equipment	1.3	1.8	2.6	3.4	4.0	4.9	9.7	5.8	4.0	3.6	3.8	3.8
Motor vehicles	7.5	10.9	20.9	22.9	24.8	27.1	10.0	11.4	1.3	1.6	1.8	1.5
Aircraft	6	2.9	2.5	2.1	2.9	3.7	48.6	-2.7	-2.2	6.3	5.1	2.4
Railroad equipment	1.2	2.2	1.6	2.1	2.7	3.5	15.7	-4.8	3.5	5.3	6.2	4.7
Structures	30.8	41.1	45.5	45.7	52.4	65.0	7.4	1.7	.1	2.8	4.4	2.1
New nonresidential building construction	19.1	25.2	25.8	24.1	27.5	34.4	7.3	.4	-1.0	2.7	4.6	1.7
New public utilities	6.8	9.9	13.4	13.9	15.9	20.1	10.1	5.1	.5	2.8	4.8	2.4
Residential	42.6	36.4	58.5	58.3	78.0	82.4	-3.9	8.2	0	6.0	1.1	2.0
Change in business inventories	7.8	12.0	16.5	17.6	22.9	22.7	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Not meaningful

Foreign trade

Reflecting the continuous economic interdependence of the nations of the world, both exports and imports are projected to increase faster than GNP over the 1973–90 period. Exports are projected to rise to a level of 8.2 percent of GNP by 1990, the highest level attained over the 1951–90 period. Imports are projected to climb to a 6.9-percent level, also a high for this time span. In current dollars, it is projected that the trade sector will be approximately in balance. However, the trade sector will not be in balance in constant (1972) dollars. Because the price of oil has increased much faster than the general price level since 1972, a current-dollar zero trade balance will translate into a trade surplus—a \$25-billion export surplus by 1990 (table 4).

Exports on the rise. In general, exports can be expected to increase through the early 1980's as the growth rates of other developed countries increase, raising their economies to levels of employment higher than present levels, thus increasing their demand for U.S. goods. Also, the oil-producing nations are expected to continue to spend their oil receipts on capital goods, a market in which the United States has a competitive advantage.

The fastest growing export industry over the 1973–90 period is projected to be the watches and clocks industry, from which exports are expected to increase more than five times by 1990. This acceleration assumes a continuation of the growth spurred by electronic digital watches in 1975. Telephone and telegraph exports will be the next fastest growing industry, with exports increasing to a level by 1990 3.6 times that of 1973, as a result of increased use of communications systems by less developed countries. Other industries in which exports are expected to more than triple are tires, computers, household appliances, and photographic equipment.

As a percentage of industry output, exports will increase more rapidly in the processed and finished goods industries than in the food industries. The following tabulation shows, for selected industries, exports as a percentage of industry output in 1973, as projected for 1990, and the percentage change between the two years:

Industry	1973	1990	Percent change
Food and feed grains	22	13	-41
Cotton	22	26	18
Aircraft	22	33	50
Construction, mining, and oilfield machinery	24	30	25

The decrease in the export portion of food and feed grains reflects a return to more normal export levels from those of 1972 and 1973, when large sales of grain were made to Russia after poor weather there reduced Soviet grain crops. Aircraft exports will increase as a result of the replacement of aging original jet passenger aircraft by new energy-efficient models.

High fuel imports to continue. Imports of crude petroleum and natural gas will grow faster than total imports and much faster than this industry's total output. Following are import proportions of output for selected large importing industries for 1973, as projected for 1990 and the percent change, 1973–90:

Industry	1973	1990	Percent change
Crude petroleum and natural gas	17	33	94
Motorcycles	50	50	0
Motorvehicles	12	12	0
Office equipment	29	39	35
Leather footwear	29	39	100

Other nonferrous mining, which includes bauxite, is the industry with the largest proportion of imported output; however, imports will decrease from 56.6 percent in 1973 to 54.9 percent by 1990. Imports of radios and television sets are projected to grow as fast as the industry's total output, maintaining the 29-percent share of 1973. Imports should continue to grow during the 1980's in spite of the recently concluded agreement with Japan. That agreement limits the number of color television sets sent to the United States, but these sets are only 10 percent of the industry's output and are more than compensated for by the expected increase in the importance of other television equipment, such as video tape recorders. Import growth in such areas as autos, televisions, and motorcycles can be expected to slow as countries with surplus dollar reserves invest in U.S. plants which produce these products.

The Government sector

Anticipated changes in the need for services provided both by the Federal Government and by State and local governments will result in the reduction in the share of GNP devoted to government purchases to 15.5 percent by 1990. Government purchases are outlays on goods and services, while government expenditures include not only purchases but also grants, transfers, and net interest payments.³ During the projected period, Federal purchases will increase slowly, as military purchases continue the slow climb they began after they plunged from the high levels of

Table 4. Net exports, actual and projected, selected years 1963-90

[Amounts in billions of 1972 dollars]

Net exports	Amount						Percent distribution						Average annual rates of change				
	1963	1967	1973	1980	1985	1990	1963	1967	1973	1980	1985	1990	1963 to 1967	1967 to 1973	1973 to 1980	1980 to 1985	1985 to 1990
Net exports	7.3	3.5	7.9	15.9	20.6	26.6	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	-16.4	13.5	11.2	5.3	5.2
Exports	42.2	54.2	87.4	117.0	139.3	173.1	100.0	100.0	100.0	100.0	100.0	100.0	6.5	8.3	4.3	3.5	4.4
Food and feed grains	2.0	1.9	4.6	3.8	3.9	4.3	4.7	3.5	5.3	3.2	2.8	2.5	-2.0	16.3	-2.7	.8	1.8
Construction, mining, and offroad machinery	1.4	1.8	2.4	3.4	4.3	5.8	3.3	3.0	2.7	2.9	3.1	3.4	3.3	6.9	5.1	4.9	6.1
Computers and peripheral equipment .....	.3	.6	1.9	3.1	4.2	5.8	.7	1.1	2.2	2.6	3.0	3.4	20.5	20.9	7.5	8.2	6.9
Electronic components .....	.2	.4	1.5	2.7	3.7	5.1	.5	.7	1.7	2.3	2.7	2.9	17.3	27.7	8.5	6.0	6.8
Motor vehicles	1.9	2.4	4.4	6.0	7.2	8.9	4.5	4.4	5.0	5.1	5.2	5.1	6.0	10.8	4.8	3.6	4.3
Aircraft	1.2	2.1	4.2	6.5	7.9	9.8	2.8	3.9	4.8	5.6	5.7	5.7	14.7	11.9	6.4	4.1	4.4
Imports	-35.0	-50.7	-79.9	-101.1	-118.7	-146.5	100.0	100.0	100.0	100.0	100.0	100.0	9.7	7.9	3.4	3.3	4.3
Crude petroleum and natural gas	-1.6	-1.5	-3.6	-7.1	-7.8	-8.5	4.8	3.0	4.5	7.0	6.6	6.5	-2.3	16.0	10.2	1.8	4.0
Apparel	-6	-1.0	-2.3	-3.1	-3.5	-4.2	1.7	2.0	2.9	3.1	2.9	2.9	14.4	14.6	4.0	2.6	3.9
Petroleum refining and other related products	-1.1	-1.3	-2.9	-2.4	-3.4	-4.1	3.1	2.6	3.6	2.4	2.9	2.8	5.5	14.0	-2.5	7.2	3.8
Footwear and other leather products	-2	-5	-1.0	-1.8	-2.1	-3.0	.6	1.0	1.3	1.6	1.8	2.0	21.3	14.8	6.1	6.4	7.0
Radio and TV receiving sets	-2	-6	-2.4	-3.8	-4.8	-6.2	.6	1.2	3.0	3.8	4.0	4.2	27.6	26.6	6.7	4.6	5.3
Motor vehicles	-7	-3.0	-9.7	-12.2	-13.8	-17.1	2.0	5.9	12.1	12.1	11.8	11.7	41.9	21.9	3.3	2.4	4.5

¹ Not meaningful.

the Vietnam-war period. State and local purchases will grow more slowly than GNP, because the expected low growth in educational purchases is not likely to be compensated for by growth in other areas. Table 5 shows levels, percent distribution, and rates of change for the government sector and for its components over the period studied.

Expect drop in Federal share. The Federal sector is composed of two major categories, defense and nondefense purchases. Defense purchases of goods and services represent the major part of Federal purchases. In real terms over the period 1952 to 1971, defense purchases remained in a range of \$75 billion to \$100 billion annually, while, from 1972 to 1976, they dropped to \$65 billion.

In 1952, defense purchases were 87.6 percent of Federal purchases; by 1975 they were 67.7 percent; and by 1990 they are projected to be 66.7 percent. Over the 1952-90 period, compensation increased from 34.4 percent of total defense purchases, to 47.5 percent in 1975, and in 1990 it is projected to be 39.4 percent. Military force levels are projected to remain at 2.1 million and civilian defense employment to remain stable at the 1976 level. This constant level of real compensation plus an assumption of real growth of only 2.0 percent per year in military hardware would result in defense growing at a much slower rate than GNP. This will have an important effect on the output growth of the ordnance, missile, motor vehicle, aircraft, shipbuilding, and electronics industries.

The growth of the nondefense sector since 1952 has been continuous. However, purchases are projected to grow more slowly than GNP to 1990, for a consolidation of existing programs is expected. It is also assumed that there will be an explicit effort on the part of the Federal Government to lower the amount of GNP it lays claim to.

Purchases for space programs are expected to show a slight drop from the 1976 level as no new major programs are foreseen. Nuclear purchases are projected to almost double from the 1973 constant dollar level with an increased use of nuclear power as an energy source. The remaining portion of nondefense purchases are projected to grow at a 2.5-percent annual average rate from 1973 to 1990, enough to service the increased level of transfers and grants. This growth in nondefense purchases is not projected to be large enough to compensate for the slow defense growth, and so the Federal sector, will drop as a share of GNP, falling to a level of 5.5 percent by 1990.

State and local purchases slowdown. The recent trend of State and local government purchases relative to GNP has been one of continuous growth, rising from 8.9 percent of GNP in 1951 to 13.9 percent by 1976. However, due to major changes in the forces fueling these purchases, a growth less than that of GNP is projected over the 1976-90 period, causing such government purchases to drop to 9.9 percent of GNP by 1990. The completion of the interstate highway program, the assumption of no new major government programs, and demographic changes are the main reasons for this slowing growth trend. In 1963 persons 5 through 17 years of age numbered 49 million; in 1973, they numbered 52 million; in 1990, they will total approximately 46 million. The effect of this change will be to lower the need for elementary and secondary education expenditures, the largest component of State and local expenditures. In 1963, educational purchases were 41.2 percent of total State and local purchases; in 1973 they were 42.3 percent, while in 1990, they are projected to account for 34.1 percent. Along with

this drop in primary-education purchases is a decrease in the need for higher-education purchases. The age group 18 to 24 will be impacted by the low birth rates of the late 1960's and early 1970's, causing their numbers in 1990 to be lower than in 1973 (25.5 million versus 26.7 million). Therefore, higher education purchases are projected to decline to 7.4 percent of total State and local purchases by 1990 down from 1973's level of 10.1 percent.

Highway purchases are projected to remain stable as no new programs are envisioned. Highway construction purchases are projected to remain at the 1973 level of \$17 billion and to be devoted principally to maintenance and repair and to some upgrading of intrastate roads.

Purchases for health care and hospitals will increase from 8.4 percent of State and local purchases in 1963 to 14.1 percent in 1990, as governments continue to expand and intensify health coverage and as those over 65 years old increase in number. General State and local government purchases are expected to rise from the 10.7-percent proportion of GNP in 1963 and the 12.2-percent share in 1973 to 17.0 percent in 1990, as State and local governments administer Federal grants programs in the areas of health, safety, employment, and environment.

Industry structure of demand

Each demand sector accounts for purchases from a different set of industries—households consume a different variety of products than do businesses.

Purchases from the 162 industries of the BLS input-output matrix are distributed in different relative amounts. Demand by major industry sector shows the impact of shifts in both the relative importance of final demand sectors as well

as shifts in each sector's distribution of purchases.⁴ Industries heavily dependent on the purchases of a demand sector which is growing more slowly than is GNP will have slower growth than other industries unless they can substitute their products for other products being supplied to that sector or unless they can expand to other areas of demand. For example, because government expenditures are expected to increase more slowly than are consumer expenditures, industries whose products are mainly consumed by government can expect to have slower growth than those dependent on consumers. When viewed over time, changes in the industry composition of GNP can be seen. Overall, the industry sector distribution for the projected period displays little change from trends observable since 1963 (table 6).

The distribution of demand projected to 1990 requires a smaller proportion of agricultural products, continuing the decline begun in 1963 in the agriculture sector. Dependent on PCE and on exports, the agriculture industry is projected to grow more slowly than total PCE due to the slow growth in food purchased by households. Also, food exports are projected to show little growth from the high levels attained in 1973.

The negative value in table 6 for mining reflects the expectation that imports will total more than the rest of final demand. This highlights the growing U.S. dependence on raw materials from the rest of the world.

The construction sector is projected to continue its decline in relative importance as a result of the decreased amount of purchases by both Federal and State and local governments. Demand for manufacturing, dependent on PCE for two-thirds of its total demand, shows little change over the 1963-90 period, growing more slowly than PCE but keeping pace with GNP.

Growth in demand for all the remaining indus-

Table 5. Government purchases, actual and projected, selected years 1963-90

[Amounts in billions of 1972 dollars]

Government purchases	Amount						Percent distribution						Average annual rates of change					
	1963	1967	1973	1980	1985	1990	1963	1967	1973	1980	1985	1990	1963 to 1967	1967 to 1973	1973 to 1980	1980 to 1985	1985 to 1990	1973 to 1990
Total	197.6	248.4	252.5	295.8	312.3	326.5	-	-	-	-	-	-	5.9	0.3	2.3	1.1	0.9	1.5
Federal	102.2	125.3	96.6	105.2	111.8	117.8	100.0	100.0	100.0	100.0	100.0	100.0	5.2	-4.2	1.2	1.2	1.1	1.2
Defense	80.8	98.6	69.7	73.9	74.5	78.6	79.0	78.7	72.1	70.3	66.7	66.7	5.1	-5.6	.9	.2	1.1	.7
Compensation	38.1	45.9	33.9	32.0	31.4	31.0	37.3	36.6	35.1	30.4	28.1	26.3	4.8	-4.9	-8	-4	-3	-5
Other	42.6	52.7	35.7	41.9	43.1	47.6	41.7	42.1	37.0	39.8	38.5	40.4	5.5	-6.3	2.3	.5	2.0	1.7
Nondefense	21.4	26.6	26.9	31.3	37.3	39.2	21.0	21.3	27.9	29.7	33.3	33.3	5.6	.2	2.2	3.6	1.0	2.2
Compensation	9.6	9.9	13.6	17.2	18.8	20.3	9.3	7.9	14.0	16.3	16.8	17.2	1.0	5.3	3.4	1.8	1.5	2.4
Other	11.9	16.7	13.4	14.1	18.5	18.9	11.6	13.3	13.8	13.4	16.5	16.0	8.9	-3.6	.8	5.6	.4	2.1
State and local	95.4	123.1	155.9	190.5	200.5	208.8	100.0	100.0	100.0	100.0	100.0	100.0	6.6	4.0	2.9	1.0	.8	1.7
Education	39.3	52.5	66.0	76.1	74.2	71.1	41.2	42.6	42.3	39.9	37.0	34.1	7.5	3.9	2.0	-.5	-.8	.4
Health, welfare, and sanitation	13.3	18.6	31.2	44.6	50.8	57.0	14.0	15.1	20.0	23.4	25.3	27.3	8.7	9.0	5.3	2.6	2.3	3.6
Safety	7.2	8.9	12.0	15.0	16.7	17.9	7.6	7.2	7.7	7.9	8.3	8.6	5.3	5.1	3.3	2.1	1.4	2.4
Other	35.5	43.1	46.7	54.8	58.9	62.8	37.2	35.0	30.0	28.8	29.4	30.1	4.9	1.4	2.3	1.4	1.3	1.7

Table 6. GNP by major industry sector, actual and projected, selected years 1963-90

[Percent distribution of 1972 dollars]

Sector	1963	1967	1973	1980	1985	1990
Total GNP	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	1.2	1.0	1.1	1.1	1.0	.9
Mining	-2	-1	-2	-5	-4	-4
Construction	13.1	11.7	10.9	8.9	8.8	8.2
Manufacturing	29.5	30.4	31.1	30.5	30.7	30.8
Transportation, communications, public utilities	5.3	5.7	6.1	6.6	6.8	7.2
Trade	14.6	14.8	15.8	15.8	16.2	16.6
Finance, insurance, and real estate	12.6	12.5	13.4	14.8	15.2	15.6
Services	11.1	11.1	11.9	12.4	12.6	13.0
Other services	12.8	13.0	10.0	10.4	9.1	8.1

try sectors, except other services, is projected to increase faster than PCE, the largest source of demand. This acceleration will result in a continuing increase in these industries' share of GNP. Lastly, other services, which is composed largely of compensation of both Federal and State and local employees, continues its relative decline, as government employment is projected to remain level.

The higher employment alternative

BLS has also prepared a set of projections based on an alternative assumed course for the economy over the period 1977-90. This alternative course assumed that the unemployment rate would be at a lower level each year after 1980, due to explicit government policies. By 1990, the unemployment rate was assumed to have reached 4.0 percent, as opposed to 4.5 percent in the base projections. The tables on page 41 and 45 of this issue show the projections data for both the base and alternative cases.

The lower unemployment rate would be attained by increased employment by State and local

governments at the beginning of the period, financed by increased Federal grants to State and local governments. The impact of the increased compensation would be to raise the level of State and local purchases above those of the base case. Also a slight increase in Federal nondefense purchases was assumed, as the added grants are serviced.

All of the increased State and local purchases and employment are expected to be in the areas other than education. These purchases would be mainly in the areas of general government, health, and safety, as governments hire persons in jobs which require few specialized skills and low levels of capital expenditures. Gradually, the extra State and local purchases would induce increased demand in other sectors of GNP as they flow through the economy. By 1985, most of the additional employment over the base case would be provided by the private sector. □

FOOTNOTES

¹ For a detailed discussion of the supply side of the economy, see Norman C. Saunders, "The U.S. economy to 1990: two projections for growth," this issue, pp. 37-47.

² (U.S. Bureau of the Census), Current Population Reports, Series P-25, No. 601.

³ See Saunders, "The U.S. Economy to 1990."

⁴ Demand by industry is only part of the picture because an industry's output is dependent not only on final demand but also upon induced or interindustry demand. Total output and employment by industry, the sum of induced and final demand, is derived by use of the input-output model. The derived output and employment by industry will be discussed in a subsequent article.

Appendix. Supplementary Tables

Table A-1. Gross national product, selected historical and projected years, 1963 to 1990¹

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	1678.	1889.	1847.	1893.	1947.	2001.
2	Meat and Livestock Products	557.	110.	1520.	746.	956.	989.
3	Cotton	882.	-358.	539.	906.	1046.	1230.
4	Food and Feed Grains	1684.	2463.	1758.	3808.	4652.	5052.
5	Other Agricultural Products	5524.	5713.	7583.	8803.	9823.	10554.
6	Forestry and Fishery Products	-561.	-976.	-410.	-667.	-521.	-416.
7	Agricultural, Forestry and Fishery Services	76.	228.	299.	380.	446.	511.
8	Iron and Ferroalloy Mining	-532.	-628.	-304.	-361.	-341.	-347.
9	Copper Ore Mining	-24.	-9.	20.	52.	69.	80.
10	Other Nonferrous Ore Mining	-89.	-226.	-770.	-745.	-734.	-785.
11	Coal Mining	954.	1040.	1150.	1019.	1169.	1410.
12	Crude Petroleum and Natural Gas	-1594.	-1083.	-2809.	-6703.	-7200.	-8890.
13	Stone and Clay Mining and Quarrying	-137.	-97.	-195.	-163.	-135.	-123.
14	Chemical and Fertilizer Minerals Mining	3.	89.	-51.	4.	6.	15.
15	New and Residential Buildings Construction	40282.	34687.	52615.	50802.	66978.	70639.
16	New Nonresidential Building Construction	28718.	38159.	37031.	36128.	38333.	44224.
17	New Public Utility Construction	10393.	14558.	17871.	19067.	21464.	25899.
18	New Highway Construction	10938.	11675.	9540.	8343.	8337.	8348.
19	All Other New Construction	7798.	7783.	7336.	7588.	8416.	8870.
20	Oil and Gas Well Drilling and Exploration	3213.	3046.	2739.	4084.	4740.	5398.
21	Maintenance and Repair Construction	7178.	7875.	7151.	9050.	9659.	9951.
22	Ordnance	2424.	5482.	3992.	4103.	4491.	4823.
23	Complete Guided Missiles	5522.	5253.	2659.	3168.	3363.	3774.
24	Meat Products	20817.	22928.	24094.	28843.	32316.	33659.
25	Dairy Products	11204.	12297.	12912.	12664.	13117.	15964.
26	Canned and Frozen Foods	8161.	9721.	12050.	15354.	17713.	19696.
27	Grain Mill Products	2808.	3627.	4288.	5673.	7030.	8011.
28	Bakery Products	7299.	7786.	8003.	8260.	8694.	9070.
29	Sugar	-86.	-52.	198.	266.	419.	523.
30	Confectionary Products	2363.	2881.	3216.	3407.	3771.	4054.
31	Alcoholic Beverages	6544.	7405.	9097.	10717.	12923.	14862.
32	Soft Drinks and Flavorings	3233.	4327.	5433.	6933.	8685.	10176.
33	Miscellaneous Food Products	6317.	7242.	8152.	10142.	12134.	13743.
34	Tobacco Manufacturers	7504.	7445.	8457.	8991.	9510.	9944.
35	Fabrics, Yarn and Thread Mills	759.	621.	957.	1389.	1912.	2380.
36	Floor Coverings	855.	1356.	2757.	3588.	5148.	6994.
37	Miscellaneous Textile Goods	-306.	-145.	70.	147.	345.	523.
38	Hosiery and Knit Goods	751.	1002.	1474.	1930.	2443.	2940.
39	Apparel	17015.	18857.	23149.	29979.	37538.	45447.
40	Miscellaneous Fabricated Textile Products	1701.	2503.	3523.	4395.	5607.	6923.
41	Logging	129.	271.	542.	717.	868.	1077.
42	Sawmills and Planing Mills	-561.	-587.	-559.	-770.	-721.	-749.
43	Millwork, Plywood and Other Wood Products	-75.	-39.	141.	21.	310.	523.
44	Wooden Containers	3.	36.	14.	32.	35.	45.
45	Household Furniture	4181.	4972.	6606.	8029.	10258.	12501.
46	Other Furniture and Fixtures	2005.	2722.	3500.	4045.	4643.	5389.
47	Paper Products	1092.	1441.	3120.	3295.	4576.	5821.
48	Paperboard	177.	225.	601.	432.	558.	638.
49	Newspaper Printing and Publishing	1797.	2045.	1895.	2112.	2374.	2681.
50	Periodical and Book Printing, Publishing	3091.	3693.	5746.	6942.	7531.	8249.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
51	Miscellaneous Printing and Publishing	911.	1450.	2268.	2144.	2373.	2488.
52	Industrial Inorganic and Organic Chemicals	1893.	2039.	2637.	3389.	4166.	4841.
53	Agricultural Chemicals	263.	468.	522.	550.	621.	650.
54	Miscellaneous Chemical Products	716.	1358.	1230.	1384.	1643.	1926.
55	Plastics Materials and Synthetic Rubber	410.	477.	1142.	1109.	1290.	1485.
56	Synthetic Fibers	115.	43.	384.	418.	608.	793.
57	Drugs	2702.	3575.	5817.	7930.	10070.	12452.
58	Cleaning and Toilet Preparations	4282.	5794.	8695.	9206.	12328.	16035.
59	Paints and Allied Products	157.	133.	410.	440.	524.	592.
60	Petroleum Refining and Related Products	10070.	12589.	15953.	16918.	19396.	20979.
61	Tires and Inner Tubes	1629.	1703.	2490.	2688.	2763.	2688.
62	Miscellaneous Rubber Products	896.	1273.	1310.	1709.	1864.	1994.
63	Plastic Products	324.	616.	1373.	1090.	1299.	1423.
64	Leather Tanning and Industrial Leather	-30.	-57.	8.	-21.	-14.	-5.
65	Footwear and Other Leather Products	4121.	4381.	4420.	4463.	4639.	4572.
66	Glass	528.	636.	1086.	1197.	1587.	2007.
67	Cement and Concrete Products	-1.	58.	345.	85.	132.	116.
68	Structural Clay Products	1.	19.	17.	-5.	-3.	-7.
69	Pottery and Related Products	219.	155.	314.	344.	472.	591.
70	Miscellaneous Stone and Clay Products	234.	228.	443.	331.	421.	507.
71	Blast Furnaces and Basic Steel Products	-247.	-673.	-707.	-2037.	-2356.	-3109.
72	Iron and Steel Foundries and Forgings	60.	172.	182.	467.	594.	684.
73	Primary Copper and Copper Products	231.	-444.	206.	225.	420.	516.
74	Primary Aluminum and Aluminum Products	34.	135.	686.	555.	752.	896.
75	Other Primary Nonferrous Products	-809.	-1127.	-1028.	-1007.	-956.	-1006.
76	Metal Containers	88.	119.	270.	141.	178.	182.
77	Heating Apparatus and Plumbing Fixtures	151.	122.	302.	266.	325.	377.
78	Fabricated Structural Metal	1156.	1773.	2517.	3412.	3995.	4657.
79	Screw Machine Products	72.	265.	196.	65.	60.	-1.
80	Metal Stampings	432.	703.	1145.	1540.	1873.	2241.
81	Cutlery, Hand Tools and General Hardware	764.	964.	1302.	1485.	1996.	2550.
82	Other Fabricated Products	605.	1067.	1015.	1116.	1214.	1223.
83	Engines, Turbines and Generators	1416.	2150.	2774.	3172.	3791.	4500.
84	Farm Machinery	2882.	4298.	5299.	6830.	8192.	9950.
85	Construction Mining and Oilfield Machinery	4290.	5203.	7378.	8802.	11259.	13904.
86	Material Handling Equipment	1167.	1677.	2237.	2938.	3505.	4198.
87	Metal Working Machinery	3083.	4833.	4628.	5667.	7168.	8667.
88	Special Industry Machines	3629.	4770.	5316.	5856.	7175.	8901.
89	General Industrial Machinery	2791.	3347.	3684.	4704.	5623.	6597.
90	Machine Shop Products	190.	427.	541.	684.	673.	643.
91	Computers and Peripheral Equipment	1796.	3275.	6352.	11481.	15135.	20170.
92	Typewriters and Other Office Equipment	760.	1213.	1306.	1975.	2265.	2521.
93	Service Industry Machines	2143.	3222.	4353.	5083.	6077.	7193.
94	Electric Transmission Equipment	2010.	2798.	3795.	4477.	5325.	6476.
95	Electrical Industrial Apparatus	1208.	1944.	2265.	2560.	2996.	3485.
96	Household Appliances	3446.	4262.	6640.	8595.	11157.	13894.
97	Electric Lighting and Wiring	730.	1054.	1510.	1567.	1935.	2275.
98	Radio and Tv Receiving Sets	1903.	3405.	5040.	7333.	9557.	12111.
99	Telephone and Telegraph Apparatus	1457.	2287.	3070.	3989.	4767.	5850.
100	Radio and Communication Equipment	7457.	9459.	8534.	9892.	10383.	11559.
101	Electronic Components	780.	1214.	1688.	2380.	3105.	3959.
102	Miscellaneous Electrical Products	1037.	1437.	1888.	2493.	2970.	3308.
103	Motor Vehicles	26706.	31466.	50521.	60526.	73172.	87022.
104	Aircraft	12478.	17314.	12989.	15252.	17692.	20860.
105	Ship and Boat Building and Repair	2225.	3285.	4502.	6878.	7481.	8836.
106	Railroad Equipment	1443.	2309.	1972.	2324.	2943.	3692.
107	Cycles, Bicycles and Parts	124.	216.	711.	1052.	1365.	1927.
108	Other Transportation Equipment	853.	1718.	5131.	5059.	7129.	8376.
109	Scientific and Controlling Instruments	1569.	1987.	2009.	2492.	2840.	3210.
110	Medical and Dental Instruments	737.	1189.	1817.	2483.	2971.	3543.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
111	Optical and Ophthalmic Equipment	396.	637.	849.	1316.	1538.	1772.
112	Photographic Equipment and Supplies	973.	2115.	3886.	5364.	6823.	8747.
113	Watches, Clocks and Clock Operated Devices	288.	437.	521.	687.	973.	1268.
114	Jewelry and Silverware	1143.	1649.	2212.	2901.	3799.	4823.
115	Musical Instruments and Sporting Goods	2297.	2554.	4012.	5334.	7006.	8813.
116	Other Miscellaneous Manufactured Products	1192.	1532.	1873.	2228.	2902.	3658.
117	Railroad Transportation	4058.	4878.	6033.	7349.	8696.	10258.
118	Local Transit and Intercity Buses	4198.	4458.	4050.	4799.	4972.	5177.
119	Truck Transportation	6066.	7685.	9051.	10683.	12447.	14423.
120	Water Transportation	3119.	3545.	4660.	5235.	5916.	6883.
121	Air Transportation	2521.	5192.	6055.	8553.	11268.	14658.
122	Pipeline Transportation	228.	331.	497.	567.	679.	760.
123	Transportation Services	195.	142.	178.	213.	239.	272.
124	Communications Except Radio and Tv	8056.	11595.	18274.	28454.	38704.	52229.
125	Radio and Tv Broadcasting	47.	10.	21.	26.	20.	15.
126	Electric Utilities	8275.	10791.	15987.	21605.	25734.	31307.
127	Gas Utilities	5062.	5965.	7087.	8069.	8350.	8923.
128	Water and Sanitary Services	2372.	2693.	3389.	4128.	5055.	6049.
129	Wholesale Trade	35178.	44686.	59725.	72752.	86802.	102095.
130	Retail Trade	85789.	104613.	135178.	166544.	205409.	247738.
131	Banking	9237.	10288.	14859.	21253.	26932.	32677.
132	Credit Agencies and Financial Brokers	5190.	8666.	7868.	10486.	12293.	14188.
133	Insurance	13728.	16525.	21617.	27402.	33502.	40513.
134	Owner Occupied Real Estate	50347.	60500.	80558.	110692.	136085.	164546.
135	Real Estate	25723.	30113.	40345.	53108.	65263.	77222.
136	Hotels and Lodging Places	3374.	4499.	5220.	6521.	8574.	10696.
137	Personal and Repair Services	9379.	10663.	10891.	11125.	11760.	12494.
138	Barber and Beauty Shops	3935.	4515.	3702.	3727.	3930.	4143.
139	Miscellaneous Business Services	4129.	5635.	7457.	10254.	11877.	13309.
140	Advertising	222.	252.	320.	424.	506.	602.
141	Miscellaneous Professional Services	5534.	6834.	8194.	10630.	12275.	14001.
142	Automobile Repair	9172.	11073.	15017.	19705.	24870.	30570.
143	Motion Pictures	2410.	2081.	2918.	3808.	4595.	5390.
144	Amusement and Recreation Services	5807.	5832.	7277.	8730.	10030.	11425.
145	Doctors' and Dentists' Services	14450.	18165.	25249.	34158.	42795.	53794.
146	Hospitals	11150.	14786.	25454.	35880.	48585.	65058.
147	Other Medical Services	4013.	4775.	7795.	10420.	12265.	14626.
148	Educational Services	8300.	10718.	12652.	14027.	15590.	16573.
149	Nonprofit Organizations	10703.	12802.	14857.	17515.	19813.	22204.
150	Post Office	1914.	2512.	2907.	3287.	3498.	3692.
152	Other Federal Enterprises	105.	121.	103.	98.	91.	123.
154	Other State and Local Government	805.	1021.	1429.	2209.	2739.	3052.
155	Directly Allocated Imports	-4829.	-4635.	-5470.	-6010.	-5932.	-6763.
156	Business Travel, Entertainment, and Gifts	-343.	-432.	-464.	-492.	-493.	-524.
157	Office Supplies	485.	630.	770.	1233.	1281.	1264.
158	Scrap, Used, and Secondhand	-269.	-863.	-1721.	-1643.	-973.	957.
159	Government Industry	100378.	122065.	134758.	154298.	162760.	169406.
160	Rest of World Industry	2241.	5767.	5807.	3841.	2342.	1219.
161	Households	6431.	6442.	5030.	3643.	3289.	2971.
162	Inventory Valuation Adjustment	-251.	-2127.	-19428.	-2898.	-3773.	-3735.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	1645.	1851.	1740.	1766.	1800.	1848.
2	Meat and Livestock Products	172.	190.	184.	159.	159.	160.
4	Food and Feed Grains	3.	247.	246.	243.	245.	249.
5	Other Agricultural Products	4352.	4644.	5228.	6051.	6685.	7325.
6	Forestry and Fishery Products	678.	620.	850.	899.	944.	1073.
7	Agricultural, Forestry and Fishery Services	21.	168.	238.	305.	368.	436.
11	Coal Mining	304.	221.	265.	241.	271.	308.
13	Stone and Clay Mining and Quarrying	18.	5.	7.	8.	11.	14.
14	Chemical and Fertilizer Minerals Mining	2.	3.	4.	4.	4.	5.
22	Ordnance	233.	406.	358.	508.	699.	913.
24	Meat Products	20781.	23024.	23717.	28611.	31703.	33343.
25	Dairy Products	10715.	11451.	12093.	12474.	12932.	15830.
26	Canned and Frozen Foods	8033.	9365.	11085.	14775.	17008.	18962.
27	Grain Mill Products	2250.	2948.	3527.	4726.	5994.	6935.
28	Bakery Products	7228.	7698.	7816.	8081.	8503.	8873.
29	Sugar	930.	956.	1025.	1026.	1047.	1110.
30	Confectionary Products	2384.	2894.	3105.	3395.	3730.	4009.
31	Alcoholic Beverages	6950.	7926.	9380.	11344.	13442.	15396.
32	Soft Drinks and Flavorings	3132.	4206.	5133.	6550.	8181.	9589.
33	Miscellaneous Food Products	5578.	6623.	7015.	8696.	10427.	11763.
34	Tobacco Manufacturers	6890.	6545.	7100.	7843.	8270.	8587.
35	Fabrics, Yarn and Thread Mills	796.	720.	759.	969.	1234.	1536.
36	Floor Coverings	804.	1269.	2445.	3284.	4734.	6469.
37	Miscellaneous Textile Goods	131.	141.	141.	167.	229.	301.
38	Hosiery and Knit Goods	732.	959.	1411.	1844.	2293.	2788.
39	Apparel	17213.	19213.	24273.	31712.	39421.	47926.
40	Miscellaneous Fabricated Textile Products	1556.	2047.	3084.	4051.	5150.	6384.
41	Logging	50.	30.	34.	31.	35.	39.
43	Millwork, Plywood and Other Wood Products	242.	304.	301.	374.	519.	691.
45	Household Furniture	3821.	4520.	5701.	7196.	9274.	11399.
46	Other Furniture and Fixtures	228.	278.	446.	563.	767.	999.
47	Paper Products	1589.	1782.	2286.	2492.	3287.	4186.
48	Paperboard	89.	86.	109.	114.	157.	207.
49	Newspaper Printing and Publishing	1788.	2036.	1891.	2099.	2365.	2687.
50	Periodical and Book Printing, Publishing	2247.	2509.	3974.	4670.	5444.	6344.
51	Miscellaneous Printing and Publishing	592.	808.	875.	958.	1099.	1251.
52	Industrial Inorganic and Organic Chemicals	147.	192.	280.	295.	408.	536.
53	Agricultural Chemicals	46.	58.	85.	88.	122.	160.
54	Miscellaneous Chemical Products	283.	300.	402.	445.	523.	604.
55	Plastics Materials and Synthetic Rubber	9.	15.	23.	30.	37.	46.
57	Drugs	2013.	2613.	3747.	5071.	6368.	7867.
58	Cleaning and Toilet Preparations	3980.	5318.	7681.	8299.	11317.	14978.
59	Paints and Allied Products	28.	61.	89.	92.	128.	168.
60	Petroleum Refining and Related Products	9004.	10924.	14628.	15691.	18938.	20970.
61	Tires and Inner Tubes	1392.	1483.	2410.	2932.	3306.	3681.
62	Miscellaneous Rubber Products	734.	911.	1046.	1407.	1648.	1925.
63	Plastic Products	155.	366.	717.	842.	1054.	1293.
65	Footwear and Other Leather Products	4364.	4760.	5164.	5828.	6552.	7340.
66	Glass	375.	523.	751.	892.	1149.	1443.
67	Cement and Concrete Products	3.	3.	6.	7.	10.	13.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
69	Pottery and Related Products	287.	305.	518.	602.	758.	934.
70	Miscellaneous Stone and Clay Products	143.	164.	204.	212.	263.	323.
71	Blast Furnaces and Basic Steel Products	14.	5.	7.	8.	9.	11.
73	Primary Copper and Copper Products	4.	8.	12.	16.	21.	27.
74	Primary Aluminum and Aluminum Products	13.	10.	13.	15.	19.	23.
77	Heating Apparatus and Plumbing Fixtures	82.	55.	86.	116.	153.	194.
78	Fabricated Structural Metal	18.	21.	112.	141.	200.	270.
79	Screw Machine Products	41.	52.	79.	104.	131.	160.
80	Metal Stampings	333.	416.	494.	564.	692.	832.
81	Cutlery, Hand Tools and General Hardware	578.	705.	956.	1207.	1668.	2221.
82	Other Fabricated Products	153.	202.	258.	304.	408.	529.
83	Engines, Turbines and Generators	154.	167.	244.	350.	485.	637.
84	Farm Machinery	13.	42.	124.	169.	244.	333.
87	Metal Working Machinery	92.	95.	72.	98.	141.	193.
88	Special Industry Machines	25.	24.	65.	88.	127.	174.
90	Machine Shop Products	3.	5.	8.	9.	11.	12.
91	Computers and Peripheral Equipment	0.	0.	0.	216.	264.	318.
92	Typewriters and Other Office Equipment	142.	149.	245.	365.	532.	732.
93	Service Industry Machines	373.	450.	704.	941.	1236.	1559.
94	Electric Transmission Equipment	9.	12.	15.	16.	22.	29.
95	Electrical Industrial Apparatus	16.	19.	35.	48.	69.	94.
96	Household Appliances	2573.	3447.	5427.	7267.	9590.	12142.
97	Electric Lighting and Wiring	530.	668.	960.	1145.	1574.	2072.
98	Radio and Tv Receiving Sets	1678.	3503.	6513.	10083.	13043.	16770.
100	Radio and Communication Equipment	82.	63.	62.	96.	125.	160.
101	Electronic Components	172.	165.	220.	340.	439.	565.
102	Miscellaneous Electrical Products	525.	764.	969.	1230.	1498.	1794.
103	Motor Vehicles	15560.	19145.	31003.	39629.	50243.	63332.
104	Aircraft	60.	60.	64.	92.	128.	167.
105	Ship and Boat Building and Repair	267.	479.	808.	1160.	1608.	2112.
107	Cycles, Bicycles and Parts	227.	364.	1502.	2155.	2987.	3922.
108	Other Transportation Equipment	137.	455.	1176.	1340.	1848.	2586.
109	Scientific and Controlling Instruments	22.	30.	41.	53.	72.	95.
110	Medical and Dental Instruments	156.	207.	260.	339.	418.	509.
111	Optical and Ophthalmic Equipment	275.	407.	402.	488.	587.	705.
112	Photographic Equipment and Supplies	448.	780.	1261.	1736.	2331.	3004.
113	Watches, Clocks and Clock Operated Devices	388.	521.	777.	1022.	1350.	1735.
114	Jewelry and Silverware	1322.	1867.	2318.	3047.	3900.	4887.
115	Musical Instruments and Sporting Goods	2068.	2413.	3788.	5246.	6982.	8966.
116	Other Miscellaneous Manufactured Products	880.	1131.	1284.	1659.	2214.	2861.
117	Railroad Transportation	2618.	2881.	3372.	3967.	4729.	5560.
118	Local Transit and Intercity Buses	3818.	3846.	3136.	3469.	3760.	4082.
119	Truck Transportation	3689.	4213.	5191.	6081.	7170.	8332.
120	Water Transportation	808.	661.	842.	970.	1208.	1430.
121	Air Transportation	1941.	3578.	4784.	6700.	8940.	11441.
122	Pipeline Transportation	167.	230.	308.	330.	398.	441.
123	Transportation Services	25.	104.	123.	145.	162.	178.
124	Communications Except Radio and Tv	6249.	8920.	14201.	22620.	31933.	44444.
126	Electric Utilities	7066.	8949.	13200.	17967.	22477.	28256.
127	Gas Utilities	4855.	5723.	6448.	7042.	7351.	7957.
128	Water and Sanitary Services	2351.	2580.	3266.	4038.	5024.	6087.
129	Wholesale Trade	26209.	31827.	40499.	48697.	59085.	69345.
130	Retail Trade	82791.	101442.	130357.	161287.	197894.	237944.
131	Banking	7517.	8527.	11922.	17283.	22185.	27454.
132	Credit Agencies and Financial Brokers	5049.	8516.	7538.	10027.	11776.	13644.
133	Insurance	13389.	16020.	20613.	25945.	31943.	38767.
134	Owner Occupied Real Estate	50347.	60500.	80558.	110692.	136085.	164546.
135	Real Estate	21524.	25583.	33241.	43349.	53286.	64436.
136	Hotels and Lodging Places	2659.	3666.	4765.	6225.	7946.	9842.
137	Personal and Repair Services	9295.	10606.	10786.	10937.	11564.	12291.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
138	Barber and Beauty Shops	3935.	4515.	3702.	3727.	3930.	4143.
139	Miscellaneous Business Services	618.	1342.	1864.	2417.	2932.	3481.
140	Advertising	165.	179.	193.	232.	288.	355.
141	Miscellaneous Professional Services	4233.	4952.	6116.	7893.	9229.	10655.
142	Automobile Repair	8998.	10810.	14652.	19180.	24322.	30010.
143	Motion Pictures	1801.	1598.	1887.	2862.	3574.	4310.
144	Amusement and Recreation Services	5743.	6213.	7233.	8690.	10018.	11421.
145	Doctors' and Dentists' Services	14073.	17436.	23429.	31407.	39889.	50608.
146	Hospitals	10304.	13248.	22262.	31382.	43597.	59333.
147	Other Medical Services	3445.	3539.	4625.	5984.	7560.	9520.
148	Educational Services	6556.	8664.	10689.	12429.	13756.	14756.
149	Nonprofit Organizations	9997.	11861.	14113.	16603.	18775.	21098.
150	Post Office	1467.	1781.	1975.	2112.	2232.	2351.
152	Other Federal Enterprises	9.	0.	0.	0.	0.	0.
154	Other State and Local Government	761.	982.	1372.	1613.	1991.	2290.
155	Directly Allocated Imports	3958.	5600.	6023.	6670.	8747.	11055.
158	Scrap, Used, and Secondhand	1761.	2639.	3165.	4099.	5343.	6906.
160	Rest of World Industry	-1815.	-2587.	-3750.	-6059.	-8407.	-11953.
161	Households	6431.	6442.	5030.	3643.	3289.	2971.

Table A-3. Personal consumption expenditures, durables, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
22	Ordnance	94.	243.	296.	425.	589.	774.
35	Fabrics, Yarn and Thread Mills	58.	99.	165.	208.	294.	398.
36	Floor Coverings	804.	1269.	2445.	3284.	4734.	6469.
37	Miscellaneous Textile Goods	60.	58.	37.	50.	72.	99.
40	Miscellaneous Fabricated Textile Products	252.	247.	353.	468.	651.	864.
43	Millwork, Plywood and Other Wood Products	242.	304.	301.	374.	519.	691.
45	Household Furniture	3821.	4520.	5701.	7196.	9274.	11399.
46	Other Furniture and Fixtures	228.	278.	446.	563.	767.	999.
50	Periodical and Book Printing, Publishing	1363.	1558.	1855.	2286.	2731.	3241.
51	Miscellaneous Printing and Publishing	36.	71.	84.	106.	150.	202.
54	Miscellaneous Chemical Products	124.	112.	171.	208.	242.	276.
58	Cleaning and Toilet Preparations	29.	35.	33.	40.	46.	53.
61	Tires and Inner Tubes	1392.	1483.	2410.	2932.	3306.	3681.
62	Miscellaneous Rubber Products	54.	182.	163.	210.	278.	355.
63	Plastic Products	139.	305.	631.	722.	887.	1068.
65	Footwear and Other Leather Products	77.	78.	134.	185.	257.	340.
66	Glass	359.	500.	716.	845.	1090.	1371.
67	Cement and Concrete Products	3.	3.	6.	7.	10.	13.
69	Pottery and Related Products	287.	305.	518.	602.	758.	934.
70	Miscellaneous Stone and Clay Products	12.	12.	15.	18.	25.	33.
73	Primary Copper and Copper Products	4.	8.	12.	16.	21.	27.
74	Primary Aluminum and Aluminum Products	13.	10.	13.	15.	19.	23.
77	Heating Apparatus and Plumbing Fixtures	82.	55.	86.	116.	153.	194.
78	Fabricated Structural Metal	18.	21.	112.	141.	200.	270.
80	Metal Stampings	333.	416.	494.	564.	692.	832.
81	Cutlery, Hand Tools and General Hardware	327.	464.	736.	961.	1337.	1780.
82	Other Fabricated Products	108.	151.	193.	236.	314.	406.
83	Engines, Turbines and Generators	154.	167.	244.	350.	485.	637.
84	Farm Machinery	13.	42.	124.	169.	244.	333.
87	Metal Working Machinery	92.	95.	72.	98.	141.	193.
88	Special Industry Machines	25.	24.	65.	88.	127.	174.
90	Machine Shop Products	3.	5.	8.	9.	11.	12.
91	Computers and Peripheral Equipment	0.	0.	0.	216.	264.	318.
92	Typewriters and Other Office Equipment	142.	149.	245.	365.	532.	732.
93	Service Industry Machines	373.	450.	704.	941.	1236.	1559.
95	Electrical Industrial Apparatus	16.	19.	35.	48.	69.	94.
96	Household Appliances	2431.	3289.	5223.	7037.	9282.	11734.
97	Electric Lighting and Wiring	264.	278.	459.	577.	801.	1069.
98	Radio and Tv Receiving Sets	1678.	3503.	6513.	10083.	13043.	16770.
100	Radio and Communication Equipment	82.	63.	62.	96.	125.	160.
101	Electronic Components	172.	165.	220.	340.	439.	565.
102	Miscellaneous Electrical Products	453.	659.	868.	1116.	1343.	1592.
103	Motor Vehicles	15560.	19145.	31003.	39629.	50243.	63332.
104	Aircraft	60.	60.	64.	92.	128.	167.
105	Ship and Boat Building and Repair	267.	479.	808.	1160.	1608.	2112.
107	Cycles, Bicycles and Parts	227.	364.	1502.	2155.	2987.	3922.
108	Other Transportation Equipment	137.	455.	1176.	1340.	1848.	2586.
109	Scientific and Controlling Instruments	12.	21.	29.	36.	51.	69.
110	Medical and Dental Instruments	64.	75.	70.	82.	95.	110.
111	Optical and Ophthalmic Equipment	275.	407.	402.	488.	587.	705.
112	Photographic Equipment and Supplies	192.	316.	470.	675.	936.	1228.
113	Watches, Clocks and Clock Operated Devices	388.	521.	777.	1022.	1350.	1735.
114	Jewelry and Silverware	1322.	1867.	2318.	3047.	3900.	4887.
115	Musical Instruments and Sporting Goods	652.	787.	1288.	1890.	2569.	3354.
116	Other Miscellaneous Manufactured Products	277.	343.	435.	629.	907.	1236.
117	Railroad Transportation	460.	600.	955.	1247.	1609.	2030.
119	Truck Transportation	543.	656.	1069.	1399.	1807.	2288.
120	Water Transportation	8.	13.	19.	26.	34.	43.
121	Air Transportation	8.	45.	66.	91.	117.	147.
129	Wholesale Trade	3101.	4158.	6858.	9191.	11931.	15139.
130	Retail Trade	19059.	24763.	35987.	47229.	61019.	77113.
137	Personal and Repair Services	6.	7.	13.	18.	25.	33.
139	Miscellaneous Business Services	0.	188.	229.	329.	456.	599.
158	Scrap, Used, and Secondhand	1858.	2719.	3298.	4259.	5532.	7129.

Table A-4. Personal consumption expenditures, nondurables, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	1645.	1851.	1740.	1766.	1800.	1848.
4	Food and Feed Grains	3.	247.	246.	243.	245.	249.
5	Other Agricultural Products	4352.	4644.	5228.	6051.	6685.	7325.
6	Forestry and Fishery Products	678.	620.	850.	899.	944.	1073.
7	Agricultural, Forestry and Fishery Services	21.	132.	204.	275.	339.	407.
11	Coal Mining	304.	221.	265.	241.	271.	308.
13	Stone and Clay Mining and Quarrying	18.	5.	7.	8.	11.	14.
14	Chemical and Fertilizer Minerals Mining	2.	3.	4.	4.	4.	5.
22	Ordnance	139.	163.	62.	83.	110.	139.
24	Meat Products	20781.	23024.	23717.	28611.	31703.	33343.
25	Dairy Products	10715.	11451.	12093.	12474.	12932.	15830.
26	Canned and Frozen Foods	8033.	9365.	11085.	14775.	17008.	18962.
27	Grain Mill Products	2250.	2948.	3527.	4726.	5994.	6935.
28	Bakery Products	7228.	7698.	7816.	8081.	8503.	8873.
29	Sugar	930.	956.	1025.	1026.	1047.	1110.
30	Confectionary Products	2384.	2894.	3105.	3395.	3730.	4009.
31	Alcoholic Beverages	6950.	7926.	9380.	11344.	13442.	15396.
32	Soft Drinks and Flavorings	3132.	4206.	5133.	6550.	8181.	9589.
33	Miscellaneous Food Products	5578.	6623.	7015.	8696.	10427.	11763.
34	Tobacco Manufacturers	6890.	6545.	7100.	7843.	8270.	8587.
35	Fabrics, Yarn and Thread Mills	738.	621.	594.	761.	940.	1139.
37	Miscellaneous Textile Goods	71.	83.	104.	117.	157.	202.
38	Hosiery and Knit Goods	732.	959.	1411.	1844.	2293.	2788.
39	Apparel	17213.	19213.	24273.	31712.	39421.	47926.
40	Miscellaneous Fabricated Textile Products	1304.	1800.	2731.	3583.	4499.	5520.
41	Logging	50.	30.	34.	31.	35.	39.
47	Paper Products	1589.	1782.	2286.	2492.	3287.	4186.
48	Paperboard	89.	86.	109.	114.	157.	207.
49	Newspaper Printing and Publishing	1788.	2036.	1891.	2099.	2365.	2687.
50	Periodical and Book Printing, Publishing	879.	951.	2119.	2384.	2713.	3103.
51	Miscellaneous Printing and Publishing	556.	737.	791.	852.	949.	1048.
52	Industrial Inorganic and Organic Chemicals	147.	192.	280.	295.	408.	536.
53	Agricultural Chemicals	46.	58.	85.	88.	122.	160.
54	Miscellaneous Chemical Products	159.	188.	231.	238.	281.	329.
55	Plastics Materials and Synthetic Rubber	9.	15.	23.	30.	37.	46.
57	Drugs	2013.	2613.	3747.	5071.	6368.	7867.
58	Cleaning and Toilet Preparations	3951.	5284.	7649.	8259.	11270.	14925.
59	Paints and Allied Products	28.	61.	89.	92.	128.	168.
60	Petroleum Refining and Related Products	9004.	10924.	14628.	15691.	18938.	20970.
62	Miscellaneous Rubber Products	679.	729.	883.	1197.	1371.	1570.
63	Plastic Products	17.	61.	86.	120.	167.	225.
65	Footwear and Other Leather Products	4287.	4683.	5029.	5643.	6295.	7000.
66	Glass	17.	23.	36.	47.	59.	72.
70	Miscellaneous Stone and Clay Products	56.	66.	96.	100.	139.	182.
71	Blast Furnaces and Basic Steel Products	14.	5.	7.	8.	9.	11.
79	Screw Machine Products	41.	52.	79.	104.	131.	160.
81	Cutlery, Hand Tools and General Hardware	251.	240.	221.	246.	332.	441.
82	Other Fabricated Products	45.	51.	65.	68.	94.	123.
94	Electric Transmission Equipment	9.	12.	15.	16.	22.	29.
96	Household Appliances	141.	158.	204.	230.	308.	408.

Table A-4. Continued—Personal consumption expenditures, nondurables, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
97	Electric Lighting and Wiring	266.	390.	501.	568.	772.	1004.
102	Miscellaneous Electrical Products	71.	105.	102.	113.	155.	202.
109	Scientific and Controlling Instruments	10.	9.	13.	17.	21.	26.
110	Medical and Dental Instruments	92.	133.	190.	257.	323.	399.
112	Photographic Equipment and Supplies	256.	464.	791.	1061.	1396.	1775.
115	Musical Instruments and Sporting Goods	1417.	1626.	2500.	3356.	4412.	5612.
116	Other Miscellaneous Manufactured Products	603.	789.	849.	1030.	1307.	1626.
117	Railroad Transportation	1537.	1679.	1980.	2284.	2666.	3056.
119	Truck Transportation	2562.	2735.	3275.	3824.	4481.	5137.
120	Water Transportation	370.	372.	484.	532.	636.	712.
121	Air Transportation	17.	66.	83.	107.	130.	156.
122	Pipeline Transportation	167.	230.	308.	330.	398.	441.
128	Water and Sanitary Services	50.	62.	74.	67.	76.	86.
129	Wholesale Trade	23090.	27653.	33623.	39488.	47136.	54186.
130	Retail Trade	63654.	76545.	94231.	113924.	136736.	160684.
152	Other Federal Enterprises	9.	0.	0.	0.	0.	0.
155	Directly Allocated Imports	1181.	1782.	1279.	914.	975.	1062.
158	Scrap, Used, and Secondhand	-97.	-88.	-142.	-169.	-200.	-235.
160	Rest of World Industry	-171.	-281.	-205.	-214.	-214.	-214.

Table A-5. Personal consumption expenditures, services, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
2	Meat and Livestock Products	172.	190.	184.	159.	159.	160.
7	Agricultural, Forestry and Fishery Services	0.	36.	35.	29.	29.	29.
50	Periodical and Book Printing, Publishing	5.	0.	0.	0.	0.	0.
70	Miscellaneous Stone and Clay Products	75.	86.	93.	94.	100.	107.
117	Railroad Transportation	622.	603.	437.	436.	454.	474.
118	Local Transit and Intercity Buses	3818.	3846.	3136.	3469.	3760.	4082.
119	Truck Transportation	584.	822.	848.	859.	882.	907.
120	Water Transportation	431.	275.	339.	413.	538.	675.
121	Air Transportation	1916.	3467.	4635.	6503.	8693.	11138.
123	Transportation Services	25.	104.	123.	145.	162.	178.
124	Communications Except Radio and Tv	6249.	8920.	14201.	22620.	31933.	44444.
126	Electric Utilities	7066.	8949.	13200.	17967.	22477.	28256.
127	Gas Utilities	4855.	5723.	6448.	7042.	7351.	7957.
128	Water and Sanitary Services	2301.	2518.	3192.	3971.	4948.	6001.
129	Wholesale Trade	18.	16.	18.	17.	18.	20.
130	Retail Trade	78.	135.	139.	134.	139.	146.
131	Banking	7517.	8527.	11922.	17283.	22185.	27454.
132	Credit Agencies and Financial Brokers	5049.	8516.	7538.	10027.	11776.	13644.
133	Insurance	13389.	16020.	20613.	25945.	31943.	38767.
134	Owner Occupied Real Estate	50347.	60500.	80558.	110692.	136085.	164546.
135	Real Estate	21524.	25583.	33241.	43349.	53286.	64436.
136	Hotels and Lodging Places	2659.	3666.	4765.	6225.	7946.	9842.
137	Personal and Repair Services	9289.	10598.	10774.	10919.	11539.	12258.
138	Barber and Beauty Shops	3935.	4515.	3702.	3727.	3930.	4143.
139	Miscellaneous Business Services	618.	1154.	1635.	2088.	2475.	2882.
140	Advertising	165.	179.	193.	232.	288.	355.
141	Miscellaneous Professional Services	4233.	4952.	6116.	7893.	9229.	10655.
142	Automobile Repair	8998.	10810.	14652.	19180.	24322.	30010.
143	Motion Pictures	1801.	1598.	1887.	2862.	3574.	4310.
144	Amusement and Recreation Services	5743.	6213.	7233.	8690.	10018.	11421.
145	Doctors' and Dentists' Services	14073.	17436.	23429.	31407.	39889.	50608.
146	Hospitals	10304.	13248.	22262.	31382.	43597.	59333.
147	Other Medical Services	3445.	3539.	4625.	5984.	7560.	9520.
148	Educational Services	6556.	8664.	10689.	12429.	13756.	14756.
149	Nonprofit Organizations	9997.	11861.	14113.	16603.	18775.	21098.
150	Post Office	1467.	1781.	1975.	2112.	2232.	2351.
154	Other State and Local Government	761.	982.	1372.	1613.	1991.	2290.
155	Directly Allocated Imports	2777.	3818.	4745.	5756.	7772.	9994.
158	Scrap, Used, and Secondhand	0.	8.	9.	9.	11.	13.
160	Rest of World Industry	-1644.	-2306.	-3545.	-5845.	-8193.	-11739.
161	Households	6431.	6442.	5030.	3643.	3289.	2971.

Table A-6. Gross private domestic investment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	2.	-6.	8.	21.	25.	22.
2	Meat and Livestock Products	662.	195.	1446.	628.	760.	710.
3	Cotton	-69.	122.	-12.	53.	63.	59.
4	Food and Feed Grains	246.	925.	519.	401.	500.	481.
5	Other Agricultural Products	697.	60.	-20.	332.	402.	375.
6	Forestry and Fishery Products	86.	7.	132.	55.	67.	62.
8	Iron and Ferroalloy Mining	-65.	31.	83.	28.	28.	22.
9	Copper Ore Mining	-5.	6.	6.	27.	36.	37.
10	Other Nonferrous Ore Mining	-1.	8.	29.	11.	13.	11.
11	Coal Mining	0.	214.	247.	105.	129.	122.
12	Crude Petroleum and Natural Gas	20.	296.	765.	348.	448.	446.
13	Stone and Clay Mining and Quarrying	2.	14.	14.	61.	75.	71.
14	Chemical and Fertilizer Minerals Mining	-1.	6.	4.	17.	22.	22.
15	New and Residential Buildings Construction	39037.	33001.	51222.	49401.	65618.	69402.
16	New Nonresidential Building Construction	19052.	25218.	25779.	24052.	27507.	34387.
17	New Public Utility Construction	6768.	9937.	13371.	13870.	15912.	20105.
19	All Other New Construction	2865.	3273.	3402.	3615.	4217.	4901.
20	Oil and Gas Well Drilling and Exploration	3213.	3046.	2739.	4084.	4740.	5398.
22	Ordnance	-4.	134.	-29.	97.	115.	106.
23	Complete Guided Missiles	-35.	104.	230.	194.	245.	303.
24	Meat Products	239.	276.	381.	573.	700.	660.
25	Dairy Products	15.	55.	77.	28.	32.	27.
26	Canned and Frozen Foods	39.	295.	665.	306.	398.	400.
27	Grain Mill Products	81.	77.	208.	262.	327.	315.
28	Bakery Products	24.	25.	40.	15.	17.	15.
29	Sugar	142.	55.	151.	63.	77.	72.
30	Confectionary Products	32.	48.	185.	80.	99.	95.
31	Alcoholic Beverages	53.	169.	568.	288.	400.	430.
32	Soft Drinks and Flavorings	32.	49.	139.	187.	273.	307.
33	Miscellaneous Food Products	136.	92.	278.	261.	323.	310.
34	Tobacco Manufacturers	32.	225.	485.	181.	202.	175.
35	Fabrics, Yarn and Thread Mills	41.	130.	346.	381.	477.	461.
36	Floor Coverings	99.	120.	361.	345.	446.	542.
37	Miscellaneous Textile Goods	60.	101.	159.	77.	105.	109.
38	Hosiery and Knit Goods	15.	40.	139.	170.	242.	252.
39	Apparel	69.	280.	624.	539.	674.	652.
40	Miscellaneous Fabricated Textile Products	47.	54.	300.	130.	181.	179.
41	Logging	-8.	2.	2.	11.	13.	13.
42	Sawmills and Planing Mills	49.	87.	308.	115.	128.	111.
43	Millwork, Plywood and Other Wood Products	67.	95.	460.	241.	340.	371.
44	Wooden Containers	1.	3.	2.	7.	8.	7.
45	Household Furniture	298.	299.	700.	574.	702.	802.
46	Other Furniture and Fixtures	1498.	2021.	2614.	2905.	3455.	4144.
47	Paper Products	115.	261.	1020.	484.	642.	658.
48	Paperboard	42.	45.	394.	193.	261.	273.
49	Newspaper Printing and Publishing	4.	2.	4.	18.	22.	21.
50	Periodical and Book Printing, Publishing	99.	154.	435.	195.	237.	220.
51	Miscellaneous Printing and Publishing	58.	194.	738.	284.	351.	318.
52	Industrial Inorganic and Organic Chemicals	48.	185.	554.	511.	681.	648.
53	Agricultural Chemicals	26.	87.	147.	57.	76.	70.

Table A-6. Continued—Gross private domestic investment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
54	Miscellaneous Chemical Products	27.	43.	140.	80.	104.	101.
55	Plastics Materials and Synthetic Rubber	13.	42.	430.	159.	201.	188.
56	Synthetic Fibers	12.	-19.	245.	163.	274.	356.
57	Drugs	106.	123.	414.	208.	291.	311.
58	Cleaning and Toilet Preparations	78.	110.	480.	200.	284.	298.
59	Paints and Allied Products	51.	64.	203.	95.	126.	128.
60	Petroleum Refining and Related Products	215.	581.	1540.	719.	945.	958.
61	Tires and Inner Tubes	56.	47.	293.	144.	197.	208.
62	Miscellaneous Rubber Products	38.	77.	286.	138.	164.	160.
63	Plastic Products	52.	75.	566.	179.	233.	209.
64	Leather Tanning and Industrial Leather	-13.	-8.	54.	19.	20.	17.
65	Footwear and Other Leather Products	-69.	25.	202.	73.	80.	68.
66	Glass	101.	50.	293.	136.	178.	179.
67	Cement and Concrete Products	15.	71.	435.	191.	241.	234.
68	Structural Clay Products	14.	23.	55.	20.	22.	19.
69	Pottery and Related Products	23.	18.	41.	17.	21.	19.
70	Miscellaneous Stone and Clay Products	47.	48.	215.	61.	79.	76.
71	Blast Furnaces and Basic Steel Products	139.	652.	1510.	640.	778.	731.
72	Iron and Steel Foundries and Forgings	10.	17.	45.	210.	274.	275.
73	Primary Copper and Copper Products	117.	165.	341.	353.	438.	447.
74	Primary Aluminum and Aluminum Products	77.	156.	472.	259.	377.	425.
75	Other Primary Nonferrous Products	18.	111.	266.	122.	158.	157.
76	Metal Containers	53.	92.	258.	133.	172.	177.
77	Heating Apparatus and Plumbing Fixtures	21.	36.	138.	61.	77.	75.
78	Fabricated Structural Metal	761.	1247.	1726.	2493.	2944.	3423.
79	Screw Machine Products	25.	75.	166.	66.	77.	69.
80	Metal Stampings	59.	36.	136.	186.	237.	232.
81	Cutlery, Hand Tools and General Hardware	102.	116.	286.	169.	218.	232.
82	Other Fabricated Products	342.	538.	817.	1001.	1184.	1334.
83	Engines, Turbines and Generators	595.	1053.	1674.	1827.	2212.	2650.
84	Farm Machinery	2657.	4083.	5088.	6400.	7641.	9207.
85	Construction Mining and Oilfield Machinery	2574.	3182.	5017.	5499.	7075.	8376.
86	Material Handling Equipment	946.	1414.	1894.	2578.	3135.	3814.
87	Metal Working Machinery	2319.	4333.	4012.	4846.	6154.	7376.
88	Special Industry Machines	2921.	4203.	4525.	4801.	5930.	7349.
89	General Industrial Machinery	1969.	2489.	3070.	4025.	4968.	5985.
90	Machine Shop Products	24.	50.	126.	144.	167.	144.
91	Computers and Peripheral Equipment	1087.	2376.	4055.	7498.	9821.	13078.
92	Typewriters and Other Office Equipment	409.	669.	1081.	1862.	2245.	2708.
93	Service Industry Machines	1370.	2112.	2716.	2836.	3415.	4079.
94	Electric Transmission Equipment	1488.	2160.	2907.	3270.	3917.	4784.
95	Electrical Industrial Apparatus	703.	1155.	1472.	1585.	1917.	2273.
96	Household Appliances	780.	783.	1401.	1495.	1837.	2179.
97	Electric Lighting and Wiring	103.	146.	390.	297.	374.	412.
98	Radio and Tv Receiving Sets	277.	248.	472.	415.	512.	585.
99	Telephone and Telegraph Apparatus	1266.	2026.	2953.	3788.	4526.	5561.
100	Radio and Communication Equipment	1288.	2329.	3025.	3554.	4247.	5056.
101	Electronic Components	90.	174.	479.	274.	400.	439.
102	Miscellaneous Electrical Products	290.	297.	676.	866.	1071.	1264.
103	Motor Vehicles	8303.	10579.	22746.	24296.	26639.	28881.
104	Aircraft	1091.	5250.	3443.	2515.	3351.	4136.
105	Ship and Boat Building and Repair	446.	939.	1339.	2332.	2819.	3453.
106	Railroad Equipment	1245.	2139.	1772.	2132.	2769.	3545.
107	Cycles, Bicycles and Parts	10.	56.	77.	67.	84.	100.
108	Other Transportation Equipment	706.	1283.	3960.	3714.	5276.	5789.
109	Scientific and Controlling Instruments	574.	827.	1013.	1299.	1549.	1865.
110	Medical and Dental Instruments	348.	613.	1048.	1455.	1779.	2164.
111	Optical and Ophthalmic Equipment	119.	206.	512.	877.	1057.	1282.
112	Photographic Equipment and Supplies	185.	687.	1856.	2564.	3181.	4035.
113	Watches, Clocks and Clock Operated Devices	9.	5.	6.	26.	36.	39.

Table A-6. Continued—Gross private domestic investment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
114	Jewelry and Silverware	9.	38.	117.	59.	83.	89.
115	Musical Instruments and Sporting Goods	304.	319.	609.	605.	762.	915.
116	Other Miscellaneous Manufactured Products	307.	401.	630.	550.	670.	776.
117	Railroad Transportation	378.	538.	795.	942.	1120.	1280.
119	Truck Transportation	647.	745.	1109.	1326.	1606.	1896.
120	Water Transportation	17.	29.	45.	46.	59.	63.
121	Air Transportation	18.	45.	60.	81.	94.	111.
122	Pipeline Transportation	3.	10.	16.	32.	41.	38.
124	Communications Except Radio and Tv	950.	1349.	1896.	2574.	3031.	3611.
129	Wholesale Trade	3544.	4829.	7076.	8762.	10382.	12332.
130	Retail Trade	3441.	3628.	6368.	7686.	9334.	11147.
133	Insurance	0.	0.	0.	1.	2.	2.
135	Real Estate	2799.	2788.	4169.	5821.	7516.	7829.
143	Motion Pictures	9.	-69.	351.	168.	209.	186.
155	Directly Allocated Imports	29.	-124.	0.	-74.	-72.	-82.
158	Scrap, Used, and Secondhand	-2265.	-4318.	-5909.	-6965.	-8337.	-8877.
162	Inventory Valuation Adjustment	-251.	-2127.	-19428.	-2898.	-3773.	-3735.

Table A-7. Nonresidential investment, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
15	New and Residential Buildings Construction	12.	14.	22.	22.	23.	27.
16	New Nonresidential Building Construction	19052.	25218.	25779.	24052.	27507.	34387.
17	New Public Utility Construction	6768.	9937.	13371.	13870.	15912.	20105.
19	All Other New Construction	2096.	2535.	3011.	3166.	3653.	4306.
20	Oil and Gas Well Drilling and Exploration	3213.	3046.	2739.	4084.	4740.	5398.
23	Complete Guided Missiles	0.	34.	98.	142.	182.	246.
36	Floor Coverings	68.	102.	200.	263.	321.	404.
43	Millwork, Plywood and Other Wood Products	7.	9.	5.	5.	5.	4.
45	Household Furniture	199.	241.	323.	397.	468.	563.
46	Other Furniture and Fixtures	1479.	1972.	2406.	2825.	3354.	4045.
62	Miscellaneous Rubber Products	23.	36.	35.	28.	27.	27.
63	Plastic Products	0.	0.	1.	0.	0.	0.
73	Primary Copper and Copper Products	41.	45.	63.	78.	87.	101.
76	Metal Containers	12.	13.	14.	16.	16.	16.
78	Fabricated Structural Metal	664.	1128.	1379.	2160.	2490.	2945.
81	Cutlery, Hand Tools and General Hardware	15.	24.	35.	50.	60.	70.
82	Other Fabricated Products	299.	388.	539.	792.	941.	1135.
83	Engines, Turbines and Generators	556.	982.	1347.	1686.	2026.	2470.
84	Farm Machinery	2591.	3596.	4766.	6261.	7458.	9029.
85	Construction Mining and Oilfield Machinery	2496.	3107.	4596.	5298.	6807.	8100.
86	Material Handling Equipment	929.	1369.	1732.	2499.	3030.	3709.
87	Metal Working Machinery	2239.	4138.	3585.	4653.	5906.	7130.
88	Special Industry Machines	2884.	4092.	4197.	4675.	5762.	7180.
89	General Industrial Machinery	1909.	2337.	2602.	3811.	4691.	5719.
90	Machine Shop Products	10.	7.	8.	8.	8.	9.
91	Computers and Peripheral Equipment	1060.	2265.	3700.	7249.	9451.	12661.
92	Typewriters and Other Office Equipment	388.	619.	1011.	1834.	2211.	2677.
93	Service Industry Machines	1301.	1960.	2269.	2643.	3147.	3804.
94	Electric Transmission Equipment	1481.	2089.	2619.	3142.	3750.	4619.
95	Electrical Industrial Apparatus	681.	1079.	1163.	1457.	1747.	2105.
96	Household Appliances	542.	671.	1022.	1317.	1595.	1939.
97	Electric Lighting and Wiring	66.	78.	101.	177.	216.	261.
98	Radio and Tv Receiving Sets	139.	149.	206.	274.	322.	402.
99	Telephone and Telegraph Apparatus	1282.	1933.	2717.	3682.	4385.	5392.
100	Radio and Communication Equipment	1261.	1828.	2569.	3390.	4046.	4868.
101	Electronic Components	99.	20.	28.	31.	30.	30.
102	Miscellaneous Electrical Products	249.	254.	431.	755.	927.	1131.
103	Motor Vehicles	7485.	10946.	20944.	22919.	24834.	27143.
104	Aircraft	603.	2937.	2489.	2126.	2887.	3709.
105	Ship and Boat Building and Repair	475.	710.	1116.	2225.	2675.	3304.
106	Railroad Equipment	1219.	2184.	1627.	2074.	2687.	3461.
107	Cycles, Bicycles and Parts	8.	35.	41.	51.	60.	72.
108	Other Transportation Equipment	165.	233.	466.	510.	584.	697.
109	Scientific and Controlling Instruments	534.	736.	789.	1207.	1440.	1764.
110	Medical and Dental Instruments	320.	577.	895.	1380.	1680.	2065.
111	Optical and Ophthalmic Equipment	116.	198.	506.	843.	1013.	1240.
112	Photographic Equipment and Supplies	172.	610.	1556.	2402.	2955.	3798.
113	Watches, Clocks and Clock Operated Devices	0.	1.	1.	2.	2.	2.
115	Musical Instruments and Sporting Goods	283.	239.	422.	515.	642.	790.
116	Other Miscellaneous Manufactured Products	272.	343.	344.	415.	490.	592.
117	Railroad Transportation	294.	403.	584.	755.	876.	1039.
119	Truck Transportation	513.	619.	904.	1144.	1367.	1660.
120	Water Transportation	7.	9.	11.	15.	18.	22.
121	Air Transportation	17.	42.	57.	78.	91.	107.
124	Communications Except Radio and Tv	950.	1349.	1896.	2574.	3031.	3611.
129	Wholesale Trade	3073.	4235.	6113.	7908.	9268.	11227.
130	Retail Trade	3349.	3327.	5407.	6770.	7993.	9687.
135	Real Estate	330.	437.	447.	435.	527.	693.
158	Scrap, Used, and Secondhand	-2140.	-3219.	-5095.	-6083.	-7304.	-7727.

Table A-8. Nonresidential investment, equipment, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
23	Complete Guided Missiles	0.	34.	98.	142.	182.	246.
36	Floor Coverings	68.	102.	200.	263.	321.	404.
43	Millwork, Plywood and Other Wood Products	7.	9.	5.	5.	5.	4.
45	Household Furniture	199.	241.	323.	397.	468.	563.
46	Other Furniture and Fixtures	1479.	1972.	2406.	2825.	3354.	4045.
62	Miscellaneous Rubber Products	23.	36.	35.	28.	27.	27.
63	Plastic Products	0.	0.	1.	0.	0.	0.
73	Primary Copper and Copper Products	41.	45.	63.	78.	87.	101.
76	Metal Containers	12.	13.	14.	16.	16.	16.
78	Fabricated Structural Metal	664.	1128.	1379.	2160.	2490.	2945.
81	Cutlery, Hand Tools and General Hardware	15.	24.	35.	50.	60.	70.
82	Other Fabricated Products	299.	388.	539.	792.	941.	1135.
83	Engines, Turbines and Generators	556.	982.	1347.	1686.	2026.	2470.
84	Farm Machinery	2591.	3596.	4766.	6261.	7458.	9029.
85	Construction Mining and Oilfield Machinery	2496.	3107.	4596.	5298.	6807.	8100.
86	Material Handling Equipment	929.	1369.	1732.	2499.	3030.	3709.
87	Metal Working Machinery	2239.	4138.	3585.	4653.	5906.	7130.
88	Special Industry Machines	2884.	4092.	4197.	4675.	5762.	7180.
89	General Industrial Machinery	1909.	2337.	2602.	3811.	4691.	5719.
90	Machine Shop Products	10.	7.	8.	8.	8.	9.
91	Computers and Peripheral Equipment	1060.	2265.	3700.	7249.	9451.	12661.
92	Typewriters and Other Office Equipment	388.	619.	1011.	1834.	2211.	2677.
93	Service Industry Machines	1301.	1960.	2269.	2643.	3147.	3804.
94	Electric Transmission Equipment	1481.	2089.	2619.	3142.	3750.	4619.
95	Electrical Industrial Apparatus	681.	1079.	1163.	1457.	1747.	2105.
96	Household Appliances	542.	671.	1022.	1317.	1595.	1939.
97	Electric Lighting and Wiring	66.	78.	101.	177.	216.	261.
98	Radio and Tv Receiving Sets	139.	149.	206.	274.	322.	402.
99	Telephone and Telegraph Apparatus	1282.	1933.	2717.	3682.	4385.	5392.
100	Radio and Communication Equipment	1261.	1828.	2569.	3390.	4046.	4868.
101	Electronic Components	99.	20.	28.	31.	30.	30.
102	Miscellaneous Electrical Products	249.	254.	431.	755.	927.	1131.
103	Motor Vehicles	7485.	10946.	20944.	22919.	24834.	27143.
104	Aircraft	603.	2937.	2489.	2126.	2887.	3709.
105	Ship and Boat Building and Repair	475.	710.	1116.	2225.	2675.	3304.
106	Railroad Equipment	1219.	2184.	1627.	2074.	2687.	3461.
107	Cycles, Bicycles and Parts	8.	35.	41.	51.	60.	72.
108	Other Transportation Equipment	111.	172.	299.	346.	407.	482.
109	Scientific and Controlling Instruments	534.	736.	789.	1207.	1440.	1764.
110	Medical and Dental Instruments	320.	577.	895.	1380.	1680.	2065.
111	Optical and Ophthalmic Equipment	116.	198.	506.	843.	1013.	1240.
112	Photographic Equipment and Supplies	172.	610.	1556.	2402.	2955.	3798.
113	Watches, Clocks and Clock Operated Devices	0.	1.	1.	2.	2.	2.
115	Musical Instruments and Sporting Goods	283.	239.	422.	515.	642.	790.
116	Other Miscellaneous Manufactured Products	272.	343.	344.	415.	490.	592.
117	Railroad Transportation	294.	403.	584.	755.	876.	1039.
119	Truck Transportation	513.	619.	904.	1144.	1367.	1659.
120	Water Transportation	7.	9.	11.	15.	18.	22.
121	Air Transportation	17.	42.	57.	78.	91.	107.
124	Communications Except Radio and Tv	950.	1349.	1896.	2574.	3031.	3611.
129	Wholesale Trade	3068.	4235.	6113.	7907.	9266.	11226.
130	Retail Trade	3338.	3310.	5359.	6722.	7941.	9623.
158	Scrap, Used, and Secondhand	-1415.	-3030.	-4968.	-5920.	-7129.	-7519.

Table A-9. Nonresidential investment, structures, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
15	New and Residential Buildings Construction	12.	14.	22.	22.	23.	27.
16	New Nonresidential Building Construction	19052.	25218.	25779.	24052.	27507.	34387.
17	New Public Utility Construction	6768.	9937.	13371.	13870.	15912.	20105.
19	All Other New Construction	2096.	2535.	3011.	3166.	3653.	4306.
20	Oil and Gas Well Drilling and Exploration	3213.	3046.	2739.	4084.	4740.	5398.
108	Other Transportation Equipment	54.	61.	167.	164.	173.	215.
119	Truck Transportation	1.	0.	0.	0.	0.	0.
129	Wholesale Trade	5.	0.	1.	1.	1.	1.
130	Retail Trade	10.	18.	48.	48.	52.	64.
135	Real Estate	330.	437.	447.	435.	527.	693.
158	Scrap, Used, and Secondhand	-725.	-189.	-127.	-163.	-176.	-208.

Table A-10. Residential investment, structures, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
15	New and Residential Buildings Construction	39025.	32987.	51200.	49380.	65595.	69375.
19	All Other New Construction	769.	738.	391.	449.	565.	595.
108	Other Transportation Equipment	487.	1018.	3254.	3097.	4533.	4938.
117	Railroad Transportation	2.	0.	0.	0.	0.	0.
119	Truck Transportation	6.	2.	6.	6.	9.	10.
120	Water Transportation	0.	1.	2.	3.	5.	5.
129	Wholesale Trade	43.	6.	20.	18.	27.	29.
130	Retail Trade	93.	301.	961.	916.	1340.	1460.
135	Real Estate	2469.	2351.	3722.	5387.	6990.	7136.
158	Scrap, Used, and Secondhand	-268.	-1000.	-1081.	-917.	-1075.	-1190.

Table A-11. Change in business inventories, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	2.	-6.	8.	21.	25.	22.
2	Meat and Livestock Products	662.	195.	1446.	628.	760.	710.
3	Cotton	-69.	122.	-12.	53.	63.	59.
4	Food and Feed Grains	246.	925.	519.	401.	500.	481.
5	Other Agricultural Products	697.	60.	-20.	332.	402.	375.
6	Forestry and Fishery Products	86.	7.	132.	55.	67.	62.
8	Iron and Ferroalloy Mining	-65.	31.	83.	28.	28.	22.
9	Copper Ore Mining	-5.	6.	6.	27.	36.	37.
10	Other Nonferrous Ore Mining	-1.	8.	29.	11.	13.	11.
11	Coal Mining	0.	214.	247.	105.	129.	122.
12	Crude Petroleum and Natural Gas	20.	296.	765.	348.	448.	446.
13	Stone and Clay Mining and Quarrying	2.	14.	14.	61.	75.	71.
14	Chemical and Fertilizer Minerals Mining	-1.	6.	4.	17.	22.	22.
22	Ordinance	-4.	134.	-29.	97.	115.	106.
23	Complete Guided Missiles	-35.	70.	132.	53.	63.	57.
24	Meat Products	239.	276.	381.	573.	700.	660.
25	Dairy Products	15.	55.	77.	28.	32.	27.
26	Canned and Frozen Foods	39.	295.	665.	306.	398.	400.
27	Grain Mill Products	81.	77.	208.	262.	327.	315.
28	Bakery Products	24.	25.	40.	15.	17.	15.
29	Sugar	142.	55.	151.	63.	77.	72.
30	Confectionary Products	32.	48.	185.	80.	99.	95.
31	Alcoholic Beverages	53.	169.	568.	288.	400.	430.
32	Soft Drinks and Flavorings	32.	49.	139.	187.	273.	307.
33	Miscellaneous Food Products	136.	92.	278.	261.	323.	310.
34	Tobacco Manufacturers	32.	225.	485.	181.	202.	175.
35	Fabrics, Yarn and Thread Mills	41.	130.	346.	381.	477.	461.
36	Floor Coverings	31.	18.	161.	82.	124.	138.
37	Miscellaneous Textile Goods	60.	101.	159.	77.	105.	109.
38	Hosiery and Knit Goods	15.	40.	139.	170.	242.	252.
39	Apparel	69.	280.	624.	539.	674.	652.
40	Miscellaneous Fabricated Textile Products	47.	54.	300.	130.	181.	179.
41	Logging	-8.	2.	2.	11.	13.	13.
42	Sawmills and Planing Mills	49.	87.	308.	115.	128.	111.
43	Millwork, Plywood and Other Wood Products	60.	86.	455.	236.	335.	367.
44	Wooden Containers	1.	3.	2.	7.	8.	7.
45	Household Furniture	99.	58.	377.	177.	234.	239.
46	Other Furniture and Fixtures	19.	48.	207.	80.	101.	99.
47	Paper Products	115.	261.	1020.	484.	642.	658.
48	Paperboard	42.	45.	394.	193.	261.	273.
49	Newspaper Printing and Publishing	4.	2.	4.	18.	22.	21.
50	Periodical and Book Printing, Publishing	99.	154.	435.	195.	237.	220.
51	Miscellaneous Printing and Publishing	58.	194.	738.	284.	351.	318.
52	Industrial Inorganic and Organic Chemicals	48.	185.	554.	511.	681.	648.
53	Agricultural Chemicals	26.	87.	147.	57.	76.	70.
54	Miscellaneous Chemical Products	27.	43.	140.	80.	104.	101.
55	Plastics Materials and Synthetic Rubber	13.	42.	430.	159.	201.	188.
56	Synthetic Fibers	12.	-19.	245.	163.	274.	356.
57	Drugs	106.	123.	414.	208.	291.	311.
58	Cleaning and Toilet Preparations	78.	110.	480.	200.	284.	298.

Table A-11. Continued—Change in business inventories, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
59	Paints and Allied Products	51.	64.	203.	95.	126.	128.
60	Petroleum Refining and Related Products	215.	581.	1540.	719.	945.	958.
61	Tires and Inner Tubes	56.	47.	293.	144.	197.	208.
62	Miscellaneous Rubber Products	15.	40.	251.	110.	138.	133.
63	Plastic Products	52.	75.	565.	179.	233.	209.
64	Leather Tanning and Industrial Leather	-13.	-8.	54.	19.	20.	17.
65	Footwear and Other Leather Products	-69.	25.	202.	73.	80.	68.
66	Glass	101.	50.	293.	136.	178.	179.
67	Cement and Concrete Products	15.	71.	435.	191.	241.	234.
68	Structural Clay Products	14.	23.	55.	20.	22.	19.
69	Pottery and Related Products	23.	18.	41.	17.	21.	19.
70	Miscellaneous Stone and Clay Products	47.	48.	215.	61.	79.	76.
71	Blast Furnaces and Basic Steel Products	139.	652.	1510.	640.	778.	731.
72	Iron and Steel Foundries and Forgings	10.	17.	45.	210.	274.	275.
73	Primary Copper and Copper Products	76.	120.	278.	275.	351.	346.
74	Primary Aluminum and Aluminum Products	77.	156.	472.	259.	377.	425.
75	Other Primary Nonferrous Products	18.	111.	266.	122.	158.	157.
76	Metal Containers	41.	78.	244.	117.	156.	161.
77	Heating Apparatus and Plumbing Fixtures	21.	36.	138.	61.	77.	75.
78	Fabricated Structural Metal	97.	119.	348.	332.	454.	478.
79	Screw Machine Products	25.	75.	166.	66.	77.	69.
80	Metal Stampings	59.	36.	136.	186.	237.	232.
81	Cutlery, Hand Tools and General Hardware	87.	92.	251.	120.	159.	162.
82	Other Fabricated Products	43.	150.	278.	208.	244.	199.
83	Engines, Turbines and Generators	39.	72.	327.	141.	186.	180.
84	Farm Machinery	66.	487.	322.	139.	183.	177.
85	Construction Mining and Oilfield Machinery	78.	75.	421.	201.	268.	276.
86	Material Handling Equipment	17.	45.	162.	78.	104.	104.
87	Metal Working Machinery	80.	195.	427.	193.	248.	246.
88	Special Industry Machines	37.	111.	328.	127.	168.	169.
89	General Industrial Machinery	60.	152.	468.	215.	277.	265.
90	Machine Shop Products	14.	43.	118.	136.	159.	136.
91	Computers and Peripheral Equipment	27.	110.	355.	249.	371.	417.
92	Typewriters and Other Office Equipment	21.	51.	70.	29.	34.	31.
93	Service Industry Machines	69.	153.	447.	193.	268.	275.
94	Electric Transmission Equipment	7.	71.	288.	128.	167.	165.
95	Electrical Industrial Apparatus	22.	77.	309.	127.	170.	168.
96	Household Appliances	238.	112.	380.	178.	242.	241.
97	Electric Lighting and Wiring	37.	68.	289.	120.	158.	151.
98	Radio and Tv Receiving Sets	138.	99.	266.	141.	190.	183.
99	Telephone and Telegraph Apparatus	-16.	93.	236.	106.	142.	168.
100	Radio and Communication Equipment	27.	501.	456.	164.	201.	187.
101	Electronic Components	-9.	155.	452.	243.	370.	409.
102	Miscellaneous Electrical Products	41.	43.	245.	112.	144.	132.
103	Motor Vehicles	818.	-367.	1802.	1378.	1805.	1738.
104	Aircraft	488.	2314.	953.	389.	464.	427.
105	Ship and Boat Building and Repair	-29.	229.	223.	107.	144.	149.
106	Railroad Equipment	26.	-45.	145.	59.	82.	84.
107	Cycles, Bicycles and Parts	3.	21.	35.	16.	23.	27.
108	Other Transportation Equipment	55.	33.	241.	107.	158.	155.
109	Scientific and Controlling Instruments	40.	91.	224.	92.	109.	101.
110	Medical and Dental Instruments	28.	36.	152.	74.	99.	99.
111	Optical and Ophthalmic Equipment	3.	8.	7.	34.	44.	42.
112	Photographic Equipment and Supplies	13.	78.	300.	163.	226.	237.
113	Watches, Clocks and Clock Operated Devices	8.	4.	5.	24.	35.	36.
114	Jewelry and Silverware	9.	38.	117.	59.	83.	89.
115	Musical Instruments and Sporting Goods	21.	79.	187.	90.	120.	124.
116	Other Miscellaneous Manufactured Products	35.	58.	286.	136.	180.	184.
117	Railroad Transportation	81.	135.	211.	187.	243.	241.
119	Truck Transportation	128.	123.	198.	176.	229.	226.

Table A-11. Continued—Change in business inventories, selected historical and projected years, 1963 to 1990

(Millions to 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
120	Water Transportation	10.	20.	32.	28.	37.	36.
121	Air Transportation	1.	3.	3.	3.	4.	4.
122	Pipeline Transportation	3.	10.	16.	32.	41.	38.
129	Wholesale Trade	428.	588.	943.	835.	1087.	1076.
133	Insurance	0.	0.	0.	1.	2.	2.
143	Motion Pictures	9.	-69.	351.	168.	209.	186.
155	Directly Allocated Imports	29.	-124.	0.	-74.	-72.	-82.
158	Scrap, Used, and Secondhand	143.	-99.	267.	36.	43.	40.
162	Inventory Valuation Adjustment	-251.	-2127.	-19428.	-2898.	-3773.	-3735.

Table A-12. Net exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	13.	16.	19.	21.	33.	36.
2	Meat and Livestock Products	-281.	-284.	-123.	-59.	18.	100.
3	Cotton	464.	401.	612.	822.	942.	1130.
4	Food and Feed Grains	1972.	1832.	4579.	3768.	3897.	4255.
5	Other Agricultural Products	557.	605.	2002.	2187.	2490.	2601.
6	Forestry and Fishery Products	-688.	-793.	-868.	-933.	-861.	-893.
7	Agricultural, Forestry and Fishery Services	16.	11.	14.	14.	15.	16.
8	Iron and Ferroalloy Mining	-473.	-588.	-386.	-389.	-369.	-369.
9	Copper Ore Mining	-19.	-16.	14.	25.	32.	43.
10	Other Nonferrous Ore Mining	-474.	-391.	-813.	-868.	-871.	-924.
11	Coal Mining	564.	505.	558.	594.	690.	900.
12	Crude Petroleum and Natural Gas	-1614.	-1389.	-3603.	-7136.	-7786.	-9492.
13	Stone and Clay Mining and Quarrying	-103.	-64.	-187.	-163.	-157.	-145.
14	Chemical and Fertilizer Minerals Mining	-35.	38.	-86.	-68.	-66.	-59.
16	New Nonresidential Building Construction	4.	22.	26.	41.	49.	61.
19	All Other New Construction	0.	0.	0.	1.	1.	1.
22	Ordnance	261.	211.	374.	1027.	1031.	1024.
23	Complete Guided Missiles	0.	17.	15.	310.	311.	312.
24	Meat Products	-502.	-786.	-834.	-1296.	-1123.	-1469.
25	Dairy Products	196.	14.	-167.	-266.	-343.	-448.
26	Canned and Frozen Foods	-15.	-118.	-74.	-131.	-133.	-139.
27	Grain Mill Products	449.	506.	495.	584.	596.	651.
28	Bakery Products	-6.	-21.	-37.	-41.	-44.	-49.
29	Sugar	-1163.	-1072.	-994.	-833.	-715.	-669.
30	Confectionary Products	-59.	-72.	-100.	-100.	-93.	-87.
31	Alcoholic Beverages	-461.	-691.	-852.	-914.	-919.	-964.
32	Soft Drinks and Flavorings	37.	28.	54.	87.	110.	142.
33	Miscellaneous Food Products	506.	417.	674.	985.	1155.	1421.
34	Tobacco Manufacturers	584.	676.	874.	970.	1041.	1187.
35	Fabrics, Yarn and Thread Mills	-146.	-349.	-289.	-129.	32.	208.
36	Floor Coverings	-53.	-43.	-57.	-56.	-47.	-36.
37	Miscellaneous Textile Goods	-505.	-400.	-238.	-110.	-2.	99.
38	Hosiery and Knit Goods	4.	3.	-90.	-99.	-106.	-115.
39	Apparel	-430.	-863.	-2081.	-2686.	-3005.	-3593.
40	Miscellaneous Fabricated Textile Products	3.	9.	23.	81.	138.	217.
41	Logging	86.	239.	505.	675.	819.	1025.
42	Sawmills and Planing Mills	-611.	-677.	-880.	-901.	-865.	-876.
43	Millwork, Plywood and Other Wood Products	-396.	-484.	-654.	-628.	-585.	-575.
44	Wooden Containers	-4.	0.	-2.	-2.	0.	2.
45	Household Furniture	14.	28.	59.	94.	112.	139.
46	Other Furniture and Fixtures	-25.	-104.	-308.	-415.	-503.	-617.
47	Paper Products	-823.	-984.	-697.	-275.	32.	363.
48	Paperboard	15.	24.	38.	58.	70.	88.
49	Newspaper Printing and Publishing	3.	-1.	-10.	-17.	-24.	-36.
50	Periodical and Book Printing, Publishing	158.	137.	149.	190.	205.	235.
51	Miscellaneous Printing and Publishing	-13.	14.	-15.	-41.	-90.	-164.
52	Industrial Inorganic and Organic Chemicals	556.	651.	1199.	1667.	1988.	2425.
53	Agricultural Chemicals	105.	131.	160.	242.	259.	264.
54	Miscellaneous Chemical Products	238.	138.	180.	229.	272.	336.
55	Plastics Materials and Synthetic Rubber	367.	424.	717.	904.	1037.	1236.

Table A-12. Continued—Net exports, selected historical and projected years, 1963 to 1990

(Million of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
56	Synthetic Fibers	87.	31.	132.	220.	290.	382.
57	Drugs	208.	183.	426.	634.	825.	1121.
58	Cleaning and Toilet Preparations	87.	104.	160.	220.	258.	314.
59	Paints and Allied Products	41.	55.	78.	105.	122.	147.
60	Petroleum Refining and Related Products	-230.	-550.	-1946.	-1321.	-2271.	-2841.
61	Tires and Inner Tubes	55.	-39.	-429.	-664.	-1033.	-1491.
62	Miscellaneous Rubber Products	25.	-60.	-195.	-146.	-279.	-452.
63	Plastic Products	59.	60.	-8.	-48.	-113.	-210.
64	Leather Tanning and Industrial Leather	-18.	-59.	-61.	-58.	-52.	-48.
65	Footwear and Other Leather Products	-183.	-429.	-992.	-1490.	-2047.	-2892.
66	Glass	-12.	-38.	-100.	-35.	36.	141.
67	Cement and Concrete Products	-18.	-16.	-102.	-113.	-119.	-131.
68	Structural Clay Products	-13.	-3.	-37.	-24.	-24.	-26.
69	Pottery and Related Products	-101.	-186.	-272.	-308.	-340.	-394.
70	Miscellaneous Stone and Clay Products	18.	-15.	2.	35.	57.	86.
71	Blast Furnaces and Basic Steel Products	-461.	-1612.	-2282.	-2760.	-3224.	-3938.
72	Iron and Steel Foundries and Forgings	45.	67.	127.	245.	309.	397.
73	Primary Copper and Copper Products	-31.	-719.	-253.	-241.	-155.	-84.
74	Primary Aluminum and Aluminum Products	-81.	-95.	67.	124.	176.	243.
75	Other Primary Nonferrous Products	-595.	-1039.	-1093.	-1137.	-1123.	-1172.
76	Metal Containers	25.	12.	-0.	-0.	-2.	-2.
77	Heating Apparatus and Plumbing Fixtures	44.	24.	66.	74.	81.	93.
78	Fabricated Structural Metal	295.	240.	313.	444.	482.	554.
79	Screw Machine Products	-19.	-41.	-139.	-199.	-262.	-356.
80	Metal Stampings	20.	212.	478.	752.	928.	1174.
81	Cutlery, Hand Tools and General Hardware	40.	7.	-85.	-94.	-104.	-120.
82	Other Fabricated Products	77.	79.	-253.	-385.	-584.	-876.
83	Engines, Turbines and Generators	400.	373.	643.	797.	856.	957.
84	Farm Machinery	168.	98.	13.	166.	215.	322.
85	Construction Mining and Oilfield Machinery	1374.	1479.	2113.	2971.	3756.	5034.
86	Material Handling Equipment	121.	131.	217.	236.	239.	238.
87	Metal Working Machinery	516.	164.	336.	486.	620.	830.
88	Special Industry Machines	646.	465.	657.	887.	1033.	1295.
89	General Industrial Machinery	464.	458.	227.	267.	194.	104.
90	Machine Shop Products	0.	82.	104.	128.	136.	153.
91	Computers and Peripheral Equipment	212.	415.	1565.	2734.	3781.	5367.
92	Typewriters and Other Office Equipment	21.	41.	-469.	-791.	-1087.	-1480.
93	Service Industry Machines	252.	384.	596.	811.	904.	1007.
94	Electric Transmission Equipment	169.	136.	431.	610.	729.	899.
95	Electrical Industrial Apparatus	190.	229.	302.	379.	408.	452.
96	Household Appliances	62.	-17.	-261.	-267.	-373.	-532.
97	Electric Lighting and Wiring	32.	82.	-62.	-135.	-249.	-424.
98	Radio and Tv Receiving Sets	-145.	-498.	-2124.	-3385.	-4231.	-5477.
99	Telephone and Telegraph Apparatus	17.	10.	-24.	2.	16.	41.
100	Radio and Communication Equipment	267.	323.	215.	288.	228.	111.
101	Electronic Components	128.	179.	521.	1173.	1575.	2185.
102	Miscellaneous Electrical Products	34.	59.	-27.	-65.	-183.	-374.
103	Motor Vehicles	1135.	-611.	-5340.	-6143.	-6528.	-8209.
104	Aircraft	1100.	1743.	3427.	5448.	6658.	8218.
105	Ship and Boat Building and Repair	21.	-7.	115.	177.	236.	310.
106	Railroad Equipment	179.	151.	166.	158.	141.	110.
107	Cycles, Bicycles and Parts	-119.	-212.	-878.	-1182.	-1719.	-2108.
108	Other Transportation Equipment	8.	-23.	-14.	-5.	-6.	-11.
109	Scientific and Controlling Instruments	387.	465.	399.	431.	370.	283.
110	Medical and Dental Instruments	86.	92.	154.	218.	244.	277.
111	Optical and Ophthalmic Equipment	-34.	-78.	-200.	-271.	-356.	-490.
112	Photographic Equipment and Supplies	64.	121.	249.	450.	648.	990.
113	Watches, Clocks and Clock Operated Devices	-113.	-205.	-343.	-409.	-467.	-562.
114	Jewelry and Silverware	-191.	-267.	-241.	-229.	-205.	-171.
115	Musical Instruments and Sporting Goods	-148.	-271.	-570.	-768.	-971.	-1280.

Table A-12. Continued—Net exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
116	Other Miscellaneous Manufactured Products	-76.	-208.	-297.	-280.	-269.	-249.
117	Railroad Transportation	766.	867.	1473.	2030.	2417.	2979.
119	Truck Transportation	761.	753.	1238.	1655.	1996.	2481.
120	Water Transportation	1952.	2014.	3255.	3717.	4132.	4827.
121	Air Transportation	-94.	100.	120.	476.	897.	1722.
122	Pipeline Transportation	40.	62.	107.	145.	171.	208.
123	Transportation Services	170.	38.	55.	67.	78.	94.
124	Communications Except Radio and Tv	52.	150.	239.	328.	382.	463.
125	Radio and Tv Broadcasting	44.	0.	0.	0.	0.	0.
126	Electric Utilities	16.	10.	-60.	-42.	-42.	-41.
127	Gas Utilities	-119.	-115.	-230.	-194.	-146.	-130.
128	Water and Sanitary Services	4.	6.	7.	10.	11.	13.
129	Wholesale Trade	3799.	5284.	8874.	11357.	13185.	15970.
130	Retail Trade	34.	66.	95.	132.	156.	191.
131	Banking	2.	66.	120.	164.	191.	232.
132	Credit Agencies and Financial Brokers	12.	0.	0.	0.	0.	0.
133	Insurance	100.	166.	381.	545.	700.	934.
135	Real Estate	588.	693.	997.	1317.	1516.	1826.
136	Hotels and Lodging Places	0.	3.	4.	5.	6.	7.
137	Personal and Repair Services	5.	1.	1.	1.	1.	1.
139	Miscellaneous Business Services	44.	121.	192.	273.	334.	434.
140	Advertising	25.	39.	49.	83.	100.	124.
141	Miscellaneous Professional Services	297.	445.	520.	721.	836.	1012.
143	Motion Pictures	494.	390.	548.	605.	643.	728.
144	Amusement and Recreation Services	0.	14.	19.	26.	30.	36.
148	Educational Services	61.	0.	0.	0.	0.	0.
150	Post Office	44.	25.	16.	14.	12.	11.
152	Other Federal Enterprises	95.	108.	85.	80.	73.	71.
155	Directly Allocated Imports	-11412.	-14140.	-14624.	-14867.	-16759.	-19857.
156	Business Travel, Entertainment, and Gifts	-343.	-432.	-468.	-496.	-496.	-527.
158	Scrap, Used, and Secondhand	-250.	-408.	278.	946.	1511.	2241.
160	Rest of World Industry	5218.	8859.	10183.	11062.	11840.	14277.

Table A-13. Exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	15.	16.	20.	22.	34.	37.
2	Meat and Livestock Products	49.	59.	213.	283.	359.	463.
3	Cotton	495.	437.	617.	827.	947.	1135.
4	Food and Feed Grains	2024.	1869.	4618.	3802.	3926.	4284.
5	Other Agricultural Products	1050.	1288.	2791.	3046.	3370.	3557.
6	Forestry and Fishery Products	89.	92.	89.	98.	96.	100.
7	Agricultural, Forestry and Fishery Services	16.	19.	21.	21.	22.	24.
8	Iron and Ferroalloy Mining	141.	131.	182.	206.	219.	249.
9	Copper Ore Mining	0.	33.	32.	45.	54.	67.
10	Other Nonferrous Ore Mining	1.	12.	30.	35.	38.	44.
11	Coal Mining	568.	509.	559.	595.	691.	902.
12	Crude Petroleum and Natural Gas	15.	95.	11.	12.	12.	13.
13	Stone and Clay Mining and Quarrying	50.	100.	168.	253.	302.	374.
14	Chemical and Fertilizer Minerals Mining	62.	123.	141.	200.	229.	275.
16	New Nonresidential Building Construction	4.	22.	26.	41.	49.	61.
19	All Other New Construction	0.	0.	0.	1.	1.	1.
22	Ordnance	292.	334.	472.	1119.	1122.	1126.
23	Complete Guided Missiles	0.	17.	15.	310.	311.	312.
24	Meat Products	448.	348.	499.	435.	496.	587.
25	Dairy Products	274.	133.	114.	99.	95.	97.
26	Canned and Frozen Foods	288.	294.	443.	457.	493.	565.
27	Grain Mill Products	490.	552.	563.	659.	674.	737.
28	Bakery Products	7.	7.	6.	8.	9.	10.
29	Sugar	5.	9.	19.	29.	37.	49.
30	Confectionary Products	26.	35.	54.	65.	74.	89.
31	Alcoholic Beverages	19.	29.	52.	74.	97.	129.
32	Soft Drinks and Flavorings	37.	40.	74.	111.	137.	173.
33	Miscellaneous Food Products	699.	824.	1037.	1381.	1562.	1856.
34	Tobacco Manufacturers	709.	719.	904.	996.	1063.	1207.
35	Fabrics, Yarn and Thread Mills	352.	287.	539.	740.	888.	1102.
36	Floor Coverings	1.	17.	60.	91.	121.	163.
37	Miscellaneous Textile Goods	33.	82.	171.	225.	289.	368.
38	Hosiery and Knit Goods	18.	27.	35.	48.	54.	65.
39	Apparel	172.	166.	250.	380.	483.	636.
40	Miscellaneous Fabricated Textile Products	42.	82.	141.	233.	316.	436.
41	Logging	141.	302.	527.	698.	842.	1048.
42	Sawmills and Planing Mills	170.	214.	318.	393.	452.	545.
43	Millwork, Plywood and Other Wood Products	45.	60.	118.	195.	241.	305.
44	Wooden Containers	3.	4.	2.	3.	5.	6.
45	Household Furniture	14.	28.	60.	94.	113.	139.
46	Other Furniture and Fixtures	27.	23.	35.	45.	52.	63.
47	Paper Products	579.	720.	1163.	1674.	1964.	2399.
48	Paperboard	29.	28.	45.	66.	78.	97.
49	Newspaper Printing and Publishing	5.	4.	2.	2.	2.	2.
50	Periodical and Book Printing, Publishing	244.	247.	291.	353.	381.	437.
51	Miscellaneous Printing and Publishing	0.	47.	61.	82.	89.	100.
52	Industrial Inorganic and Organic Chemicals	858.	1230.	2329.	3182.	3844.	4791.
53	Agricultural Chemicals	144.	200.	364.	557.	695.	885.
54	Miscellaneous Chemical Products	323.	275.	339.	403.	450.	529.
55	Plastics Materials and Synthetic Rubber	386.	472.	868.	1132.	1346.	1660.

Table A-13. Continued—Exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
56	Synthetic Fibers	144.	127.	298.	430.	535.	680.
57	Drugs	276.	319.	751.	1103.	1437.	1948.
58	Cleaning and Toilet Preparations	104.	132.	211.	285.	335.	409.
59	Paints and Allied Products	42.	56.	80.	107.	123.	149.
60	Petroleum Refining and Related Products	826.	759.	925.	1087.	1146.	1287.
61	Tires and Inner Tubes	91.	75.	130.	290.	331.	397.
62	Miscellaneous Rubber Products	141.	121.	182.	229.	261.	312.
63	Plastic Products	107.	160.	355.	498.	629.	827.
64	Leather Tanning and Industrial Leather	69.	60.	68.	84.	94.	110.
65	Footwear and Other Leather Products	26.	24.	46.	80.	92.	111.
66	Glass	143.	186.	262.	389.	500.	675.
67	Cement and Concrete Products	6.	13.	17.	22.	26.	32.
68	Structural Clay Products	30.	35.	43.	67.	73.	84.
69	Pottery and Related Products	27.	28.	34.	54.	59.	69.
70	Miscellaneous Stone and Clay Products	115.	145.	207.	268.	305.	363.
71	Blast Furnaces and Basic Steel Products	652.	553.	909.	1243.	1412.	1684.
72	Iron and Steel Foundries and Forgings	68.	115.	189.	316.	383.	479.
73	Primary Copper and Copper Products	412.	289.	377.	352.	381.	435.
74	Primary Aluminum and Aluminum Products	158.	246.	349.	431.	496.	597.
75	Other Primary Nonferrous Products	180.	308.	290.	347.	380.	442.
76	Metal Containers	37.	20.	22.	25.	24.	26.
77	Heating Apparatus and Plumbing Fixtures	51.	58.	85.	97.	108.	126.
78	Fabricated Structural Metal	295.	288.	391.	536.	582.	669.
79	Screw Machine Products	43.	73.	95.	123.	141.	170.
80	Metal Stampings	25.	275.	511.	789.	969.	1221.
81	Cutlery, Hand Tools and General Hardware	164.	167.	245.	310.	356.	427.
82	Other Fabricated Products	205.	367.	521.	708.	819.	990.
83	Engines, Turbines and Generators	439.	489.	898.	1166.	1337.	1606.
84	Farm Machinery	409.	499.	579.	831.	952.	1155.
85	Construction Mining and Oilfield Machinery	1408.	1606.	2400.	3392.	4317.	5798.
86	Material Handling Equipment	136.	163.	316.	411.	490.	604.
87	Metal Working Machinery	607.	571.	717.	930.	1107.	1377.
88	Special Industry Machines	830.	972.	1456.	1829.	2078.	2479.
89	General Industrial Machinery	528.	762.	990.	1306.	1485.	1773.
90	Machine Shop Products	0.	85.	104.	128.	136.	153.
91	Computers and Peripheral Equipment	284.	599.	1866.	3096.	4193.	5842.
92	Typewriters and Other Office Equipment	76.	134.	157.	214.	266.	347.
93	Service Industry Machines	255.	402.	687.	995.	1186.	1465.
94	Electric Transmission Equipment	197.	287.	496.	687.	814.	996.
95	Electrical Industrial Apparatus	241.	339.	498.	651.	752.	902.
96	Household Appliances	150.	163.	288.	547.	716.	970.
97	Electric Lighting and Wiring	111.	202.	316.	427.	504.	617.
98	Radio and Tv Receiving Sets	78.	93.	307.	433.	540.	687.
99	Telephone and Telegraph Apparatus	42.	57.	108.	196.	276.	399.
100	Radio and Communication Equipment	326.	520.	664.	948.	1105.	1313.
101	Electronic Components	188.	356.	1546.	2739.	3674.	5095.
102	Miscellaneous Electrical Products	110.	199.	365.	539.	650.	810.
103	Motor Vehicles	1865.	2352.	4363.	6044.	7224.	8928.
104	Aircraft	1229.	2128.	4181.	6461.	7902.	9809.
105	Ship and Boat Building and Repair	35.	65.	171.	243.	308.	392.
106	Railroad Equipment	181.	160.	198.	220.	247.	291.
107	Cycles, Bicycles and Parts	2.	5.	10.	14.	17.	21.
108	Other Transportation Equipment	13.	26.	86.	132.	167.	214.
109	Scientific and Controlling Instruments	424.	542.	687.	874.	982.	1152.
110	Medical and Dental Instruments	99.	120.	241.	348.	420.	524.
111	Optical and Ophthalmic Equipment	24.	40.	100.	154.	192.	242.
112	Photographic Equipment and Supplies	164.	283.	693.	1095.	1497.	2146.
113	Watches, Clocks and Clock Operated Devices	6.	13.	26.	66.	97.	136.
114	Jewelry and Silverware	117.	144.	356.	464.	562.	701.
115	Musical Instruments and Sporting Goods	69.	91.	243.	350.	431.	545.

Table A-13. Continued—Exports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
116	Other Miscellaneous Manufactured Products	67.	158.	277.	393.	475.	592.
117	Railroad Transportation	802.	894.	1505.	2062.	2448.	3010.
119	Truck Transportation	761.	753.	1238.	1655.	1996.	2481.
120	Water Transportation	1928.	1927.	2847.	3119.	3426.	3976.
121	Air Transportation	313.	789.	1302.	1954.	2583.	3723.
122	Pipeline Transportation	40.	62.	107.	145.	171.	208.
123	Transportation Services	170.	38.	55.	67.	78.	94.
124	Communications Except Radio and Tv	52.	150.	239.	328.	382.	463.
125	Radio and Tv Broadcasting	44.	0.	0.	0.	0.	0.
126	Electric Utilities	24.	29.	34.	67.	77.	94.
127	Gas Utilities	12.	53.	54.	87.	103.	127.
128	Water and Sanitary Services	4.	6.	7.	10.	11.	13.
129	Wholesale Trade	2279.	2947.	4870.	6466.	7648.	9395.
130	Retail Trade	34.	66.	95.	132.	156.	191.
131	Banking	2.	66.	120.	164.	191.	232.
132	Credit Agencies and Financial Brokers	12.	0.	0.	0.	0.	0.
133	Insurance	47.	24.	35.	48.	56.	68.
135	Real Estate	588.	693.	997.	1317.	1516.	1826.
136	Hotels and Lodging Places	0.	3.	4.	5.	6.	7.
137	Personal and Repair Services	5.	1.	1.	1.	1.	1.
139	Miscellaneous Business Services	44.	121.	192.	273.	334.	434.
140	Advertising	25.	39.	49.	83.	100.	124.
141	Miscellaneous Professional Services	297.	445.	520.	721.	836.	1012.
143	Motion Pictures	494.	390.	548.	605.	643.	728.
144	Amusement and Recreation Services	0.	14.	19.	26.	30.	36.
148	Educational Services	61.	0.	0.	0.	0.	0.
150	Post Office	44.	25.	16.	14.	12.	11.
152	Other Federal Enterprises	95.	108.	85.	80.	73.	71.
155	Directly Allocated Imports	388.	484.	927.	1022.	1207.	1495.
158	Scrap, Used, and Secondhand	356.	721.	1467.	2263.	2883.	3720.
160	Rest of World Industry	6698.	11128.	14625.	19870.	24004.	30419.

Table A-14. Imports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	-2.	-0.	-2.	-1.	-1.	-1.
2	Meat and Livestock Products	-330.	-343.	-336.	-342.	-342.	-364.
3	Cotton	-31.	-36.	-4.	-5.	-5.	-6.
4	Food and Feed Grains	-52.	-37.	-38.	-34.	-29.	-28.
5	Other Agricultural Products	-493.	-683.	-788.	-859.	-880.	-956.
6	Forestry and Fishery Products	-778.	-885.	-957.	-1031.	-957.	-994.
7	Agricultural, Forestry and Fishery Services	0.	-7.	-6.	-7.	-8.	-8.
8	Iron and Ferroalloy Mining	-614.	-719.	-569.	-595.	-588.	-618.
9	Copper Ore Mining	-19.	-48.	-18.	-21.	-22.	-25.
10	Other Nonferrous Ore Mining	-475.	-403.	-842.	-902.	-909.	-968.
11	Coal Mining	-4.	-4.	-1.	-2.	-2.	-2.
12	Crude Petroleum and Natural Gas	-1629.	-1484.	-3613.	-7148.	-7798.	-9505.
13	Stone and Clay Mining and Quarrying	-153.	-164.	-356.	-416.	-460.	-519.
14	Chemical and Fertilizer Minerals Mining	-97.	-85.	-227.	-267.	-296.	-334.
22	Ordnance	-30.	-123.	-98.	-92.	-91.	-102.
24	Meat Products	-950.	-1133.	-1333.	-1731.	-1618.	-2056.
25	Dairy Products	-77.	-119.	-281.	-366.	-438.	-545.
26	Canned and Frozen Foods	-304.	-412.	-517.	-587.	-626.	-704.
27	Grain Mill Products	-41.	-46.	-67.	-75.	-78.	-86.
28	Bakery Products	-13.	-28.	-42.	-49.	-53.	-59.
29	Sugar	-1168.	-1081.	-1012.	-862.	-752.	-717.
30	Confectionary Products	-85.	-108.	-154.	-165.	-167.	-176.
31	Alcoholic Beverages	-480.	-719.	-904.	-988.	-1016.	-1093.
32	Soft Drinks and Flavorings	-0.	-12.	-20.	-24.	-26.	-31.
33	Miscellaneous Food Products	-193.	-406.	-363.	-396.	-407.	-435.
34	Tobacco Manufacturers	-125.	-42.	-30.	-26.	-22.	-20.
35	Fabrics, Yarn and Thread Mills	-498.	-635.	-828.	-869.	-856.	-894.
36	Floor Coverings	-54.	-60.	-118.	-148.	-168.	-199.
37	Miscellaneous Textile Goods	-538.	-481.	-409.	-335.	-290.	-269.
38	Hosiery and Knit Goods	-14.	-24.	-126.	-146.	-161.	-180.
39	Apparel	-601.	-1029.	-2330.	-3065.	-3488.	-4229.
40	Miscellaneous Fabricated Textile Products	-39.	-73.	-119.	-152.	-178.	-220.
41	Logging	-55.	-63.	-22.	-23.	-23.	-24.
42	Sawmills and Planing Mills	-781.	-891.	-1198.	-1294.	-1317.	-1421.
43	Millwork, Plywood and Other Wood Products	-441.	-544.	-772.	-824.	-826.	-880.
44	Wooden Containers	-7.	-4.	-5.	-5.	-4.	-4.
46	Other Furniture and Fixtures	-52.	-127.	-344.	-460.	-555.	-680.
47	Paper Products	-1402.	-1703.	-1860.	-1948.	-1932.	-2036.
48	Paperboard	-15.	-3.	-6.	-7.	-8.	-9.
49	Newspaper Printing and Publishing	-2.	-5.	-12.	-19.	-26.	-38.
50	Periodical and Book Printing, Publishing	-86.	-110.	-142.	-163.	-176.	-202.
51	Miscellaneous Printing and Publishing	-13.	-33.	-76.	-124.	-178.	-264.
52	Industrial Inorganic and Organic Chemicals	-302.	-579.	-1131.	-1515.	-1856.	-2366.
53	Agricultural Chemicals	-39.	-69.	-204.	-315.	-436.	-621.
54	Miscellaneous Chemical Products	-85.	-137.	-159.	-174.	-178.	-194.
55	Plastics Materials and Synthetic Rubber	-19.	-48.	-151.	-228.	-309.	-425.
56	Synthetic Fibers	-57.	-97.	-167.	-210.	-245.	-298.
57	Drugs	-69.	-136.	-325.	-469.	-612.	-827.
58	Cleaning and Toilet Preparations	-17.	-28.	-51.	-66.	-78.	-95.
59	Paints and Allied Products	-1.	-1.	-2.	-2.	-2.	-2.

Table A-14. Continued—Imports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
60	Petroleum Refining and Related Products	-1056.	-1309.	-2871.	-2408.	-3417.	-4127.
61	Tires and Inner Tubes	-36.	-114.	-558.	-954.	-1364.	-1887.
62	Miscellaneous Rubber Products	-116.	-181.	-377.	-375.	-540.	-764.
63	Plastic Products	-47.	-100.	-363.	-547.	-741.	-1037.
64	Leather Tanning and Industrial Leather	-87.	-119.	-129.	-142.	-145.	-158.
65	Footwear and Other Leather Products	-209.	-453.	-1037.	-1571.	-2140.	-3003.
66	Glass	-155.	-223.	-362.	-424.	-464.	-534.
67	Cement and Concrete Products	-24.	-29.	-119.	-136.	-145.	-163.
68	Structural Clay Products	-43.	-39.	-80.	-91.	-97.	-109.
69	Pottery and Related Products	-128.	-214.	-306.	-362.	-399.	-462.
70	Miscellaneous Stone and Clay Products	-97.	-161.	-206.	-233.	-248.	-278.
71	Blast Furnaces and Basic Steel Products	-1112.	-2166.	-3192.	-4003.	-4637.	-5622.
72	Iron and Steel Foundries and Forgings	-23.	-48.	-63.	-70.	-74.	-82.
73	Primary Copper and Copper Products	-443.	-1008.	-630.	-593.	-536.	-519.
74	Primary Aluminum and Aluminum Products	-239.	-340.	-282.	-306.	-320.	-354.
75	Other Primary Nonferrous Products	-775.	-1347.	-1383.	-1484.	-1503.	-1614.
76	Metal Containers	-12.	-9.	-23.	-25.	-26.	-29.
77	Heating Apparatus and Plumbing Fixtures	-7.	-34.	-19.	-24.	-27.	-32.
78	Fabricated Structural Metal	0.	-48.	-79.	-92.	-100.	-115.
79	Screw Machine Products	-62.	-114.	-234.	-322.	-404.	-526.
80	Metal Stampings	-5.	-63.	-32.	-38.	-41.	-47.
81	Cutlery, Hand Tools and General Hardware	-124.	-160.	-330.	-404.	-459.	-547.
82	Other Fabricated Products	-128.	-288.	-774.	-1094.	-1403.	-1866.
83	Engines, Turbines and Generators	-39.	-116.	-256.	-368.	-480.	-648.
84	Farm Machinery	-241.	-401.	-566.	-665.	-737.	-834.
85	Construction Mining and Oilfield Machinery	-35.	-127.	-288.	-422.	-561.	-764.
86	Material Handling Equipment	-15.	-32.	-99.	-176.	-251.	-366.
87	Metal Working Machinery	-91.	-407.	-381.	-444.	-487.	-547.
88	Special Industry Machines	-184.	-507.	-799.	-941.	-1045.	-1184.
89	General Industrial Machinery	-65.	-304.	-763.	-1039.	-1291.	-1669.
90	Machine Shop Products	0.	-3.	0.	0.	0.	0.
91	Computers and Peripheral Equipment	-72.	-184.	-301.	-362.	-412.	-476.
92	Typewriters and Other Office Equipment	-55.	-93.	-626.	-1005.	-1353.	-1827.
93	Service Industry Machines	-3.	-18.	-91.	-184.	-282.	-458.
94	Electric Transmission Equipment	-28.	-152.	-66.	-77.	-86.	-97.
95	Electrical Industrial Apparatus	-51.	-110.	-197.	-272.	-344.	-450.
96	Household Appliances	-88.	-180.	-549.	-814.	-1088.	-1503.
97	Electric Lighting and Wiring	-79.	-120.	-378.	-562.	-753.	-1042.
98	Radio and Tv Receiving Sets	-223.	-591.	-2432.	-3818.	-4771.	-6164.
99	Telephone and Telegraph Apparatus	-25.	-47.	-132.	-195.	-260.	-358.
100	Radio and Communication Equipment	-59.	-198.	-449.	-660.	-876.	-1202.
101	Electronic Components	-61.	-178.	-1025.	-1566.	-2098.	-2910.
102	Miscellaneous Electrical Products	-75.	-140.	-392.	-604.	-833.	-1184.
103	Motor Vehicles	-731.	-2963.	-9703.	-12187.	-13752.	-17137.
104	Aircraft	-129.	-385.	-754.	-1013.	-1244.	-1591.
105	Ship and Boat Building and Repair	-14.	-73.	-57.	-66.	-72.	-81.
106	Railroad Equipment	-2.	-9.	-32.	-62.	-106.	-181.
107	Cycles, Bicycles and Parts	-121.	-217.	-888.	-1195.	-1736.	-2129.
108	Other Transportation Equipment	-6.	-49.	-100.	-138.	-173.	-225.
109	Scientific and Controlling Instruments	-37.	-77.	-288.	-443.	-612.	-869.
110	Medical and Dental Instruments	-13.	-28.	-86.	-130.	-176.	-247.
111	Optical and Ophthalmic Equipment	-58.	-118.	-300.	-426.	-549.	-732.
112	Photographic Equipment and Supplies	-100.	-163.	-443.	-645.	-849.	-1156.
113	Watches, Clocks and Clock Operated Devices	-119.	-218.	-369.	-476.	-564.	-698.
114	Jewelry and Silverware	-309.	-410.	-596.	-693.	-766.	-872.
115	Musical Instruments and Sporting Goods	-217.	-362.	-813.	-1118.	-1402.	-1826.
116	Other Miscellaneous Manufactured Products	-143.	-366.	-574.	-673.	-744.	-841.
117	Railroad Transportation	-35.	-27.	-32.	-32.	-30.	-30.
120	Water Transportation	24.	87.	408.	598.	706.	850.
121	Air Transportation	-406.	-688.	-1183.	-1478.	-1686.	-2001.

Table A-14. Continued—Imports, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
126	Electric Utilities	-9.	-19.	-94.	-109.	-120.	-135.
127	Gas Utilities	-131.	-168.	-284.	-281.	-249.	-256.
129	Wholesale Trade	1520.	2336.	4004.	4891.	5537.	6575.
133	Insurance	53.	142.	346.	496.	644.	866.
155	Directly Allocated Imports	-11799.	-14625.	-15551.	-15889.	-17966.	-21353.
156	Business Travel, Entertainment, and Gifts	-343.	-432.	-468.	-496.	-496.	-527.
158	Scrap, Used, and Secondhand	-606.	-1129.	-1189.	-1317.	-1372.	-1479.
160	Rest of World Industry	-1480.	-2269.	-4442.	-8807.	-12164.	-16142.

Table A-15. Government purchases, selected historical and projected years, 1963-to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	18.	27.	80.	85.	89.	94.
2	Meat and Livestock Products	5.	9.	13.	17.	19.	20.
3	Cotton	488.	-881.	-61.	31.	41.	41.
4	Food and Feed Grains	-537.	-541.	-3586.	-605.	10.	67.
5	Other Agricultural Products	-81.	403.	373.	234.	246.	252.
6	Forestry and Fishery Products	-737.	-811.	-524.	-688.	-671.	-658.
7	Agricultural, Forestry and Fishery Services	39.	49.	47.	62.	63.	59.
8	Iron and Ferroalloy Mining	7.	-70.	-1.	0.	0.	0.
10	Other Nonferrous Ore Mining	386.	157.	14.	111.	124.	128.
11	Coal Mining	85.	100.	81.	79.	79.	80.
12	Crude Petroleum and Natural Gas	0.	11.	29.	85.	138.	156.
13	Stone and Clay Mining and Quarrying	-54.	-52.	-29.	-68.	-63.	-63.
14	Chemical and Fertilizer Minerals Mining	37.	41.	28.	51.	46.	47.
15	New and Residential Buildings Construction	1245.	1686.	1393.	1401.	1360.	1237.
16	New Nonresidential Building Construction	9663.	12920.	11226.	12036.	10777.	9776.
17	New Public Utility Construction	3625.	4621.	4500.	5197.	5552.	5794.
18	New Highway Construction	10938.	11675.	9540.	8343.	8337.	8348.
19	All Other New Construction	4933.	4510.	3934.	3972.	4198.	3968.
21	Maintenance and Repair Construction	7178.	7875.	7151.	9050.	9659.	9951.
22	Ordnance	1933.	4731.	3288.	2471.	2645.	2779.
23	Complete Guided Missiles	5557.	5132.	2414.	2664.	2807.	3159.
24	Meat Products	300.	414.	829.	955.	1036.	1125.
25	Dairy Products	278.	777.	910.	427.	496.	556.
26	Canned and Frozen Foods	104.	179.	374.	405.	440.	473.
27	Grain Mill Products	28.	97.	58.	100.	113.	110.
28	Bakery Products	54.	84.	184.	204.	219.	232.
29	Sugar	6.	8.	16.	10.	10.	10.
30	Confectionary Products	7.	12.	26.	33.	35.	37.
31	Alcoholic Beverages	2.	0.	0.	0.	0.	0.
32	Soft Drinks and Flavorings	31.	44.	107.	109.	121.	138.
33	Miscellaneous Food Products	98.	110.	184.	200.	229.	249.
34	Tobacco Manufacturers	-1.	-1.	-2.	-3.	-4.	-4.
35	Fabrics, Yarn and Thread Mills	69.	120.	140.	168.	168.	175.
36	Floor Coverings	5.	10.	9.	15.	16.	18.
37	Miscellaneous Textile Goods	8.	13.	8.	12.	13.	13.
38	Hosiery and Knit Goods	0.	0.	14.	15.	14.	15.
39	Apparel	162.	227.	333.	415.	447.	462.
40	Miscellaneous Fabricated Textile Products	96.	392.	116.	134.	138.	143.
42	Sawmills and Planing Mills	0.	3.	13.	16.	15.	16.
43	Millwork, Plywood and Other Wood Products	12.	47.	34.	34.	36.	36.
44	Wooden Containers	6.	33.	14.	27.	27.	36.
45	Household Furniture	47.	126.	146.	165.	169.	162.
46	Other Furniture and Fixtures	304.	528.	748.	992.	924.	864.
47	Paper Products	210.	382.	512.	594.	614.	614.
48	Paperboard	32.	70.	58.	67.	69.	70.
49	Newspaper Printing and Publishing	3.	8.	10.	12.	10.	9.
50	Periodical and Book Printing, Publishing	588.	894.	1189.	1887.	1646.	1450.
51	Miscellaneous Printing and Publishing	274.	435.	670.	943.	1013.	1083.
52	Industrial Inorganic and Organic Chemicals	1142.	1013.	604.	916.	1088.	1232.
53	Agricultural Chemicals	85.	192.	131.	163.	164.	157.

Table A-15. Continued—Government purchases, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
54	Miscellaneous Chemical Products	168.	876.	509.	630.	744.	884.
55	Plastics Materials and Synthetic Rubber	21.	-5.	-27.	16.	15.	16.
56	Synthetic Fibers	17.	31.	8.	36.	44.	55.
57	Drugs	376.	656.	1229.	2017.	2586.	3153.
58	Cleaning and Toilet Preparations	137.	262.	375.	487.	470.	445.
59	Paints and Allied Products	37.	-46.	40.	147.	149.	148.
60	Petroleum Refining and Related Products	1081.	1634.	1732.	1829.	1784.	1892.
61	Tires and Inner Tubes	127.	212.	215.	276.	293.	290.
62	Miscellaneous Rubber Products	100.	346.	173.	310.	331.	362.
63	Plastic Products	57.	115.	98.	118.	125.	132.
64	Leather Tanning and Industrial Leather	1.	10.	15.	18.	17.	26.
65	Footwear and Other Leather Products	9.	24.	46.	53.	54.	56.
66	Glass	64.	100.	142.	204.	224.	244.
67	Cement and Concrete Products	-0.	1.	6.	0.	-0.	-0.
68	Structural Clay Products	-0.	-0.	-0.	-1.	-1.	-1.
69	Pottery and Related Products	10.	19.	27.	34.	33.	32.
70	Miscellaneous Stone and Clay Products	27.	31.	22.	22.	22.	22.
71	Blast Furnaces and Basic Steel Products	61.	282.	59.	75.	81.	87.
72	Iron and Steel Foundries and Forgings	6.	87.	11.	11.	11.	11.
73	Primary Copper and Copper Products	140.	104.	106.	97.	115.	126.
74	Primary Aluminum and Aluminum Products	25.	64.	134.	157.	180.	206.
75	Other Primary Nonferrous Products	-232.	-198.	-201.	8.	9.	9.
76	Metal Containers	9.	16.	12.	7.	7.	8.
77	Heating Apparatus and Plumbing Fixtures	5.	8.	11.	15.	14.	15.
78	Fabricated Structural Metal	81.	265.	366.	334.	370.	410.
79	Screw Machine Products	25.	180.	90.	94.	114.	126.
80	Metal Stampings	21.	39.	38.	39.	17.	3.
81	Cutlery, Hand Tools and General Hardware	43.	137.	145.	203.	213.	218.
82	Other Fabricated Products	32.	248.	193.	197.	206.	237.
83	Engines, Turbines and Generators	267.	557.	214.	198.	238.	256.
84	Farm Machinery	45.	75.	74.	95.	92.	89.
85	Construction Mining and Oilfield Machinery	342.	542.	248.	332.	428.	495.
86	Material Handling Equipment	100.	133.	126.	124.	131.	146.
87	Metal Working Machinery	156.	242.	208.	237.	253.	269.
88	Special Industry Machines	37.	78.	69.	79.	85.	82.
89	General Industrial Machinery	359.	400.	388.	412.	461.	508.
90	Machine Shop Products	163.	289.	303.	403.	359.	332.
91	Computers and Peripheral Equipment	497.	485.	733.	1033.	1268.	1407.
92	Typewriters and Other Office Equipment	188.	353.	450.	539.	575.	562.
93	Service Industry Machines	147.	276.	336.	496.	522.	548.
94	Electric Transmission Equipment	344.	491.	443.	581.	657.	765.
95	Electrical Industrial Apparatus	299.	540.	457.	549.	502.	665.
96	Household Appliances	32.	50.	72.	100.	103.	105.
97	Electric Lighting and Wiring	66.	158.	222.	260.	237.	215.
98	Radio and Tv Receiving Sets	95.	152.	179.	220.	233.	234.
99	Telephone and Telegraph Apparatus	174.	251.	141.	199.	225.	248.
100	Radio and Communication Equipment	5821.	6744.	5233.	5953.	5784.	6232.
101	Electronic Components	390.	697.	468.	594.	690.	771.
102	Miscellaneous Electrical Products	188.	317.	271.	462.	584.	625.
103	Motor Vehicles	1709.	2353.	2112.	2744.	2817.	3018.
104	Aircraft	10227.	10260.	6056.	7196.	7555.	8338.
105	Ship and Boat Building and Repair	1491.	1874.	2240.	3209.	2818.	2961.
106	Railroad Equipment	20.	19.	35.	34.	34.	38.
107	Cycles, Bicycles and Parts	7.	9.	11.	12.	13.	13.
108	Other Transportation Equipment	2.	3.	9.	11.	11.	12.
109	Scientific and Controlling Instruments	586.	666.	556.	709.	849.	967.
110	Medical and Dental Instruments	146.	277.	355.	471.	530.	593.
111	Optical and Ophthalmic Equipment	36.	103.	134.	222.	251.	276.
112	Photographic Equipment and Supplies	277.	527.	519.	613.	663.	718.
113	Watches, Clocks and Clock Operated Devices	5.	116.	80.	49.	54.	57.

Table A-15. Continued—Government purchases, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
114	Jewelry and Silverware	4.	11.	19.	24.	21.	18.
115	Musical Instruments and Sporting Goods	72.	94.	186.	252.	233.	212.
116	Other Miscellaneous Manufactured Products	81.	207.	257.	298.	288.	269.
117	Railroad Transportation	296.	592.	393.	410.	430.	439.
118	Local Transit and Intercity Buses	380.	612.	914.	1330.	1212.	1096.
119	Truck Transportation	970.	1975.	1513.	1621.	1676.	1714.
120	Water Transportation	343.	842.	518.	501.	516.	564.
121	Air Transportation	656.	1469.	1091.	1296.	1337.	1384.
122	Pipeline Transportation	18.	29.	66.	60.	69.	73.
124	Communications Except Radio and Tv	805.	1177.	1939.	2932.	3358.	3712.
125	Radio and Tv Broadcasting	4.	10.	21.	26.	20.	15.
126	Electric Utilities	1193.	1832.	2847.	3681.	3299.	3093.
127	Gas Utilities	326.	356.	869.	1220.	1145.	1096.
128	Water and Sanitary Services	18.	107.	116.	80.	20.	-51.
129	Wholesale Trade	1626.	2746.	3275.	3936.	4150.	4448.
130	Retail Trade	-478.	-522.	-1642.	-2561.	-1975.	-1544.
131	Banking	1718.	1696.	2817.	3805.	4556.	4991.
132	Credit Agencies and Financial Brokers	130.	150.	330.	459.	517.	544.
133	Insurance	240.	339.	623.	911.	857.	810.
135	Real Estate	812.	1049.	1939.	2620.	2944.	3132.
136	Hotels and Lodging Places	715.	830.	451.	291.	622.	847.
137	Personal and Repair Services	79.	57.	104.	186.	194.	202.
139	Miscellaneous Business Services	3467.	4171.	5401.	7564.	8611.	9394.
140	Advertising	32.	34.	78.	109.	118.	123.
141	Miscellaneous Professional Services	1003.	1437.	1558.	2016.	2210.	2335.
142	Automobile Repair	174.	263.	365.	525.	547.	560.
143	Motion Pictures	106.	161.	132.	173.	168.	166.
144	Amusement and Recreation Services	64.	-395.	25.	14.	-18.	-33.
145	Doctors' and Dentists' Services	376.	730.	1821.	2751.	2907.	3186.
146	Hospitals	847.	1538.	3192.	4498.	4988.	5725.
147	Other Medical Services	568.	1236.	3170.	4436.	4705.	5106.
148	Educational Services	1683.	2054.	1963.	1599.	1834.	1817.
149	Nonprofit Organizations	706.	941.	744.	912.	1038.	1106.
150	Post Office	403.	706.	916.	1161.	1254.	1330.
152	Other Federal Enterprises	2.	13.	19.	18.	18.	52.
154	Other State and Local Government	43.	39.	57.	596.	747.	762.
155	Directly Allocated Imports	2596.	4029.	3131.	2261.	2152.	2121.
156	Business Travel, Entertainment, and Gifts	0.	0.	4.	3.	3.	3.
157	Office Supplies	485.	630.	770.	1233.	1281.	1264.
158	Scrap, Used, and Secondhand	484.	1224.	745.	277.	509.	687.
159	Government Industry	100378.	122065.	134758.	154298.	162760.	169406.
160	Rest of World Industry	-1162.	-505.	-626.	-1163.	-1090.	-1105.

Table A-16. Federal Government purchases, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	6.	8.	51.	55.	53.	54.
2	Meat and Livestock Products	4.	5.	11.	10.	10.	11.
3	Cotton	488.	-881.	-61.	31.	41.	41.
4	Food and Feed Grains	-546.	-552.	-3602.	-617.	-2.	55.
5	Other Agricultural Products	-144.	318.	246.	64.	66.	71.
6	Forestry and Fishery Products	-742.	-817.	-536.	-703.	-688.	-677.
7	Agricultural, Forestry and Fishery Services	25.	14.	12.	10.	10.	11.
8	Iron and Ferroalloy Mining	7.	-70.	-1.	0.	0.	0.
10	Other Nonferrous Ore Mining	386.	157.	14.	111.	124.	128.
11	Coal Mining	69.	72.	31.	35.	40.	45.
12	Crude Petroleum and Natural Gas	0.	11.	29.	85.	138.	156.
13	Stone and Clay Mining and Quarrying	0.	10.	12.	0.	0.	0.
15	New and Residential Buildings Construction	195.	41.	118.	135.	128.	130.
16	New Nonresidential Building Construction	1734.	1097.	1100.	1771.	1687.	1560.
18	New Highway Construction	290.	340.	250.	190.	166.	144.
19	All Other New Construction	4025.	3064.	3062.	3010.	3177.	2921.
21	Maintenance and Repair Construction	2237.	2405.	1994.	2866.	3046.	3359.
22	Ordnance	1927.	4722.	3277.	2457.	2630.	2764.
23	Complete Guided Missiles	5557.	5132.	2414.	2664.	2807.	3159.
24	Meat Products	136.	178.	426.	461.	454.	456.
25	Dairy Products	194.	667.	753.	198.	207.	217.
26	Canned and Frozen Foods	26.	67.	190.	178.	175.	175.
27	Grain Mill Products	18.	81.	32.	74.	85.	82.
28	Bakery Products	16.	33.	102.	106.	103.	102.
29	Sugar	2.	3.	8.	5.	4.	4.
30	Confectionary Products	1.	4.	14.	17.	16.	17.
31	Alcoholic Beverages	2.	0.	0.	0.	0.	0.
32	Soft Drinks and Flavorings	14.	20.	67.	58.	63.	75.
33	Miscellaneous Food Products	46.	39.	72.	66.	68.	67.
35	Fabrics, Yarn and Thread Mills	40.	83.	36.	42.	40.	39.
36	Floor Coverings	5.	10.	7.	12.	13.	14.
37	Miscellaneous Textile Goods	10.	15.	10.	15.	16.	16.
38	Hosiery and Knit Goods	0.	0.	14.	15.	14.	15.
39	Apparel	103.	168.	165.	167.	179.	177.
40	Miscellaneous Fabricated Textile Products	84.	370.	75.	77.	80.	81.
42	Sawmills and Planing Mills	0.	3.	13.	16.	15.	16.
43	Millwork, Plywood and Other Wood Products	10.	43.	27.	26.	29.	30.
44	Wooden Containers	6.	33.	14.	27.	27.	36.
45	Household Furniture	27.	88.	81.	75.	91.	92.
46	Other Furniture and Fixtures	74.	143.	116.	101.	129.	141.
47	Paper Products	75.	163.	125.	104.	129.	139.
48	Paperboard	14.	42.	15.	15.	16.	18.
49	Newspaper Printing and Publishing	0.	2.	2.	1.	1.	1.
50	Periodical and Book Printing, Publishing	93.	42.	48.	52.	61.	65.
51	Miscellaneous Printing and Publishing	109.	227.	242.	296.	344.	389.
52	Industrial Inorganic and Organic Chemicals	1104.	962.	543.	844.	1004.	1132.
53	Agricultural Chemicals	14.	109.	24.	20.	26.	26.
54	Miscellaneous Chemical Products	158.	836.	487.	608.	717.	854.
55	Plastics Materials and Synthetic Rubber	21.	-5.	-27.	15.	14.	15.
56	Synthetic Fibers	17.	31.	8.	36.	44.	55.

Table A-16. Continued—Federal Government purchases, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
57	Drugs	92.	141.	169.	193.	224.	253.
58	Cleaning and Toilet Preparations	32.	77.	85.	89.	100.	102.
59	Paints and Allied Products	36.	-50.	35.	142.	144.	143.
60	Petroleum Refining and Related Products	840.	1254.	1108.	1295.	1290.	1433.
61	Tires and Inner Tubes	56.	113.	75.	66.	84.	80.
62	Miscellaneous Rubber Products	23.	245.	32.	114.	124.	137.
63	Plastic Products	31.	78.	39.	49.	62.	72.
64	Leather Tanning and Industrial Leather	1.	10.	15.	18.	17.	26.
65	Footwear and Other Leather Products	6.	21.	41.	46.	45.	46.
66	Glass	20.	30.	24.	36.	47.	56.
67	Cement and Concrete Products	0.	1.	6.	0.	0.	0.
69	Pottery and Related Products	1.	3.	2.	2.	3.	3.
70	Miscellaneous Stone and Clay Products	26.	30.	20.	19.	20.	20.
71	Blast Furnaces and Basic Steel Products	58.	279.	55.	70.	74.	80.
72	Iron and Steel Foundries and Forgings	6.	87.	11.	11.	11.	11.
73	Primary Copper and Copper Products	140.	104.	106.	97.	115.	126.
74	Primary Aluminum and Aluminum Products	25.	64.	133.	156.	180.	205.
75	Other Primary Nonferrous Products	-232.	-198.	-201.	8.	9.	9.
76	Metal Containers	9.	16.	12.	7.	7.	8.
77	Heating Apparatus and Plumbing Fixtures	5.	8.	11.	15.	14.	15.
78	Fabricated Structural Metal	81.	265.	366.	334.	370.	410.
79	Screw Machine Products	25.	180.	90.	94.	114.	126.
80	Metal Stampings	20.	25.	12.	14.	16.	17.
81	Cutlery, Hand Tools and General Hardware	25.	92.	84.	101.	115.	128.
82	Other Fabricated Products	38.	253.	197.	205.	218.	250.
83	Engines, Turbines and Generators	263.	547.	207.	184.	223.	240.
84	Farm Machinery	15.	36.	10.	7.	9.	9.
85	Construction Mining and Oilfield Machinery	157.	393.	94.	78.	90.	102.
86	Material Handling Equipment	100.	132.	124.	122.	129.	145.
87	Metal Working Machinery	134.	204.	149.	170.	193.	211.
88	Special Industry Machines	29.	62.	41.	45.	58.	60.
89	General Industrial Machinery	348.	383.	374.	391.	440.	485.
90	Machine Shop Products	74.	143.	50.	80.	87.	101.
91	Computers and Peripheral Equipment	457.	413.	606.	851.	1106.	1262.
92	Typewriters and Other Office Equipment	100.	202.	223.	220.	291.	300.
93	Service Industry Machines	56.	117.	64.	80.	88.	96.
94	Electric Transmission Equipment	285.	434.	306.	434.	506.	590.
95	Electrical Industrial Apparatus	254.	488.	340.	421.	474.	528.
96	Household Appliances	12.	16.	15.	17.	18.	17.
97	Electric Lighting and Wiring	18.	65.	62.	65.	75.	79.
98	Radio and Tv Receiving Sets	71.	106.	102.	113.	142.	157.
99	Telephone and Telegraph Apparatus	173.	250.	140.	198.	224.	247.
100	Radio and Communication Equipment	5747.	6620.	4992.	5583.	5430.	5881.
101	Electronic Components	376.	675.	442.	559.	655.	735.
102	Miscellaneous Electrical Products	163.	282.	213.	372.	432.	461.
103	Motor Vehicles	870.	1300.	739.	773.	837.	899.
104	Aircraft	10226.	10258.	6053.	7193.	7552.	8334.
105	Ship and Boat Building and Repair	1485.	1867.	2229.	3196.	2805.	2947.
106	Railroad Equipment	8.	8.	8.	10.	10.	11.
107	Cycles, Bicycles and Parts	1.	1.	1.	0.	0.	0.
108	Other Transportation Equipment	2.	3.	9.	11.	11.	12.
109	Scientific and Controlling Instruments	519.	560.	390.	462.	553.	624.
110	Medical and Dental Instruments	75.	164.	147.	162.	176.	193.
111	Optical and Ophthalmic Equipment	23.	80.	96.	167.	203.	234.
112	Photographic Equipment and Supplies	170.	347.	231.	209.	237.	270.
113	Watches, Clocks and Clock Operated Devices	3.	112.	73.	39.	44.	48.
114	Jewelry and Silverware	-3.	-3.	-3.	0.	0.	0.
115	Musical Instruments and Sporting Goods	5.	11.	10.	12.	13.	14.
116	Other Miscellaneous Manufactured Products	38.	129.	124.	118.	147.	161.
117	Railroad Transportation	239.	507.	248.	209.	239.	254.

Table A-16. Continued—Federal Government purchases, total, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
118	Local Transit and Intercity Buses	32.	40.	34.	30.	37.	40.
119	Truck Transportation	778.	1644.	927.	823.	918.	981.
120	Water Transportation	325.	814.	467.	418.	431.	477.
121	Air Transportation	503.	1224.	669.	718.	764.	818.
122	Pipeline Transportation	13.	21.	52.	43.	52.	56.
124	Communications Except Radio and Tv	403.	636.	854.	1121.	1273.	1462.
126	Electric Utilities	212.	292.	273.	313.	325.	365.
127	Gas Utilities	63.	53.	79.	94.	92.	98.
128	Water and Sanitary Services	45.	52.	78.	120.	116.	118.
129	Wholesale Trade	1030.	1794.	1659.	1804.	2061.	2325.
130	Retail Trade	-24.	-26.	9.	-38.	-35.	-35.
131	Banking	716.	673.	380.	356.	442.	411.
132	Credit Agencies and Financial Brokers	-10.	6.	-11.	-10.	-12.	-11.
133	Insurance	43.	50.	35.	36.	46.	48.
135	Real Estate	333.	503.	429.	322.	424.	436.
136	Hotels and Lodging Places	613.	886.	611.	594.	648.	686.
137	Personal and Repair Services	37.	-11.	-22.	24.	28.	30.
139	Miscellaneous Business Services	2530.	2815.	2768.	3142.	3789.	4175.
140	Advertising	3.	2.	7.	8.	8.	9.
141	Miscellaneous Professional Services	705.	981.	662.	690.	824.	882.
142	Automobile Repair	34.	76.	36.	41.	48.	51.
143	Motion Pictures	81.	121.	69.	86.	91.	97.
144	Amusement and Recreation Services	76.	98.	51.	65.	34.	30.
145	Doctors' and Dentists' Services	94.	67.	76.	100.	105.	122.
146	Hospitals	189.	257.	260.	273.	331.	371.
147	Other Medical Services	62.	59.	54.	51.	64.	66.
148	Educational Services	1582.	1870.	1602.	1090.	1346.	1341.
149	Nonprofit Organizations	664.	889.	619.	745.	867.	932.
150	Post Office	205.	431.	304.	291.	329.	362.
152	Other Federal Enterprises	2.	13.	19.	18.	18.	52.
154	Other State and Local Government	25.	11.	13.	538.	692.	711.
155	Directly Allocated Imports	2596.	4029.	3131.	2261.	2152.	2121.
156	Business Travel, Entertainment, and Gifts	0.	0.	4.	3.	3.	3.
157	Office Supplies	251.	281.	145.	206.	255.	260.
158	Scrap, Used, and Secondhand	-320.	-256.	-171.	-796.	-432.	-218.
159	Government Industry	47661.	55828.	47508.	49197.	50239.	51280.
160	Rest of World Industry	-1162.	-505.	-626.	-1163.	-1090.	-1105.

Table A-17. Federal Government purchases, defense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	2.	4.	47.	53.	51.	51.
2	Meat and Livestock Products	1.	1.	9.	7.	7.	8.
4	Food and Feed Grains	0.	1.	6.	7.	7.	6.
5	Other Agricultural Products	4.	7.	32.	30.	29.	30.
6	Forestry and Fishery Products	1.	9.	5.	7.	6.	6.
7	Agricultural, Forestry and Fishery Services	25.	12.	10.	7.	7.	8.
8	Iron and Ferroalloy Mining	17.	-70.	0.	0.	0.	0.
10	Other Nonferrous Ore Mining	372.	89.	-2.	37.	35.	34.
11	Coal Mining	55.	60.	22.	26.	30.	34.
12	Crude Petroleum and Natural Gas	0.	11.	29.	0.	0.	0.
13	Stone and Clay Mining and Quarrying	9.	8.	14.	0.	0.	0.
15	New and Residential Buildings Construction	195.	41.	118.	135.	128.	130.
16	New Nonresidential Building Construction	551.	455.	451.	827.	782.	797.
19	All Other New Construction	1765.	928.	1033.	2087.	2342.	2103.
21	Maintenance and Repair Construction	1561.	1331.	1007.	1194.	1184.	1325.
22	Ordnance	1888.	4665.	2966.	2237.	2337.	2471.
23	Complete Guided Missiles	3963.	3007.	956.	1367.	1445.	1795.
24	Meat Products	96.	115.	368.	413.	396.	398.
25	Dairy Products	87.	28.	118.	135.	136.	137.
26	Canned and Frozen Foods	14.	41.	166.	157.	152.	150.
27	Grain Mill Products	6.	7.	24.	22.	20.	19.
28	Bakery Products	10.	22.	92.	98.	93.	91.
29	Sugar	1.	2.	7.	3.	3.	3.
30	Confectionary Products	0.	3.	12.	15.	14.	15.
31	Alcoholic Beverages	2.	0.	0.	0.	0.	0.
32	Soft Drinks and Flavorings	10.	14.	61.	52.	57.	68.
33	Miscellaneous Food Products	6.	18.	57.	52.	50.	49.
35	Fabrics, Yarn and Thread Mills	39.	82.	34.	41.	38.	38.
36	Floor Coverings	3.	7.	4.	7.	7.	8.
37	Miscellaneous Textile Goods	6.	7.	3.	7.	7.	6.
38	Hosiery and Knit Goods	0.	0.	14.	15.	14.	15.
39	Apparel	57.	110.	105.	112.	107.	105.
40	Miscellaneous Fabricated Textile Products	73.	350.	54.	60.	58.	58.
42	Sawmills and Planing Mills	0.	2.	12.	15.	14.	15.
43	Millwork, Plywood and Other Wood Products	6.	27.	14.	15.	14.	15.
44	Wooden Containers	6.	26.	9.	22.	21.	31.
45	Household Furniture	12.	29.	21.	22.	21.	22.
46	Other Furniture and Fixtures	22.	48.	24.	22.	21.	31.
47	Paper Products	27.	67.	26.	22.	21.	31.
48	Paperboard	11.	33.	6.	7.	7.	8.
49	Newspaper Printing and Publishing	0.	1.	1.	0.	0.	0.
50	Periodical and Book Printing, Publishing	47.	27.	34.	37.	43.	46.
51	Miscellaneous Printing and Publishing	206.	163.	170.	224.	247.	289.
52	Industrial Inorganic and Organic Chemicals	961.	622.	87.	475.	540.	630.
53	Agricultural Chemicals	1.	90.	1.	0.	0.	0.
54	Miscellaneous Chemical Products	117.	748.	395.	540.	626.	759.
55	Plastics Materials and Synthetic Rubber	21.	-6.	-28.	15.	14.	15.
56	Synthetic Fibers	17.	31.	8.	36.	44.	55.
57	Drugs	16.	87.	70.	90.	101.	124.
58	Cleaning and Toilet Preparations	24.	37.	40.	46.	41.	39.

Table A-17. Continued—Federal Government purchases, defense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
59	Paints and Allied Products	2.	3.	4.	3.	4.	4.
60	Petroleum Refining and Related Products	757.	1022.	1037.	1232.	1221.	1357.
61	Tires and Inner Tubes	52.	79.	34.	30.	35.	31.
62	Miscellaneous Rubber Products	15.	228.	13.	98.	100.	116.
63	Plastic Products	26.	63.	27.	35.	44.	54.
64	Leather Tanning and Industrial Leather	1.	6.	12.	15.	14.	23.
65	Footwear and Other Leather Products	5.	16.	36.	41.	39.	40.
66	Glass	11.	13.	7.	18.	23.	32.
67	Cement and Concrete Products	0.	0.	5.	0.	0.	0.
69	Pottery and Related Products	1.	1.	1.	0.	0.	0.
70	Miscellaneous Stone and Clay Products	35.	26.	16.	15.	14.	15.
71	Blast Furnaces and Basic Steel Products	55.	277.	53.	67.	71.	76.
72	Iron and Steel Foundries and Forgings	5.	85.	8.	7.	7.	8.
73	Primary Copper and Copper Products	108.	25.	44.	46.	50.	62.
74	Primary Aluminum and Aluminum Products	23.	47.	112.	136.	153.	178.
75	Other Primary Nonferrous Products	-29.	-24.	-46.	1.	1.	1.
76	Metal Containers	9.	16.	12.	7.	7.	8.
77	Heating Apparatus and Plumbing Fixtures	5.	7.	11.	15.	14.	15.
78	Fabricated Structural Metal	65.	207.	292.	277.	297.	335.
79	Screw Machine Products	18.	120.	35.	45.	49.	61.
80	Metal Stampings	15.	18.	6.	7.	7.	8.
81	Cutlery, Hand Tools and General Hardware	10.	55.	47.	67.	71.	84.
82	Other Fabricated Products	30.	219.	180.	187.	192.	222.
83	Engines, Turbines and Generators	216.	449.	97.	83.	86.	100.
84	Farm Machinery	13.	29.	3.	0.	0.	0.
85	Construction Mining and Oilfield Machinery	144.	366.	68.	53.	58.	70.
86	Material Handling Equipment	87.	99.	93.	98.	100.	115.
87	Metal Working Machinery	94.	135.	65.	83.	85.	99.
88	Special Industry Machines	13.	39.	19.	22.	28.	31.
89	General Industrial Machinery	305.	298.	265.	307.	331.	373.
90	Machine Shop Products	72.	129.	38.	68.	71.	85.
91	Computers and Peripheral Equipment	335.	222.	290.	552.	718.	865.
92	Typewriters and Other Office Equipment	18.	21.	19.	30.	35.	38.
93	Service Industry Machines	51.	105.	52.	67.	71.	76.
94	Electric Transmission Equipment	237.	343.	267.	389.	452.	532.
95	Electrical Industrial Apparatus	224.	409.	256.	334.	372.	427.
96	Household Appliances	9.	12.	10.	13.	12.	11.
97	Electric Lighting and Wiring	17.	42.	35.	42.	45.	49.
98	Radio and Tv Receiving Sets	36.	58.	38.	45.	50.	61.
99	Telephone and Telegraph Apparatus	156.	220.	110.	157.	170.	191.
100	Radio and Communication Equipment	5184.	5799.	4354.	4946.	4643.	5090.
101	Electronic Components	331.	556.	325.	465.	534.	609.
102	Miscellaneous Electrical Products	133.	240.	139.	159.	174.	195.
103	Motor Vehicles	779.	1010.	430.	487.	524.	609.
104	Aircraft	9033.	9217.	5363.	6413.	6634.	7430.
105	Ship and Boat Building and Repair	1350.	1601.	1863.	2877.	2380.	2522.
106	Railroad Equipment	6.	4.	5.	7.	7.	8.
107	Cycles, Bicycles and Parts	1.	1.	1.	0.	0.	0.
108	Other Transportation Equipment	1.	1.	7.	7.	7.	8.
109	Scientific and Controlling Instruments	394.	461.	287.	358.	423.	489.
110	Medical and Dental Instruments	38.	112.	67.	79.	83.	91.
111	Optical and Ophthalmic Equipment	12.	47.	72.	121.	144.	171.
112	Photographic Equipment and Supplies	101.	293.	165.	143.	151.	178.
113	Watches, Clocks and Clock Operated Devices	1.	111.	72.	38.	43.	46.
114	Jewelry and Silverware	3.	2.	1.	0.	0.	0.
115	Musical Instruments and Sporting Goods	5.	7.	6.	7.	7.	8.
116	Other Miscellaneous Manufactured Products	36.	56.	43.	45.	49.	61.
117	Railroad Transportation	186.	394.	132.	106.	103.	112.
118	Local Transit and Intercity Buses	18.	32.	26.	22.	28.	31.
119	Truck Transportation	641.	1330.	645.	563.	571.	632.

Table A-17. Continued—Federal Government purchases, defense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
120	Water Transportation	321.	819.	456.	408.	419.	465.
121	Air Transportation	389.	1018.	471.	532.	541.	606.
122	Pipeline Transportation	11.	17.	47.	38.	46.	51.
124	Communications Except Radio and Tv	347.	440.	636.	884.	961.	1141.
126	Electric Utilities	399.	284.	303.	351.	380.	440.
127	Gas Utilities	44.	38.	56.	72.	70.	74.
128	Water and Sanitary Services	33.	38.	67.	109.	104.	105.
129	Wholesale Trade	793.	1321.	1189.	1363.	1474.	1739.
130	Retail Trade	-31.	-34.	2.	-47.	-45.	-46.
133	Insurance	23.	21.	20.	22.	28.	31.
135	Real Estate	101.	151.	12.	15.	14.	23.
136	Hotels and Lodging Places	418.	633.	402.	404.	396.	433.
137	Personal and Repair Services	15.	12.	1.	22.	28.	31.
139	Miscellaneous Business Services	2034.	1820.	1830.	2163.	2492.	2860.
140	Advertising	2.	1.	6.	7.	7.	8.
141	Miscellaneous Professional Services	379.	506.	284.	322.	340.	389.
142	Automobile Repair	25.	73.	27.	30.	35.	38.
143	Motion Pictures	73.	112.	59.	75.	78.	84.
144	Amusement and Recreation Services	92.	129.	76.	105.	90.	88.
145	Doctors' and Dentists' Services	15.	52.	64.	82.	85.	99.
146	Hospitals	68.	101.	124.	157.	184.	228.
147	Other Medical Services	40.	5.	6.	7.	7.	8.
148	Educational Services	694.	718.	104.	142.	162.	203.
149	Nonprofit Organizations	505.	552.	293.	400.	417.	470.
150	Post Office	149.	312.	202.	202.	212.	243.
152	Other Federal Enterprises	2.	9.	15.	15.	14.	23.
154	Other State and Local Government	17.	8.	7.	7.	7.	8.
155	Directly Allocated Imports	2198.	3417.	2580.	1701.	1590.	1569.
157	Office Supplies	120.	116.	55.	67.	71.	76.
158	Scrap, Used, and Secondhand	-441.	-97.	-54.	-67.	-70.	-76.
159	Government Industry	38111.	45888.	33948.	32013.	31449.	30999.

Table A-18. Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	4.	4.	3.	2.	3.	3.
2	Meat and Livestock Products	4.	4.	3.	2.	3.	3.
3	Cotton	488.	-881.	-61.	31.	41.	41.
4	Food and Feed Grains	-546.	-554.	-3608.	-624.	-8.	49.
5	Other Agricultural Products	-148.	311.	214.	34.	37.	41.
6	Forestry and Fishery Products	-744.	-827.	-541.	-711.	-695.	-683.
7	Agricultural, Forestry and Fishery Services	0.	2.	2.	3.	3.	3.
8	Iron and Ferroalloy Mining	-10.	-1.	-1.	0.	0.	0.
10	Other Nonferrous Ore Mining	14.	67.	15.	74.	89.	94.
11	Coal Mining	13.	12.	9.	9.	10.	11.
12	Crude Petroleum and Natural Gas	0.	0.	0.	85.	138.	156.
13	Stone and Clay Mining and Quarrying	-9.	1.	-2.	0.	0.	0.
16	New Nonresidential Building Construction	1183.	642.	649.	944.	905.	763.
18	New Highway Construction	290.	340.	250.	190.	166.	144.
19	All Other New Construction	2260.	2136.	2029.	923.	835.	818.
21	Maintenance and Repair Construction	676.	1074.	987.	1671.	1863.	2034.
22	Ordnance	39.	57.	311.	220.	293.	293.
23	Complete Guided Missiles	1594.	2126.	1458.	1297.	1362.	1365.
24	Meat Products	40.	63.	58.	49.	58.	58.
25	Dairy Products	107.	639.	635.	64.	71.	80.
26	Canned and Frozen Foods	11.	26.	24.	20.	23.	24.
27	Grain Mill Products	12.	74.	9.	52.	65.	62.
28	Bakery Products	6.	11.	10.	8.	10.	11.
29	Sugar	1.	1.	1.	1.	1.	1.
30	Confectionary Products	0.	2.	2.	2.	1.	2.
32	Soft Drinks and Flavorings	4.	6.	6.	6.	6.	7.
33	Miscellaneous Food Products	40.	20.	14.	14.	18.	19.
35	Fabrics, Yarn and Thread Mills	0.	1.	1.	1.	1.	1.
36	Floor Coverings	1.	3.	3.	5.	5.	6.
37	Miscellaneous Textile Goods	4.	7.	7.	7.	10.	10.
39	Apparel	47.	58.	61.	55.	72.	72.
40	Miscellaneous Fabricated Textile Products	11.	20.	21.	17.	22.	23.
42	Sawmills and Planing Mills	0.	1.	1.	1.	1.	1.
43	Millwork, Plywood and Other Wood Products	4.	16.	13.	11.	15.	15.
44	Wooden Containers	0.	6.	5.	4.	6.	6.
45	Household Furniture	16.	59.	61.	53.	70.	70.
46	Other Furniture and Fixtures	51.	96.	92.	79.	108.	111.
47	Paper Products	48.	96.	99.	82.	108.	108.
48	Paperboard	3.	9.	9.	7.	9.	10.
49	Newspaper Printing and Publishing	0.	1.	1.	1.	1.	1.
50	Periodical and Book Printing, Publishing	46.	14.	14.	14.	18.	19.
51	Miscellaneous Printing and Publishing	-97.	64.	72.	72.	97.	100.
52	Industrial Inorganic and Organic Chemicals	143.	340.	456.	369.	463.	502.
53	Agricultural Chemicals	13.	19.	23.	20.	26.	26.
54	Miscellaneous Chemical Products	41.	88.	92.	68.	91.	95.
57	Drugs	75.	54.	99.	103.	123.	129.
58	Cleaning and Toilet Preparations	9.	41.	46.	43.	60.	63.
59	Paints and Allied Products	34.	-53.	31.	138.	140.	139.
60	Petroleum Refining and Related Products	84.	233.	71.	62.	69.	75.
61	Tires and Inner Tubes	4.	34.	41.	37.	49.	49.

Table A-18. Continued—Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
62	Miscellaneous Rubber Products	8.	17.	19.	16.	24.	21.
63	Plastic Products	5.	15.	13.	14.	18.	18.
64	Leather Tanning and Industrial Leather	0.	4.	3.	2.	3.	3.
65	Footwear and Other Leather Products	1.	4.	4.	4.	6.	6.
66	Glass	10.	17.	17.	18.	24.	24.
67	Cement and Concrete Products	0.	1.	1.	0.	0.	0.
69	Pottery and Related Products	0.	2.	2.	2.	3.	3.
70	Miscellaneous Stone and Clay Products	-9.	4.	3.	4.	5.	5.
71	Blast Furnaces and Basic Steel Products	3.	2.	2.	3.	4.	4.
72	Iron and Steel Foundries and Forgings	0.	2.	2.	3.	3.	3.
73	Primary Copper and Copper Products	33.	79.	62.	51.	65.	65.
74	Primary Aluminum and Aluminum Products	1.	18.	21.	20.	26.	27.
75	Other Primary Nonferrous Products	-203.	-174.	-155.	7.	8.	8.
77	Heating Apparatus and Plumbing Fixtures	0.	1.	0.	0.	0.	0.
78	Fabricated Structural Metal	16.	58.	74.	57.	73.	74.
79	Screw Machine Products	7.	60.	55.	49.	65.	65.
80	Metal Stampings	5.	7.	7.	7.	9.	9.
81	Cutlery, Hand Tools and General Hardware	15.	37.	38.	33.	44.	44.
82	Other Fabricated Products	7.	33.	17.	18.	26.	29.
83	Engines, Turbines and Generators	47.	98.	111.	101.	137.	140.
84	Farm Machinery	2.	7.	7.	7.	9.	9.
85	Construction Mining and Oilfield Machinery	13.	27.	26.	24.	32.	32.
86	Material Handling Equipment	13.	32.	31.	24.	29.	30.
87	Metal Working Machinery	40.	69.	84.	87.	108.	112.
88	Special Industry Machines	16.	23.	22.	23.	30.	30.
89	General Industrial Machinery	43.	85.	109.	85.	109.	112.
90	Machine Shop Products	2.	14.	12.	12.	16.	16.
91	Computers and Peripheral Equipment	121.	191.	316.	299.	389.	397.
92	Typewriters and Other Office Equipment	83.	181.	203.	190.	256.	262.
93	Service Industry Machines	5.	11.	12.	13.	17.	20.
94	Electric Transmission Equipment	48.	91.	39.	45.	54.	58.
95	Electrical Industrial Apparatus	30.	80.	83.	87.	102.	100.
96	Household Appliances	3.	5.	5.	5.	6.	6.
97	Electric Lighting and Wiring	1.	24.	27.	23.	30.	30.
98	Radio and Tv Receiving Sets	35.	48.	64.	68.	92.	96.
99	Telephone and Telegraph Apparatus	17.	30.	30.	41.	54.	56.
100	Radio and Communication Equipment	563.	821.	639.	637.	787.	791.
101	Electronic Components	44.	119.	118.	94.	121.	126.
102	Miscellaneous Electrical Products	30.	42.	74.	212.	258.	266.
103	Motor Vehicles	91.	289.	309.	286.	313.	291.
104	Aircraft	1193.	1041.	690.	779.	918.	904.
105	Ship and Boat Building and Repair	135.	266.	366.	319.	425.	425.
106	Railroad Equipment	2.	4.	4.	2.	3.	3.
108	Other Transportation Equipment	1.	2.	2.	3.	4.	4.
109	Scientific and Controlling Instruments	125.	99.	103.	104.	130.	135.
110	Medical and Dental Instruments	38.	52.	80.	82.	92.	102.
111	Optical and Ophthalmic Equipment	12.	33.	24.	46.	59.	63.
112	Photographic Equipment and Supplies	68.	54.	66.	66.	87.	91.
113	Watches, Clocks and Clock Operated Devices	1.	1.	1.	1.	1.	2.
114	Jewelry and Silverware	-6.	-5.	-4.	0.	0.	0.
115	Musical Instruments and Sporting Goods	0.	4.	4.	4.	6.	6.
116	Other Miscellaneous Manufactured Products	2.	74.	82.	73.	98.	101.
117	Railroad Transportation	53.	113.	116.	102.	136.	142.
118	Local Transit and Intercity Buses	14.	9.	8.	7.	9.	9.
119	Truck Transportation	138.	314.	282.	259.	347.	349.
120	Water Transportation	3.	-5.	10.	9.	12.	12.
121	Air Transportation	113.	207.	198.	186.	223.	212.
122	Pipeline Transportation	1.	4.	5.	4.	6.	6.
124	Communications Except Radio and Tv	56.	196.	219.	237.	312.	321.
126	Electric Utilities	-187.	8.	-31.	-38.	-55.	-75.

Table A-18. Continued—Federal Government purchases, nondefense, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)							
No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
127	Gas Utilities	20.	15.	24.	22.	23.	24.
128	Water and Sanitary Services	13.	13.	11.	11.	12.	13.
129	Wholesale Trade	237.	473.	471.	441.	587.	587.
130	Retail Trade	7.	7.	7.	9.	11.	11.
131	Banking	716.	673.	380.	356.	442.	411.
132	Credit Agencies and Financial Brokers	-10.	6.	-11.	-10.	-12.	-11.
133	Insurance	20.	29.	15.	14.	18.	18.
135	Real Estate	232.	352.	417.	306.	410.	413.
136	Hotels and Lodging Places	195.	253.	209.	191.	253.	253.
137	Personal and Repair Services	22.	-22.	-23.	1.	-1.	-0.
139	Miscellaneous Business Services	496.	995.	938.	980.	1296.	1314.
140	Advertising	1.	1.	1.	1.	1.	1.
141	Miscellaneous Professional Services	326.	475.	379.	368.	484.	493.
142	Automobile Repair	10.	3.	9.	11.	13.	13.
143	Motion Pictures	8.	9.	10.	11.	14.	14.
144	Amusement and Recreation Services	-16.	-31.	-25.	-39.	-56.	-58.
145	Doctors' and Dentists' Services	79.	14.	12.	18.	21.	23.
146	Hospitals	122.	156.	136.	116.	148.	143.
147	Other Medical Services	22.	54.	48.	44.	57.	58.
148	Educational Services	888.	1152.	1499.	948.	1184.	1138.
149	Nonprofit Organizations	159.	337.	327.	345.	450.	462.
150	Post Office	56.	119.	102.	89.	117.	118.
152	Other Federal Enterprises	0.	4.	4.	3.	3.	30.
154	Other State and Local Government	8.	3.	5.	530.	685.	703.
155	Directly Allocated Imports	398.	612.	551.	560.	562.	552.
156	Business Travel, Entertainment, and Gifts	0.	0.	4.	3.	3.	3.
157	Office Supplies	131.	166.	90.	139.	185.	184.
158	Scrap, Used, and Secondhand	121.	-159.	-117.	-729.	-361.	-142.
159	Government Industry	9550.	9940.	13560.	17185.	18789.	20281.
160	Rest of World Industry	-1162.	-505.	-626.	-1163.	-1090.	-1105.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	13.	19.	30.	30.	36.	41.
2	Meat and Livestock Products	1.	4.	2.	7.	9.	9.
4	Food and Feed Grains	8.	12.	16.	12.	12.	12.
5	Other Agricultural Products	63.	85.	127.	169.	180.	181.
6	Forestry and Fishery Products	5.	7.	12.	16.	17.	19.
7	Agricultural, Forestry and Fishery Services	14.	35.	35.	52.	53.	49.
11	Coal Mining	17.	28.	50.	44.	39.	35.
13	Stone and Clay Mining and Quarrying	-54.	-62.	-41.	-68.	-63.	-63.
14	Chemical and Fertilizer Minerals Mining	36.	41.	28.	51.	46.	47.
15	New and Residential Buildings Construction	1050.	1645.	1275.	1265.	1231.	1107.
16	New Nonresidential Building Construction	7929.	11823.	10126.	10265.	9090.	8216.
17	New Public Utility Construction	3625.	4621.	4500.	5197.	5552.	5794.
18	New Highway Construction	10648.	11335.	9290.	8153.	8171.	8204.
19	All Other New Construction	908.	1446.	872.	961.	1020.	1047.
21	Maintenance and Repair Construction	4942.	5470.	5157.	6184.	6613.	6592.
22	Ordnance	7.	10.	12.	14.	15.	15.
24	Meat Products	163.	236.	403.	494.	581.	669.
25	Dairy Products	84.	110.	157.	229.	290.	338.
26	Canned and Frozen Foods	78.	112.	184.	227.	265.	298.
27	Grain Mill Products	10.	16.	26.	26.	28.	29.
28	Bakery Products	37.	50.	82.	98.	116.	130.
29	Sugar	4.	5.	8.	5.	6.	6.
30	Confectionary Products	6.	8.	12.	16.	19.	21.
32	Soft Drinks and Flavorings	17.	24.	40.	51.	58.	62.
33	Miscellaneous Food Products	52.	71.	113.	134.	161.	182.
34	Tobacco Manufacturers	-1.	-1.	-2.	-3.	-4.	-4.
35	Fabrics, Yarn and Thread Mills	29.	37.	105.	126.	129.	135.
36	Floor Coverings	1.	1.	2.	3.	3.	4.
37	Miscellaneous Textile Goods	-1.	-1.	-2.	-2.	-3.	-3.
39	Apparel	59.	59.	167.	248.	268.	284.
40	Miscellaneous Fabricated Textile Products	12.	23.	41.	57.	59.	62.
43	Millwork, Plywood and Other Wood Products	3.	5.	7.	8.	7.	6.
45	Household Furniture	20.	38.	64.	90.	78.	70.
46	Other Furniture and Fixtures	231.	384.	632.	890.	795.	723.
47	Paper Products	135.	219.	387.	489.	485.	475.
48	Paperboard	18.	28.	44.	52.	53.	52.
49	Newspaper Printing and Publishing	3.	6.	8.	11.	9.	8.
50	Periodical and Book Printing, Publishing	495.	853.	1141.	1835.	1585.	1386.
51	Miscellaneous Printing and Publishing	165.	208.	429.	647.	669.	694.
52	Industrial Inorganic and Organic Chemicals	37.	50.	61.	71.	84.	100.
53	Agricultural Chemicals	71.	83.	107.	143.	138.	130.
54	Miscellaneous Chemical Products	10.	40.	21.	22.	26.	30.
55	Plastics Materials and Synthetic Rubber	0.	1.	1.	1.	1.	1.
57	Drugs	284.	516.	1061.	1824.	2362.	2899.
58	Cleaning and Toilet Preparations	105.	184.	290.	398.	370.	343.
59	Paints and Allied Products	1.	3.	5.	6.	5.	5.
60	Petroleum Refining and Related Products	241.	380.	624.	535.	494.	459.
61	Tires and Inner Tubes	71.	99.	140.	209.	209.	210.
62	Miscellaneous Rubber Products	77.	101.	141.	196.	206.	224.
63	Plastic Products	27.	37.	59.	69.	64.	59.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
65	Footwear and Other Leather Products	3.	4.	5.	7.	9.	10.
66	Glass	43.	70.	118.	168.	177.	188.
68	Structural Clay Products	-0.	-0.	-0.	-1.	-1.	-1.
69	Pottery and Related Products	10.	16.	25.	32.	30.	29.
70	Miscellaneous Stone and Clay Products	1.	1.	2.	3.	2.	2.
71	Blast Furnaces and Basic Steel Products	3.	3.	4.	5.	6.	7.
74	Primary Aluminum and Aluminum Products	0.	0.	1.	1.	0.	0.
80	Metal Stampings	1.	14.	26.	24.	1.	-14.
81	Cutlery, Hand Tools and General Hardware	19.	45.	61.	102.	98.	89.
82	Other Fabricated Products	-5.	-4.	-5.	-7.	-12.	-14.
83	Engines, Turbines and Generators	4.	10.	7.	14.	15.	16.
84	Farm Machinery	30.	39.	64.	89.	84.	80.
85	Construction Mining and Oilfield Machinery	186.	150.	154.	254.	338.	393.
86	Material Handling Equipment	0.	1.	2.	2.	2.	1.
87	Metal Working Machinery	22.	38.	60.	67.	60.	57.
88	Special Industry Machines	8.	16.	28.	34.	27.	22.
89	General Industrial Machinery	11.	17.	14.	20.	21.	23.
90	Machine Shop Products	89.	147.	253.	324.	272.	231.
91	Computers and Peripheral Equipment	40.	72.	127.	182.	162.	145.
92	Typewriters and Other Office Equipment	88.	151.	228.	319.	284.	262.
93	Service Industry Machines	92.	159.	273.	415.	434.	452.
94	Electric Transmission Equipment	59.	57.	137.	147.	151.	174.
95	Electrical Industrial Apparatus	45.	52.	117.	129.	128.	138.
96	Household Appliances	20.	33.	57.	83.	85.	88.
97	Electric Lighting and Wiring	48.	93.	160.	195.	162.	136.
98	Radio and Tv Receiving Sets	24.	45.	77.	108.	91.	77.
99	Telephone and Telegraph Apparatus	0.	0.	1.	1.	1.	1.
100	Radio and Communication Equipment	74.	124.	240.	371.	354.	351.
101	Electronic Components	14.	22.	26.	35.	35.	36.
102	Miscellaneous Electrical Products	25.	36.	58.	90.	152.	164.
103	Motor Vehicles	839.	1054.	1373.	1971.	1980.	2119.
104	Aircraft	2.	2.	3.	4.	4.	4.
105	Ship and Boat Building and Repair	6.	7.	10.	13.	14.	14.
106	Railroad Equipment	12.	11.	27.	24.	23.	27.
107	Cycles, Bicycles and Parts	6.	9.	10.	12.	13.	13.
109	Scientific and Controlling Instruments	67.	107.	166.	247.	296.	342.
110	Medical and Dental Instruments	71.	113.	208.	309.	354.	400.
111	Optical and Ophthalmic Equipment	13.	23.	38.	55.	48.	42.
112	Photographic Equipment and Supplies	108.	180.	288.	404.	426.	449.
113	Watches, Clocks and Clock Operated Devices	3.	4.	7.	10.	9.	9.
114	Jewelry and Silverware	7.	13.	22.	24.	21.	18.
115	Musical Instruments and Sporting Goods	67.	83.	176.	240.	220.	199.
116	Other Miscellaneous Manufactured Products	43.	78.	132.	180.	141.	107.
117	Railroad Transportation	57.	85.	145.	202.	191.	185.
118	Local Transit and Intercity Buses	348.	571.	879.	1300.	1175.	1056.
119	Truck Transportation	191.	331.	587.	799.	759.	733.
120	Water Transportation	18.	28.	52.	84.	84.	87.
121	Air Transportation	153.	245.	422.	579.	573.	566.
122	Pipeline Transportation	5.	8.	14.	18.	17.	17.
124	Communications Except Radio and Tv	403.	541.	1084.	1811.	2084.	2250.
125	Radio and Tv Broadcasting	4.	10.	21.	26.	20.	15.
126	Electric Utilities	981.	1540.	2575.	3368.	2974.	2728.
127	Gas Utilities	263.	303.	790.	1126.	1053.	998.
128	Water and Sanitary Services	-28.	56.	38.	-40.	-96.	-169.
129	Wholesale Trade	597.	952.	1616.	2132.	2089.	2123.
130	Retail Trade	-454.	-496.	-1651.	-2523.	-1940.	-1509.
131	Banking	1001.	1022.	2437.	3449.	4114.	4581.
132	Credit Agencies and Financial Brokers	140.	144.	342.	469.	529.	555.
133	Insurance	196.	289.	588.	875.	811.	762.
135	Real Estate	478.	545.	1510.	2299.	2520.	2696.

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

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
136	Hotels and Lodging Places	103.	-56.	-160.	-304.	-26.	162.
137	Personal and Repair Services	42.	68.	126.	163.	167.	172.
139	Miscellaneous Business Services	937.	1357.	2633.	4422.	4822.	5220.
140	Advertising	30.	32.	71.	101.	110.	114.
141	Miscellaneous Professional Services	299.	456.	896.	1326.	1386.	1453.
142	Automobile Repair	140.	187.	329.	484.	499.	509.
143	Motion Pictures	25.	40.	64.	87.	77.	69.
144	Amusement and Recreation Services	-12.	-492.	-26.	-51.	-52.	-62.
145	Doctors' and Dentists' Services	283.	663.	1744.	2651.	2801.	3064.
146	Hospitals	657.	1280.	2932.	4225.	4656.	5354.
147	Other Medical Services	506.	1177.	3115.	4385.	4642.	5040.
148	Educational Services	100.	183.	361.	508.	488.	476.
149	Nonprofit Organizations	42.	53.	125.	167.	171.	174.
150	Post Office	198.	275.	612.	870.	925.	968.
154	Other State and Local Government	19.	28.	45.	58.	55.	51.
157	Office Supplies	233.	349.	625.	1027.	1025.	1004.
158	Scrap, Used, and Secondhand	804.	1480.	916.	1073.	941.	904.
159	Government Industry	52717.	66237.	87250.	105101.	112522.	118126.

Table A-20. State and local government purchases, education, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	1.	2.	3.	3.	2.	2.
4	Food and Feed Grains	3.	5.	7.	4.	4.	3.
5	Other Agricultural Products	4.	15.	23.	31.	26.	21.
6	Forestry and Fishery Products	1.	2.	2.	3.	2.	2.
7	Agricultural, Forestry and Fishery Services	7.	20.	29.	38.	32.	26.
11	Coal Mining	10.	20.	36.	30.	23.	18.
15	New and Residential Buildings Construction	481.	739.	530.	511.	395.	282.
16	New Nonresidential Building Construction	5223.	8008.	5894.	5839.	4634.	3762.
21	Maintenance and Repair Construction	933.	1019.	769.	1107.	1064.	924.
24	Meat Products	15.	37.	70.	77.	60.	47.
25	Dairy Products	7.	8.	1.	6.	7.	6.
26	Canned and Frozen Foods	6.	14.	26.	30.	23.	18.
27	Grain Mill Products	3.	6.	9.	9.	7.	6.
28	Bakery Products	3.	8.	14.	15.	12.	9.
29	Sugar	0.	1.	1.	1.	0.	0.
30	Confectionary Products	0.	1.	2.	2.	1.	1.
32	Soft Drinks and Flavorings	2.	5.	9.	10.	8.	6.
33	Miscellaneous Food Products	3.	8.	14.	14.	11.	9.
35	Fabrics, Yarn and Thread Mills	6.	11.	16.	19.	15.	12.
39	Apparel	2.	3.	5.	6.	5.	4.
40	Miscellaneous Fabricated Textile Products	3.	7.	10.	13.	11.	8.
43	Millwork, Plywood and Other Wood Products	2.	4.	6.	6.	5.	4.
45	Household Furniture	11.	27.	50.	62.	49.	38.
46	Other Furniture and Fixtures	148.	285.	502.	682.	570.	475.
47	Paper Products	54.	115.	174.	216.	179.	143.
48	Paperboard	8.	15.	25.	28.	22.	17.
49	Newspaper Printing and Publishing	3.	5.	7.	10.	8.	6.
50	Periodical and Book Printing, Publishing	464.	768.	1061.	1707.	1440.	1227.
51	Miscellaneous Printing and Publishing	46.	64.	127.	165.	132.	104.
53	Agricultural Chemicals	9.	17.	28.	29.	22.	18.
54	Miscellaneous Chemical Products	1.	2.	3.	3.	2.	2.
55	Plastics Materials and Synthetic Rubber	0.	1.	1.	1.	1.	0.
57	Drugs	20.	49.	70.	117.	98.	78.
58	Cleaning and Toilet Preparations	65.	119.	197.	261.	211.	167.
59	Paints and Allied Products	1.	2.	3.	3.	3.	2.
60	Petroleum Refining and Related Products	90.	176.	325.	261.	207.	167.
61	Tires and Inner Tubes	15.	29.	43.	56.	45.	36.
62	Miscellaneous Rubber Products	3.	6.	8.	11.	8.	7.
63	Plastic Products	12.	21.	32.	36.	28.	22.
66	Glass	15.	28.	43.	57.	45.	35.
69	Pottery and Related Products	6.	11.	17.	21.	16.	13.
70	Miscellaneous Stone and Clay Products	1.	1.	2.	2.	2.	2.
74	Primary Aluminum and Aluminum Products	0.	0.	1.	1.	0.	0.
80	Metal Stampings	16.	29.	43.	53.	42.	34.
81	Cutlery, Hand Tools and General Hardware	7.	29.	43.	73.	63.	50.
82	Other Fabricated Products	1.	2.	3.	4.	3.	2.
84	Farm Machinery	5.	13.	26.	29.	22.	17.
86	Material Handling Equipment	0.	1.	2.	2.	2.	1.
87	Metal Working Machinery	9.	19.	33.	38.	29.	23.
88	Special Industry Machines	7.	15.	27.	32.	25.	19.

Table A-20. Continued—State and local government purchases, education, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
90	Machine Shop Products	78.	123.	196.	247.	198.	157.
91	Computers and Peripheral Equipment	29.	60.	106.	139.	117.	96.
92	Typewriters and Other Office Equipment	49.	95.	155.	201.	158.	124.
93	Service Industry Machines	70.	123.	225.	290.	228.	179.
94	Electric Transmission Equipment	2.	8.	9.	9.	7.	5.
95	Electrical Industrial Apparatus	8.	17.	33.	37.	28.	22.
96	Household Appliances	8.	17.	30.	38.	30.	23.
97	Electric Lighting and Wiring	35.	76.	138.	161.	124.	97.
98	Radio and Tv Receiving Sets	21.	42.	67.	93.	76.	62.
100	Radio and Communication Equipment	34.	71.	181.	306.	283.	271.
101	Electronic Components	3.	6.	11.	13.	10.	8.
102	Miscellaneous Electrical Products	2.	5.	9.	11.	8.	7.
103	Motor Vehicles	128.	214.	340.	453.	362.	286.
109	Scientific and Controlling Instruments	9.	21.	40.	48.	37.	29.
110	Medical and Dental Instruments	3.	9.	16.	23.	18.	14.
111	Optical and Ophthalmic Equipment	9.	17.	27.	38.	30.	24.
112	Photographic Equipment and Supplies	32.	64.	119.	156.	122.	96.
113	Watches, Clocks and Clock Operated Devices	1.	3.	5.	6.	5.	4.
114	Jewelry and Silverware	6.	11.	19.	20.	16.	12.
115	Musical Instruments and Sporting Goods	38.	42.	121.	155.	123.	97.
116	Other Miscellaneous Manufactured Products	52.	87.	131.	178.	144.	115.
117	Railroad Transportation	17.	36.	64.	81.	64.	50.
118	Local Transit and Intercity Buses	293.	481.	744.	1097.	951.	816.
119	Truck Transportation	59.	122.	197.	269.	218.	172.
120	Water Transportation	4.	7.	14.	18.	14.	11.
121	Air Transportation	50.	106.	169.	216.	173.	137.
122	Pipeline Transportation	2.	3.	6.	7.	6.	5.
124	Communications Except Radio and Tv	71.	151.	265.	405.	331.	262.
125	Radio and Tv Broadcasting	4.	10.	21.	26.	20.	15.
126	Electric Utilities	467.	873.	1726.	2265.	1829.	1534.
127	Gas Utilities	156.	192.	570.	836.	739.	669.
128	Water and Sanitary Services	47.	97.	171.	213.	166.	130.
129	Wholesale Trade	208.	421.	775.	968.	775.	645.
130	Retail Trade	-540.	-639.	-1913.	-2906.	-2371.	-1990.
133	Insurance	117.	165.	349.	516.	434.	368.
135	Real Estate	64.	62.	330.	583.	535.	475.
136	Hotels and Lodging Places	-90.	-299.	-664.	-1049.	-849.	-720.
137	Personal and Repair Services	9.	21.	42.	49.	37.	29.
139	Miscellaneous Business Services	312.	367.	884.	1459.	1246.	1078.
140	Advertising	2.	4.	6.	7.	6.	5.
141	Miscellaneous Professional Services	95.	81.	235.	302.	242.	192.
142	Automobile Repair	26.	35.	84.	112.	91.	72.
143	Motion Pictures	16.	32.	48.	61.	50.	40.
144	Amusement and Recreation Services	-0.	-487.	-1.	-1.	-1.	-1.
145	Doctors' and Dentists' Services	8.	46.	67.	143.	135.	117.
146	Hospitals	-3.	-7.	-15.	-16.	-12.	-10.
147	Other Medical Services	9.	26.	39.	58.	48.	38.
148	Educational Services	38.	72.	170.	257.	224.	202.
149	Nonprofit Organizations	8.	18.	30.	41.	33.	26.
150	Post Office	16.	34.	57.	73.	58.	46.
154	Other State and Local Government	10.	17.	25.	33.	26.	21.
157	Office Supplies	87.	176.	250.	411.	337.	268.
158	Scrap, Used, and Secondhand	202.	121.	278.	276.	217.	171.
159	Government Industry	29215.	37241.	48660.	54910.	56670.	56664.

Table A-21. State and local government purchases, health, welfare, and sanitation, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	10.	14.	22.	22.	27.	33.
2	Meat and Livestock Products	0.	1.	0.	1.	1.	2.
4	Food and Feed Grains	0.	1.	2.	2.	2.	2.
5	Other Agricultural Products	8.	13.	20.	24.	29.	35.
6	Forestry and Fishery Products	2.	3.	5.	6.	7.	9.
7	Agricultural, Forestry and Fishery Services	1.	1.	1.	1.	2.	2.
11	Coal Mining	1.	2.	3.	3.	4.	5.
15	New and Residential Buildings Construction	0.	0.	0.	26.	26.	25.
16	New Nonresidential Building Construction	612.	867.	889.	817.	796.	757.
17	New Public Utility Construction	1525.	1549.	2255.	2784.	2999.	3177.
19	All Other New Construction	31.	50.	45.	47.	49.	49.
21	Maintenance and Repair Construction	441.	205.	196.	216.	274.	332.
24	Meat Products	96.	144.	235.	286.	366.	452.
25	Dairy Products	48.	71.	110.	149.	187.	223.
26	Canned and Frozen Foods	51.	75.	119.	146.	182.	216.
27	Grain Mill Products	5.	7.	12.	12.	15.	17.
28	Bakery Products	15.	23.	37.	43.	53.	63.
29	Sugar	2.	3.	5.	3.	3.	4.
30	Confectionary Products	2.	3.	5.	7.	8.	9.
32	Soft Drinks and Flavorings	6.	9.	15.	20.	25.	29.
33	Miscellaneous Food Products	27.	41.	64.	75.	93.	110.
35	Fabrics, Yarn and Thread Mills	22.	23.	87.	107.	114.	124.
36	Floor Coverings	0.	0.	1.	2.	2.	2.
37	Miscellaneous Textile Goods	0.	0.	0.	0.	1.	1.
39	Apparel	22.	15.	110.	163.	165.	174.
40	Miscellaneous Fabricated Textile Products	10.	16.	31.	44.	50.	57.
45	Household Furniture	2.	3.	6.	9.	11.	13.
46	Other Furniture and Fixtures	5.	8.	18.	36.	51.	62.
47	Paper Products	23.	39.	89.	121.	133.	149.
48	Paperboard	6.	9.	13.	16.	21.	25.
50	Periodical and Book Printing, Publishing	7.	5.	25.	47.	55.	64.
51	Miscellaneous Printing and Publishing	8.	11.	33.	72.	86.	101.
52	Industrial Inorganic and Organic Chemicals	22.	32.	49.	53.	67.	79.
53	Agricultural Chemicals	1.	2.	2.	3.	3.	4.
54	Miscellaneous Chemical Products	6.	9.	14.	15.	19.	22.
57	Drugs	262.	464.	986.	1701.	2256.	2813.
58	Cleaning and Toilet Preparations	17.	27.	49.	74.	88.	102.
59	Paints and Allied Products	1.	2.	3.	4.	5.	6.
60	Petroleum Refining and Related Products	31.	60.	76.	86.	90.	93.
61	Tires and Inner Tubes	8.	17.	19.	36.	42.	50.
62	Miscellaneous Rubber Products	22.	40.	85.	113.	117.	125.
63	Plastic Products	3.	4.	6.	7.	8.	10.
65	Footwear and Other Leather Products	1.	1.	2.	3.	4.	4.
66	Glass	26.	40.	72.	106.	126.	145.
69	Pottery and Related Products	2.	3.	5.	7.	9.	10.
80	Metal Stampings	2.	3.	6.	7.	9.	11.
81	Cutlery, Hand Tools and General Hardware	2.	5.	5.	11.	13.	15.
82	Other Fabricated Products	1.	2.	2.	3.	4.	5.
84	Farm Machinery	2.	3.	5.	7.	8.	10.
85	Construction Mining and Oilfield Machinery	10.	28.	31.	125.	215.	266.

Table A-21. Continued—State and local government purchases, health, welfare, and sanitation, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
87	Metal Working Machinery	2.	3.	5.	6.	8.	9.
88	Special Industry Machines	0.	0.	1.	1.	1.	1.
90	Machine Shop Products	8.	20.	54.	70.	68.	67.
91	Computers and Peripheral Equipment	2.	3.	7.	15.	20.	24.
92	Typewriters and Other Office Equipment	5.	10.	24.	45.	56.	66.
93	Service Industry Machines	13.	26.	33.	105.	184.	249.
94	Electric Transmission Equipment	0.	1.	1.	2.	2.	2.
95	Electrical Industrial Apparatus	2.	3.	5.	6.	8.	10.
96	Household Appliances	9.	13.	22.	37.	46.	55.
97	Electric Lighting and Wiring	1.	3.	6.	8.	9.	9.
98	Radio and Tv Receiving Sets	1.	3.	7.	11.	11.	11.
100	Radio and Communication Equipment	1.	2.	3.	3.	4.	5.
101	Electronic Components	0.	1.	1.	2.	2.	2.
102	Miscellaneous Electrical Products	12.	17.	31.	52.	64.	76.
103	Motor Vehicles	25.	51.	62.	195.	321.	418.
109	Scientific and Controlling Instruments	32.	49.	76.	143.	203.	253.
110	Medical and Dental Instruments	64.	100.	185.	277.	324.	373.
111	Optical and Ophthalmic Equipment	1.	5.	8.	12.	11.	11.
112	Photographic Equipment and Supplies	51.	75.	118.	176.	221.	263.
113	Watches, Clocks and Clock Operated Devices	1.	1.	1.	2.	2.	3.
114	Jewelry and Silverware	1.	2.	2.	3.	3.	4.
115	Musical Instruments and Sporting Goods	0.	1.	1.	3.	3.	3.
116	Other Miscellaneous Manufactured Products	1.	3.	6.	9.	9.	10.
117	Railroad Transportation	8.	13.	25.	37.	42.	47.
118	Local Transit and Intercity Buses	9.	15.	38.	60.	66.	73.
119	Truck Transportation	40.	85.	212.	296.	291.	299.
120	Water Transportation	10.	14.	29.	51.	55.	61.
121	Air Transportation	16.	28.	69.	106.	117.	130.
122	Pipeline Transportation	1.	1.	2.	3.	4.	4.
124	Communications Except Radio and Tv	32.	59.	144.	238.	254.	277.
126	Electric Utilities	50.	88.	193.	246.	267.	294.
127	Gas Utilities	19.	20.	53.	70.	83.	96.
128	Water and Sanitary Services	9.	15.	22.	37.	44.	51.
129	Wholesale Trade	135.	227.	424.	587.	702.	836.
130	Retail Trade	78.	131.	245.	359.	405.	454.
133	Insurance	28.	55.	126.	197.	197.	204.
135	Real Estate	70.	141.	380.	590.	630.	707.
136	Hotels and Lodging Places	31.	57.	151.	240.	256.	281.
137	Personal and Repair Services	18.	29.	52.	71.	82.	93.
139	Miscellaneous Business Services	171.	265.	737.	1461.	1756.	2114.
140	Advertising	0.	0.	1.	1.	1.	2.
141	Miscellaneous Professional Services	130.	212.	528.	836.	929.	1033.
142	Automobile Repair	17.	32.	51.	87.	94.	102.
143	Motion Pictures	0.	0.	1.	1.	1.	1.
144	Amusement and Recreation Services	0.	0.	1.	1.	1.	1.
145	Doctors' and Dentists' Services	274.	616.	1676.	2507.	2665.	2945.
146	Hospitals	660.	1287.	2947.	4241.	4669.	5364.
147	Other Medical Services	467.	1120.	3011.	4237.	4488.	4890.
148	Educational Services	18.	40.	109.	145.	140.	142.
149	Nonprofit Organizations	1.	2.	6.	10.	11.	12.
150	Post Office	52.	103.	263.	399.	416.	449.
154	Other State and Local Government	1.	2.	3.	4.	5.	5.
157	Office Supplies	22.	39.	99.	182.	198.	220.
158	Scrap, Used, and Secondhand	-1.	26.	4.	3.	5.	6.
159	Government Industry	7325.	9550.	13021.	18461.	21413.	23786.

Table 22. State and local government purchases, safety, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	2.	2.	2.	2.	3.	3.
4	Food and Feed Grains	0.	0.	1.	0.	1.	1.
5	Other Agricultural Products	5.	6.	7.	9.	11.	12.
6	Forestry and Fishery Products	1.	1.	1.	2.	2.	3.
7	Agricultural, Forestry and Fishery Services	2.	2.	3.	3.	5.	5.
11	Coal Mining	1.	1.	2.	2.	2.	2.
16	New Nonresidential Building Construction	263.	377.	457.	517.	521.	513.
21	Maintenance and Repair Construction	54.	102.	91.	113.	146.	173.
22	Ordnance	7.	10.	12.	14.	15.	15.
24	Meat Products	24.	27.	34.	48.	64.	74.
25	Dairy Products	22.	24.	31.	50.	70.	82.
26	Canned and Frozen Foods	10.	12.	14.	19.	25.	27.
27	Grain Mill Products	-2.	-2.	-2.	-2.	-3.	-4.
28	Bakery Products	12.	14.	17.	25.	34.	39.
29	Sugar	1.	1.	1.	1.	1.	1.
30	Confectionary Products	3.	3.	4.	5.	7.	8.
32	Soft Drinks and Flavorings	5.	6.	7.	10.	12.	14.
33	Miscellaneous Food Products	15.	17.	21.	30.	39.	44.
34	Tobacco Manufacturers	-1.	-1.	-2.	-3.	-4.	-4.
35	Fabrics, Yarn and Thread Mills	0.	2.	1.	-1.	-2.	-3.
37	Miscellaneous Textile Goods	-2.	-2.	-3.	-3.	-4.	-4.
39	Apparel	34.	39.	48.	71.	90.	98.
40	Miscellaneous Fabricated Textile Products	-7.	-7.	-10.	-15.	-20.	-22.
43	Millwork, Plywood and Other Wood Products	0.	0.	0.	0.	1.	1.
45	Household Furniture	-2.	3.	4.	4.	4.	4.
46	Other Furniture and Fixtures	-3.	-2.	-3.	-7.	-12.	-14.
47	Paper Products	11.	14.	17.	21.	24.	26.
48	Paperboard	3.	3.	4.	6.	8.	8.
50	Periodical and Book Printing, Publishing	1.	2.	2.	2.	2.	3.
51	Miscellaneous Printing and Publishing	2.	4.	4.	3.	1.	0.
54	Miscellaneous Chemical Products	2.	3.	2.	2.	3.	3.
57	Drugs	1.	1.	2.	3.	4.	4.
58	Cleaning and Toilet Preparations	4.	5.	6.	7.	7.	7.
59	Paints and Allied Products	-3.	-3.	-4.	-6.	-8.	-9.
60	Petroleum Refining and Related Products	34.	43.	52.	40.	39.	36.
61	Tires and Inner Tubes	13.	17.	19.	23.	25.	26.
62	Miscellaneous Rubber Products	38.	44.	38.	53.	63.	76.
63	Plastic Products	1.	1.	2.	2.	3.	3.
65	Footwear and Other Leather Products	2.	2.	3.	4.	6.	6.
66	Glass	2.	3.	3.	5.	6.	7.
68	Structural Clay Products	-0.	-0.	-0.	-1.	-1.	-1.
69	Pottery and Related Products	1.	1.	2.	3.	3.	4.
71	Blast Furnaces and Basic Steel Products	3.	3.	4.	5.	6.	7.
80	Metal Stampings	-18.	-19.	-25.	-39.	-54.	-62.
81	Cutlery, Hand Tools and General Hardware	4.	5.	4.	5.	6.	7.
82	Other Fabricated Products	-7.	-8.	-10.	-15.	-19.	-21.
84	Farm Machinery	4.	5.	6.	9.	12.	13.
89	General Industrial Machinery	7.	9.	6.	8.	10.	12.
90	Machine Shop Products	1.	1.	1.	1.	2.	2.
92	Typewriters and Other Office Equipment	1.	1.	1.	1.	1.	2.

Table A-22. Continued—State and local government purchases, safety, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
93	Service Industry Machines	3.	3.	4.	7.	8.	9.
94	Electric Transmission Equipment	1.	1.	1.	1.	1.	1.
95	Electrical Industrial Apparatus	0.	0.	0.	1.	1.	1.
96	Household Appliances	3.	3.	4.	6.	8.	9.
97	Electric Lighting and Wiring	4.	5.	6.	7.	9.	9.
100	Radio and Communication Equipment	17.	21.	20.	25.	29.	33.
101	Electronic Components	9.	12.	10.	15.	17.	19.
102	Miscellaneous Electrical Products	3.	4.	5.	7.	8.	8.
103	Motor Vehicles	94.	116.	131.	173.	195.	217.
104	Aircraft	2.	2.	3.	4.	4.	4.
105	Ship and Boat Building and Repair	4.	5.	7.	7.	7.	8.
107	Cycles, Bicycles and Parts	6.	9.	10.	12.	13.	13.
109	Scientific and Controlling Instruments	4.	5.	6.	8.	8.	9.
110	Medical and Dental Instruments	2.	3.	3.	4.	5.	6.
112	Photographic Equipment and Supplies	5.	6.	8.	11.	14.	15.
113	Watches, Clocks and Clock Operated Devices	0.	0.	0.	0.	1.	1.
114	Jewelry and Silverware	1.	1.	1.	1.	2.	2.
115	Musical Instruments and Sporting Goods	2.	2.	3.	4.	5.	6.
116	Other Miscellaneous Manufactured Products	-20.	-23.	-23.	-36.	-45.	-51.
117	Railroad Transportation	4.	4.	5.	7.	8.	9.
118	Local Transit and Intercity Buses	5.	7.	8.	11.	12.	13.
119	Truck Transportation	20.	23.	31.	39.	44.	48.
120	Water Transportation	2.	2.	2.	3.	4.	4.
121	Air Transportation	10.	13.	14.	18.	21.	23.
122	Pipeline Transportation	1.	1.	1.	2.	2.	2.
124	Communications Except Radio and Tv	44.	54.	70.	98.	113.	125.
126	Electric Utilities	44.	50.	64.	80.	95.	103.
127	Gas Utilities	15.	13.	21.	25.	30.	33.
128	Water and Sanitary Services	5.	6.	6.	9.	11.	12.
129	Wholesale Trade	64.	82.	92.	114.	135.	149.
130	Retail Trade	1.	1.	1.	1.	2.	2.
133	Insurance	7.	9.	10.	13.	14.	15.
135	Real Estate	25.	14.	41.	48.	52.	55.
136	Hotels and Lodging Places	20.	26.	30.	40.	46.	50.
137	Personal and Repair Services	6.	8.	9.	11.	12.	12.
139	Miscellaneous Business Services	80.	92.	114.	149.	171.	191.
140	Advertising	1.	1.	1.	1.	1.	1.
141	Miscellaneous Professional Services	24.	28.	34.	43.	51.	55.
142	Automobile Repair	24.	29.	36.	46.	51.	55.
143	Motion Pictures	2.	3.	3.	4.	4.	4.
144	Amusement and Recreation Services	0.	1.	1.	1.	1.	1.
145	Doctors' and Dentists' Services	0.	0.	1.	1.	1.	1.
147	Other Medical Services	8.	9.	11.	17.	23.	25.
148	Educational Services	26.	30.	41.	51.	60.	66.
149	Nonprofit Organizations	9.	13.	15.	20.	21.	22.
150	Post Office	12.	15.	16.	22.	26.	28.
154	Other State and Local Government	4.	5.	6.	8.	9.	9.
157	Office Supplies	15.	20.	23.	33.	37.	39.
158	Scrap, Used, and Secondhand	-30.	-3.	-13.	-11.	-11.	-11.
159	Government Industry	6104.	7391.	10228.	12816.	14195.	15168.

Table A-23. State and local government purchases, other, selected historical and projected years, 1963 to 1990

(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
1	Dairy and Poultry Products	1.	1.	3.	3.	3.	3.
2	Meat and Livestock Products	1.	3.	2.	6.	7.	7.
4	Food and Feed Grains	5.	6.	6.	6.	6.	6.
5	Other Agricultural Products	46.	52.	77.	106.	113.	114.
6	Forestry and Fishery Products	2.	2.	4.	5.	5.	6.
7	Agricultural, Forestry and Fishery Services	4.	13.	2.	9.	15.	16.
11	Coal Mining	5.	5.	9.	9.	10.	10.
13	Stone and Clay Mining and Quarrying	-54.	-62.	-41.	-68.	-63.	-63.
14	Chemical and Fertilizer Minerals Mining	36.	41.	28.	51.	46.	47.
15	New and Residential Buildings Construction	569.	906.	745.	729.	810.	800.
16	New Nonresidential Building Construction	1831.	2571.	2886.	3093.	3140.	3184.
17	New Public Utility Construction	2100.	3072.	2245.	2412.	2553.	2617.
18	New Highway Construction	10648.	11335.	9290.	8153.	8171.	8204.
19	All Other New Construction	877.	1396.	827.	914.	971.	998.
21	Maintenance and Repair Construction	3514.	4144.	4101.	4748.	5129.	5163.
24	Meat Products	29.	28.	64.	84.	91.	97.
25	Dairy Products	7.	7.	16.	23.	25.	27.
26	Canned and Frozen Foods	11.	11.	24.	32.	35.	38.
27	Grain Mill Products	4.	5.	7.	8.	9.	10.
28	Bakery Products	6.	6.	13.	16.	18.	19.
29	Sugar	0.	0.	1.	1.	1.	1.
30	Confectionary Products	1.	1.	2.	2.	2.	3.
32	Soft Drinks and Flavorings	4.	4.	8.	11.	12.	13.
33	Miscellaneous Food Products	6.	6.	13.	16.	17.	18.
35	Fabrics, Yarn and Thread Mills	1.	1.	1.	2.	2.	2.
36	Floor Coverings	0.	0.	1.	1.	2.	2.
39	Apparel	2.	2.	4.	7.	8.	8.
40	Miscellaneous Fabricated Textile Products	6.	7.	10.	15.	18.	19.
43	Millwork, Plywood and Other Wood Products	0.	0.	0.	1.	1.	1.
45	Household Furniture	4.	4.	4.	15.	14.	15.
46	Other Furniture and Fixtures	81.	93.	115.	179.	186.	199.
47	Paper Products	47.	50.	106.	132.	149.	157.
48	Paperboard	1.	1.	1.	2.	2.	2.
49	Newspaper Printing and Publishing	0.	0.	1.	1.	2.	2.
50	Periodical and Book Printing, Publishing	23.	78.	54.	79.	87.	92.
51	Miscellaneous Printing and Publishing	109.	128.	264.	407.	451.	489.
52	Industrial Inorganic and Organic Chemicals	15.	18.	12.	18.	17.	20.
53	Agricultural Chemicals	61.	64.	77.	112.	112.	109.
54	Miscellaneous Chemical Products	1.	26.	2.	2.	3.	3.
57	Drugs	1.	1.	3.	4.	5.	5.
58	Cleaning and Toilet Preparations	20.	33.	38.	56.	64.	67.
59	Paints and Allied Products	1.	2.	3.	4.	5.	5.
60	Petroleum Refining and Related Products	85.	101.	170.	148.	158.	163.
61	Tires and Inner Tubes	35.	36.	58.	95.	97.	98.
62	Miscellaneous Rubber Products	14.	12.	11.	19.	17.	16.
63	Plastic Products	11.	11.	19.	25.	24.	24.
69	Pottery and Related Products	0.	0.	1.	1.	2.	2.
80	Metal Stampings	1.	1.	2.	3.	3.	4.
81	Cutlery, Hand Tools and General Hardware	5.	6.	9.	13.	16.	16.
83	Engines, Turbines and Generators	4.	10.	7.	14.	15.	16.

Table A-23. Continued—State and local government purchases, other, selected historical and projected years, 1963 to 1990

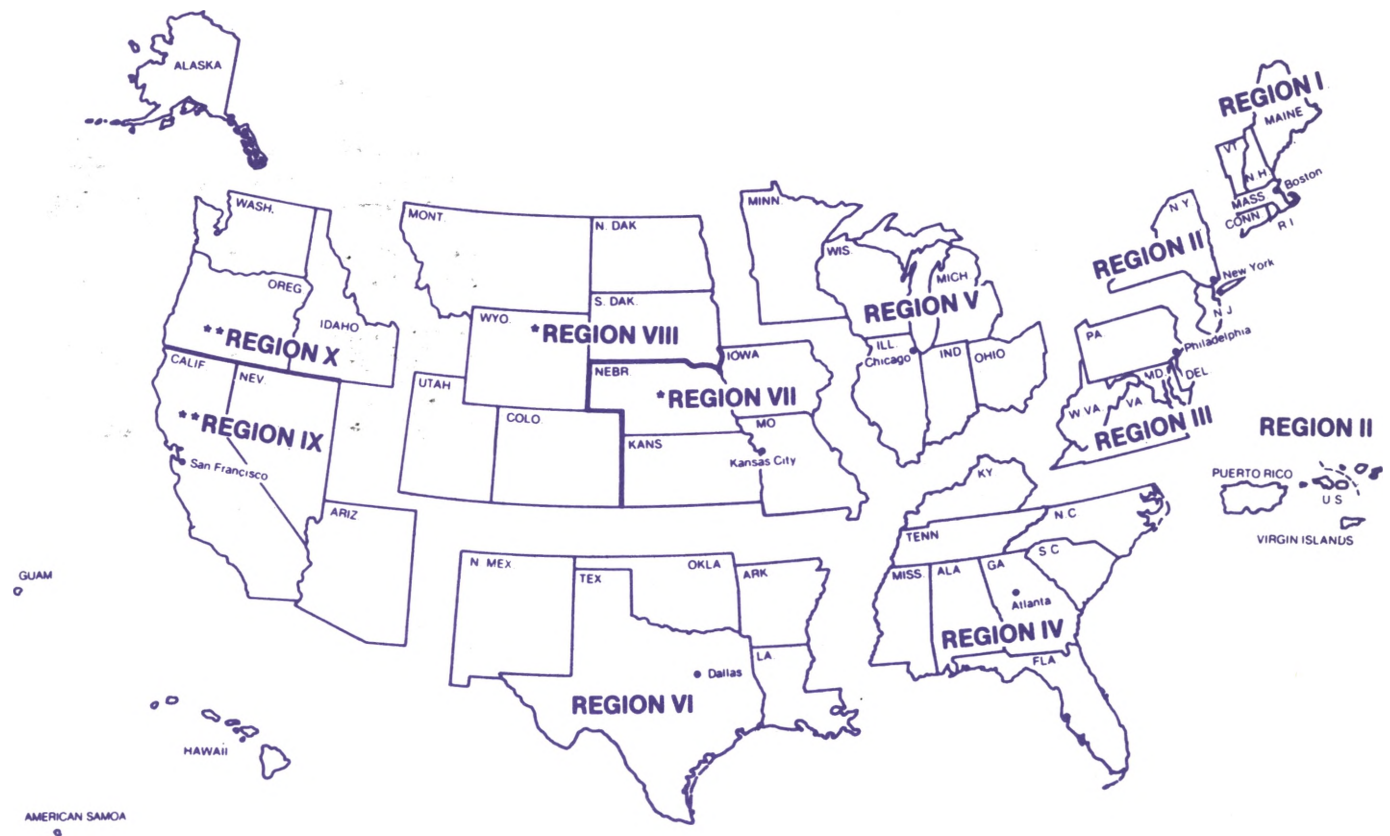
(Millions of 1972 dollars)

No.	Sector Title	1963	1967	1973	Projected		
					1980	1985	1990
84	Farm Machinery	18.	18.	27.	44.	41.	40.
85	Construction Mining and Oilfield Machinery	176.	121.	123.	129.	123.	127.
87	Metal Working Machinery	11.	16.	22.	24.	23.	25.
88	Special Industry Machines	0.	0.	1.	1.	1.	1.
89	General Industrial Machinery	4.	8.	8.	12.	11.	11.
90	Machine Shop Products	2.	3.	2.	5.	5.	5.
91	Computers and Peripheral Equipment	9.	8.	14.	27.	25.	24.
92	Typewriters and Other Office Equipment	33.	45.	47.	72.	69.	71.
93	Service Industry Machines	5.	6.	10.	14.	14.	14.
94	Electric Transmission Equipment	56.	47.	126.	135.	141.	165.
95	Electrical Industrial Apparatus	35.	31.	78.	85.	90.	105.
96	Household Appliances	0.	1.	0.	1.	1.	0.
97	Electric Lighting and Wiring	8.	10.	11.	18.	20.	21.
98	Radio and Tv Receiving Sets	1.	1.	2.	3.	4.	4.
99	Telephone and Telegraph Apparatus	0.	0.	1.	1.	1.	1.
100	Radio and Communication Equipment	23.	31.	37.	37.	38.	43.
101	Electronic Components	2.	4.	4.	6.	6.	7.
102	Miscellaneous Electrical Products	8.	9.	13.	21.	22.	23.
103	Motor Vehicles	592.	672.	841.	1151.	1102.	1197.
105	Ship and Boat Building and Repair	2.	2.	4.	6.	6.	7.
106	Railroad Equipment	12.	11.	27.	24.	23.	27.
109	Scientific and Controlling Instruments	22.	32.	44.	48.	48.	52.
110	Medical and Dental Instruments	2.	1.	3.	6.	6.	6.
111	Optical and Ophthalmic Equipment	2.	0.	3.	5.	6.	7.
112	Photographic Equipment and Supplies	19.	35.	43.	61.	69.	76.
113	Watches, Clocks and Clock Operated Devices	1.	1.	1.	2.	2.	2.
115	Musical Instruments and Sporting Goods	27.	39.	51.	78.	90.	93.
116	Other Miscellaneous Manufactured Products	10.	11.	18.	29.	33.	34.
117	Railroad Transportation	29.	31.	51.	76.	78.	80.
118	Local Transit and Intercity Buses	41.	68.	90.	133.	145.	154.
119	Truck Transportation	72.	100.	147.	194.	206.	214.
120	Water Transportation	4.	5.	7.	11.	11.	11.
121	Air Transportation	77.	98.	169.	238.	261.	276.
122	Pipeline Transportation	2.	2.	4.	5.	6.	6.
124	Communications Except Radio and Tv	256.	277.	606.	1069.	1386.	1586.
126	Electric Utilities	420.	529.	591.	776.	784.	797.
127	Gas Utilities	73.	78.	146.	196.	202.	200.
128	Water and Sanitary Services	-88.	-62.	-161.	-298.	-316.	-361.
129	Wholesale Trade	189.	222.	325.	463.	477.	493.
130	Retail Trade	8.	11.	15.	23.	24.	25.
131	Banking	1001.	1022.	2437.	3449.	4114.	4581.
132	Credit Agencies and Financial Brokers	140.	144.	342.	469.	529.	555.
133	Insurance	44.	60.	103.	149.	166.	174.
135	Real Estate	319.	328.	759.	1078.	1304.	1459.
136	Hotels and Lodging Places	141.	160.	323.	465.	520.	551.
137	Personal and Repair Services	10.	10.	23.	32.	36.	37.
139	Miscellaneous Business Services	373.	633.	898.	1353.	1649.	1837.
140	Advertising	27.	27.	64.	91.	101.	107.
141	Miscellaneous Professional Services	49.	135.	100.	144.	164.	172.
142	Automobile Repair	74.	91.	158.	239.	264.	281.
143	Motion Pictures	7.	5.	12.	21.	22.	23.
144	Amusement and Recreation Services	-13.	-6.	-26.	-51.	-53.	-64.
145	Doctors' and Dentists' Services	0.	0.	0.	1.	1.	1.
147	Other Medical Services	22.	23.	54.	74.	83.	87.
148	Educational Services	19.	41.	41.	55.	63.	66.
149	Nonprofit Organizations	23.	19.	74.	97.	106.	114.
150	Post Office	118.	123.	277.	376.	425.	446.
154	Other State and Local Government	4.	4.	10.	13.	15.	16.
157	Office Supplies	109.	113.	253.	402.	453.	476.
158	Scrap, Used, and Secondhand	632.	1335.	648.	805.	731.	739.
159	Government Industry	10073.	12055.	15341.	18914.	20243.	22508.

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