

The 1980's: a decade of job growth and industry shifts

Although employment grew by nearly 19 million jobs, its strength was uneven; three-fourths of the increase was in services and retail trade, while manufacturing and mining lost workers

Lois M. Plunkert

The 1980's began with two recessions in 3 years and then posted the longest peacetime expansion on record. Although growth did slow as the decade came to a close, the service sector still added large numbers of jobs month after month.¹

Not all industries experienced the prosperity of the 1980's. Many manufacturing and mining industries never recovered from the two recessions; others recovered their production levels, but did so with fewer workers. Growth also was uneven within service sector industries: 1 new job in 4 was in business or health services, while some service sector industries even lost jobs—notably, communications, railroads, and water transportation. Other industries, such as finance and special construction trades, that showed strong growth for most of the 10-year period were experiencing job losses or sluggish growth at the end of the decade. As a result of the interplay of job gains and losses among industries, the 1980's witnessed the shifting of another 6 percent of employment from the goods-producing to the service-producing sector. Just over three-fourths of all jobs are now in the service sector.

This continued shift of jobs into the service economy was not at the expense of manufacturing output, which remained at about 23 percent of GNP over the decade, while factory jobs dropped from 23 percent to 18 percent of employment. During the two recessions early in the decade, many marginal jobs were eliminated throughout the economy. Marginal plants were closed down, some permanently. With the start of the recovery in 1983, industry began to take

on a leaner look. In an effort to compete in a worldwide market, many factories were modernized during the 1980's, with more and better machines enhancing workers' output. At the same time, the size of the labor force swelled: not only did the working-age population grow by 21.5 million, but a larger percentage of women entered the job market. As a result, women's participation in the labor force increased from 51 to 57 percent over the decade.

With labor plentiful, factory jobs scarce, and many companies in financial trouble, some labor unions agreed to reductions in wages or benefits. Others agreed to continue the status quo until conditions improved. Labor's recommendations for more cost-effective methods of production played an important part in the turnaround in many companies. Increasingly, labor had a direct stake in companies' profitability through profit-sharing plans, employee stock ownership plans (ESOP's), or outright purchase of the company. The outgrowth of these efforts was an increase in productivity that improved the U.S. manufacturing position in the world economy, as the index of output per employee hour worked rose from 108 (1977 = 100) at the end of the last recession to 140 by the decade's end. The weakening dollar in the mid-1980's set the stage for a surge in export orders in 1987, and U.S. manufacturers were poised to fill the demand abroad as well as the expanding markets at home.

The 1981-82 recession brought an end to 3 years of double-digit inflation. The annual change in the CPI stayed under 5 percent from 1983 through the end of the decade and averaged

Lois M. Plunkert is chief of the Branch of National Estimates, Division of Monthly Industry Employment Statistics, Bureau of Labor Statistics.

3.6 percent—its best performance since the 1960's. Thus, the stagflation of the early 1980's gave way to robust growth in real terms.

A slowdown in construction and domestic consumer demand in 1989, especially for autos and other big-ticket items, took a toll on manufacturing jobs. While exports were still growing, the rate of increase was only half that of the previous year, and they were not able to offset the slack domestic demand. Service sector jobs continued to increase, but at a slower pace. The decade of the 1980's ended with a slowing economy that led some forecasters to predict an imminent recession.

A tale of two sectors

The underlying theme of industry employment shifts experienced in the 1980's has been playing for decades. At the middle of the century, 41 percent of all nonfarm jobs were in the goods-producing sector. Forty years later, that proportion had declined to 24 percent. Within the service sector, the number of private jobs grew faster than government jobs. (See chart 1.)

Although the goods-producing sector has experienced a decline in its *share* of jobs, the actual number of jobs has remained relatively stable over the years, falling during recessions and rising again during subsequent recoveries. The service sector, on the other hand, survived the recessionary years quite well and, in some cases, even continued to add jobs. This resilience during economic downturns was followed by rapid growth during expansionary periods. Thus, the shifting job distribution resulted from the combination of flat employment levels in the goods-producing sector with steady growth in the service sector. (See chart 2.)

The 1980's provide a good example of the contrast between the two sectors during business

cycles. During the brief 1980 recession (January through July), goods-producing industries lost 1.4 million jobs, while the service sector gained 310,000 jobs. This movement yielded a net loss of 1.1 million jobs, or 1.2 percent of employment in all industries. A more severe recession followed 1 year later (July 1981 through November 1982), with the goods-producing industries losing 2.8 million jobs, a full 10.7 percent of their employment. The service sector, however, was relatively unscathed, losing a mere 45,000 jobs. The combined effect was a 3.1-percent decline in total payroll employment.

Service sector employment started to grow again in November 1982. The goods-producing sector continued to lose jobs through the first quarter of 1983, but then joined the service sector in the recovery. In 1984, the goods-producing sector even outpaced the service sector in rate of growth, increasing employment by 6 percent, compared to 4 percent. The result was a near 5-percent increase in total payroll employment, the fastest annual advancement in the recovery period.

As usually happens, growth rates slowed as the recovery matured over the next 2 years. Trouble in manufacturing industries in 1986 brought total payroll employment growth down to just over 2 percent, the slowest of the recovery period through 1989. To the surprise of many, this faltering year did not herald an end to the expansionary period, but was followed by 3 more years of job growth running about 3 percent a year. The decade ended with renewed signs of slowing, especially in the goods-producing sector, but continued strength in most of the service sector, as in 1986. (See chart 3.)

Trends in major industries

The uneven participation of various industry divisions in the job growth of the 1980's is readily seen in chart 4. Mining lost an astounding 25 percent of its employment over the decade, and manufacturing lost 7 percent. The only goods-producing industry division to gain jobs was construction, which grew by 19 percent. Government and transportation and public utilities, the slowest growing of the service sector industry divisions, each increased their employment by 11 percent. The large services division—including business, health, and other general services—grew faster than any other division and accounted for half of the job growth over the decade.

The impact of these varying rates of change on the distribution of jobs is seen in table 1. Currently, 1 job in 4 is in the services division, up from less than 1 in 5 at the beginning of the

Table 1. Percent employed in major sic industries, 1979 and 1989

Industry division	1979	1989
Total nonagricultural	100	100
Goods producing	29.5	23.6
Mining	1.1	0.7
Construction	5.0	4.9
Manufacturing	23.4	18.1
Service producing	70.5	76.4
Transportation and public utilities	5.7	5.3
Wholesale trade	5.8	5.7
Retail trade	16.7	18.0
Finance, insurance, and real estate	5.5	6.3
Services	19.1	24.8
Government	17.8	16.3

Chart 1. Distribution of payroll employment by industry sector, 1950 and 1989

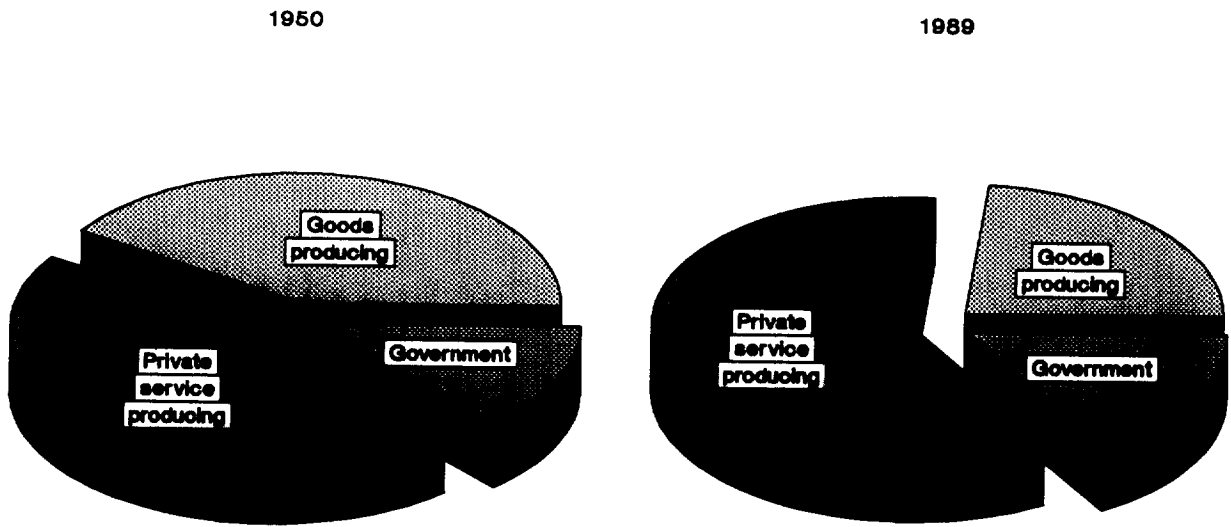
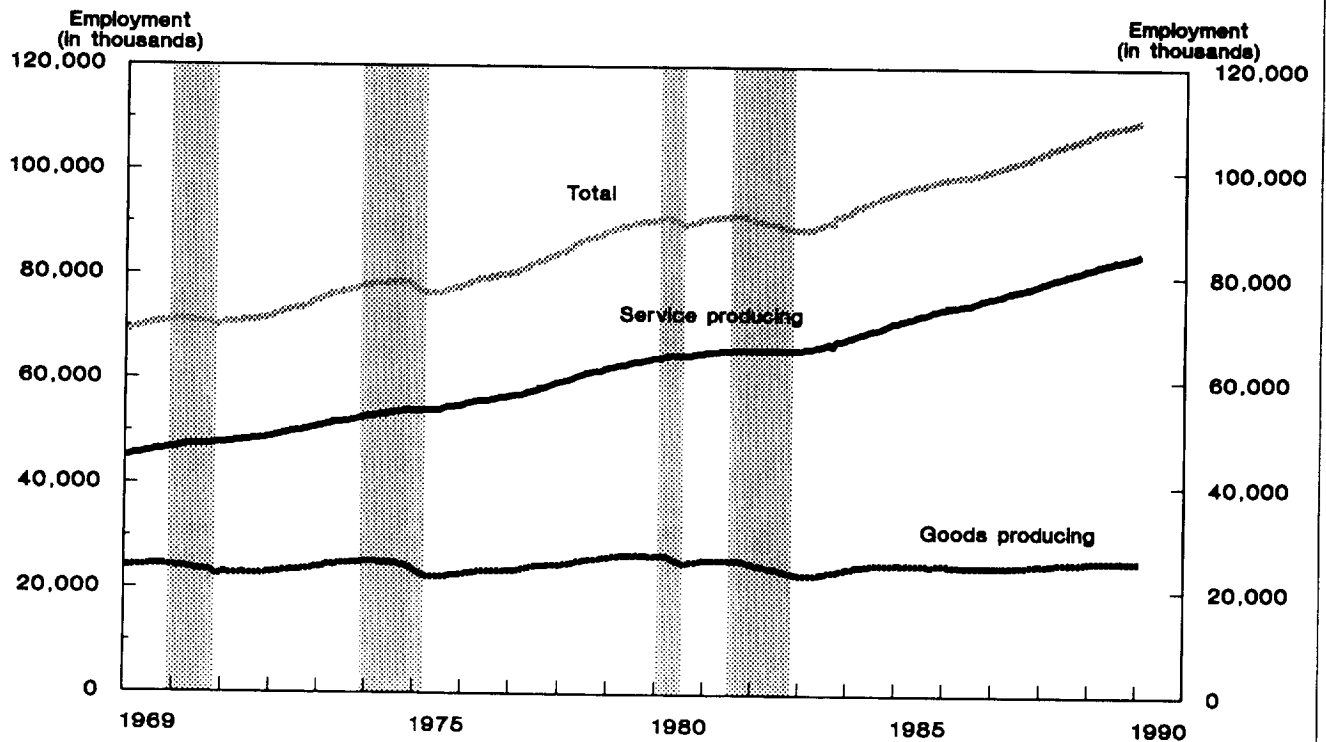


Chart 2. Payroll employment, seasonally adjusted, 1969-89



NOTE: Shaded areas are recessionary periods, as designated by the National Bureau of Economic Research.

decade. Manufacturing's share dropped by 5 percentage points to 18 percent. Government lost a 1½-percentage-point share, while retail trade gained about the same amount. Mining's loss of 0.4 percentage point brought it to well under 1 percent of employment. The remaining industry divisions just kept up with overall growth and ended the decade within a percentage point of the share of employment they held in 1979.

Table 2 presents data on employment change from 1979 to 1989 for each of the industry groups. Tables 3, 4, and 5 view industries at the next level of detail: table 3 selects the 20 industries that grew the fastest, table 4 shows the 20 that declined the most rapidly, and table 5 lists the 30 industries that added the most jobs.²

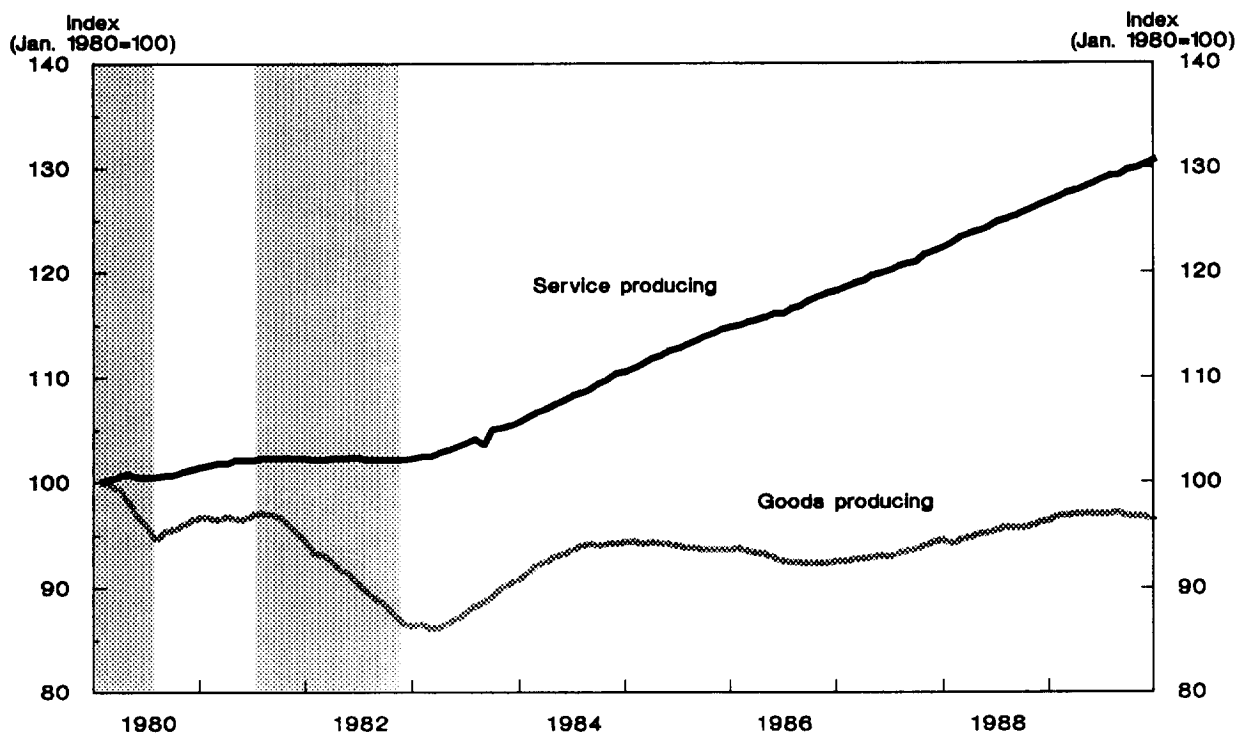
The goods-producing industries

Mining. The decade of the 1980's dealt a severe blow to the mining division and all of its component industries. Half of all mining jobs are in *oil and gas extraction*, which grew by 50 percent the first 3 years of the decade as the price of crude petroleum soared. The number of wells drilled, the number of oil rigs, and the

price of crude oil all peaked in 1982 and then fell to less than half their peak levels by 1987. Employment in oil and gas extraction followed the same pattern, hitting an all-time high in 1982 and then losing all of the jobs gained earlier in the decade, plus 75,000 more by 1987. A small rebound developed in 1989 as 25,000 jobs were added during the year. The decade ended with 70,000 fewer jobs in the industry than in 1979, a 15-percent decline in employment.

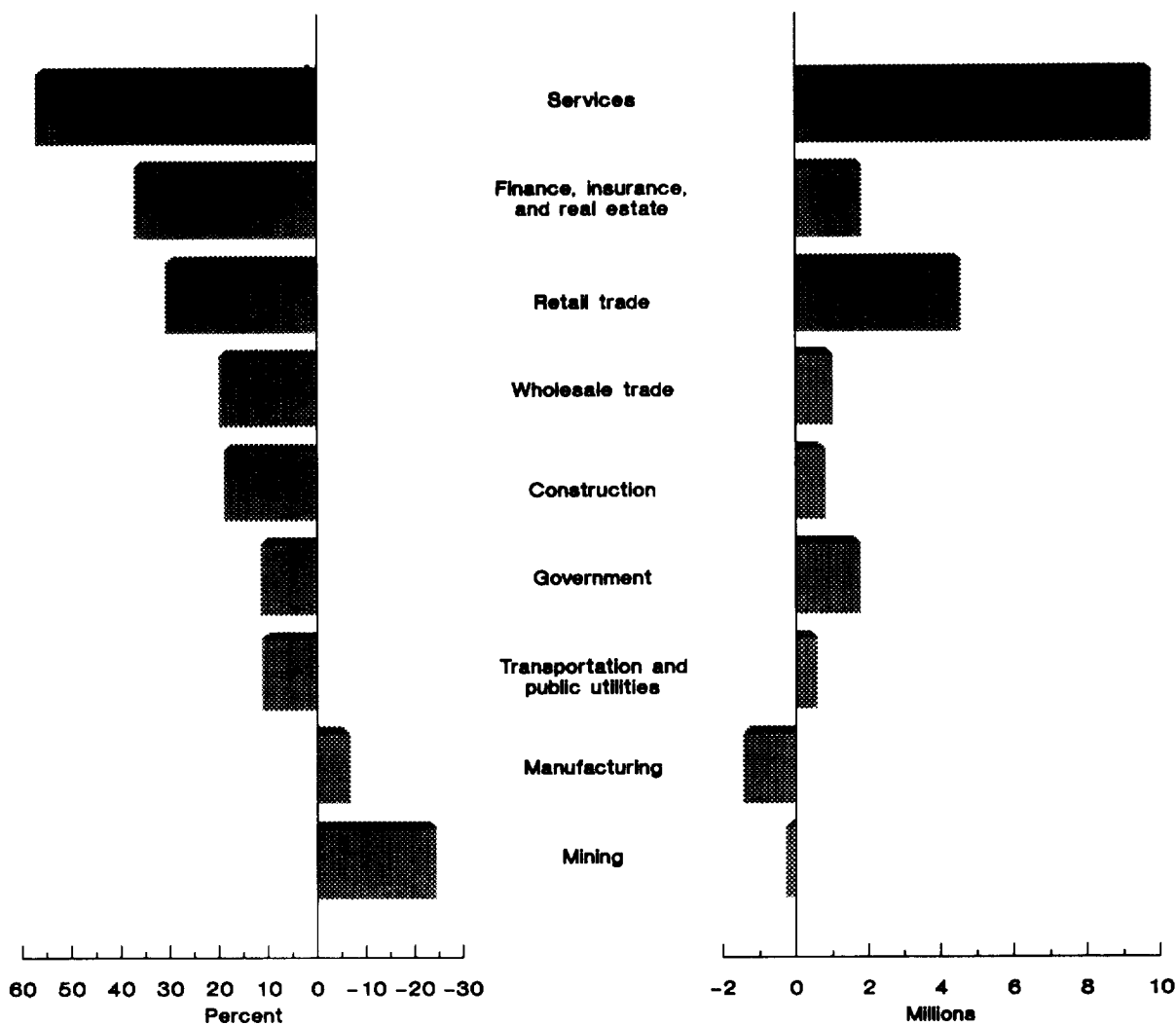
Coal mining suffered even greater blows than did oil and gas during the 1980's, losing 115,000 jobs, or 46 percent of its employment. From 1979 until 1983, the United States was the largest coal exporter in the world. Coal exports and the U.S. share of world coal trade peaked in 1981, as did coal mining employment. Subsequent employment declines were steady throughout the remainder of the decade. Although coal mining employment was reduced by nearly half over the decade, coal *production* grew each year from 1985 forward and was at the high point for the decade in 1989! This remarkable growth in productivity resulted from the increased use of labor-saving machinery such as continuous mining equipment, which cuts and loads the coal in one opera-

Chart 3. Indexes of employment change during the 1980's, by industry sector



NOTE: Shaded areas are recessionary periods, as designated by the National Bureau of Economic Research.

Chart 4. Employment changes by major industry division, 1979-89



tion. Many small and marginal mines, which did not have such equipment, were forced to close.

Metal mining also posted large job losses during the 1980's, losing 40,000 employees, or nearly 2 of every 5 jobs. *Iron ore mining* led the list of most rapidly declining industries, and *copper ore mining* was close behind. Both lost about 3 of every 5 of their jobs over the decade, while the output per hour worked more than doubled.

Construction. In contrast to the job losses suffered in other goods-producing industries, con-

struction employment grew by 19 percent during the 1980's. Being sensitive to business cycles, construction lost employment during the two recessions early in the decade. New housing starts and the value of new construction (in constant dollars) were at low points, while interest rates were at a high point for the decade in 1981-82. Construction employment then grew rapidly over the next 3 years with the economic recovery and a sharp decline in interest rates. Growth continued throughout the remainder of

Job Growth and Industry Shifts

the decade, at a somewhat slower but steady pace.

Most of construction's strength was in the *special trade contractors* category, which added nearly 850,000 jobs over the decade. Growth was especially strong in skills such as carpentry, masonry, electrical work, and roofing. Although the number employed in special trade contracting grew rapidly during most of the expansion period, in 1989 the industry's employment growth fell to less than half that of 1984 and 1985. *General*

building contractors also added employees over the decade, but at a much slower rate than did special trades. In contrast, employment by *heavy construction contractors* declined by 130,000 but ended the decade with a small rally.

Manufacturing. The decade of the 1980's was a period of tremendous structural change for U.S. manufacturing. The two recessions at the beginning of the period dislocated thousands of factory workers and underscored the economy's

Table 2. Employment change from 1979 to 1989, various sic industry groups

[Numbers in thousands]

SIC	Industry	1979	1989	Change	
				Number	Percent
	Total nonagricultural	89,823.0	108,581.0	18,758.0	20.9
07,10-86,89,99	Total private	73,876.0	90,854.0	16,978.0	23.0
10-39	Goods producing	26,461.0	25,634.0	-827.0	-3.1
10-14	Mining	958.0	722.0	-236.0	-24.6
10	Metal mining	101.0	61.8	-39.2	-38.8
12	Bituminous coal and lignite mining	255.6	139.3	-116.3	-45.5
13	Oil and gas extraction	474.2	403.5	-70.7	-14.9
14	Nonmetallic minerals, except fuels	123.8	115.4	-8.4	-6.8
15-17	Construction	4,463.0	5,300.0	837.0	18.8
15	General building contractors	1,272.0	1,390.6	118.6	9.3
16	Heavy construction contractors	930.5	801.6	-128.9	-13.9
17	Special trade contractors	2,260.1	3,107.4	847.3	37.5
20-39	Manufacturing	21,040.0	19,612.0	-1,428.0	-6.8
24,25,32-39	Durable goods	12,760.0	11,536.0	-1,224.0	-9.6
24	Lumber and wood products	766.9	769.5	2.6	0.3
25	Furniture and fixtures	497.8	531.0	33.2	6.7
32	Stone, clay, and glass products	708.7	602.9	-105.8	-14.9
33	Primary metal industries	1,253.9	782.5	-471.4	-37.6
34	Fabricated metal products	1,717.7	1,445.3	-272.4	-15.9
35	Machinery, except electrical	2,484.8	2,145.5	-339.3	-13.7
36	Electrical and electronic equipment	2,116.9	2,037.7	-79.2	-3.7
37	Transportation equipment	2,077.2	2,053.6	-23.6	-1.1
38	Instruments and related products	691.2	777.3	86.1	12.5
39	Miscellaneous manufacturing	444.8	391.2	-53.6	-12.1
20-23,26-31	Nondurable goods	8,280.0	8,076.0	-204.0	-2.5
20	Food and kindred products	1,732.5	1,665.2	-67.3	-3.9
21	Tobacco manufactures	70.0	52.9	-17.1	-24.4
22	Textile mill products	885.1	726.1	-159.0	-18.0
23	Apparel and other textile products	1,304.3	1,091.5	-212.8	-16.3
26	Paper and allied products	706.8	697.2	-9.6	-1.4
27	Printing and publishing	1,235.1	1,606.9	371.8	30.1
28	Chemicals and allied products	1,109.3	1,092.9	-16.4	-1.5
29	Petroleum and coal products	209.8	162.5	-47.3	-22.5
30	Rubber and miscellaneous plastics products	781.6	839.7	58.1	7.4
31	Leather and leather products	245.7	140.7	-105.0	-42.7
40-49	Service producing	63,363.0	82,947.0	19,584.0	30.9
	Transportation and public utilities	5,136.0	5,705.0	569.0	11.1
40	Railroad transportation	556.3	294.8	-261.5	-47.0
41	Local and interurban passenger transit	262.6	331.3	68.7	26.2
42	Trucking and warehousing	1,339.4	1,659.9	320.5	23.9
44	Water transportation	215.9	176.0	-39.9	-18.5
45	Transportation by air	438.2	691.8	253.6	57.9
46	Pipelines, except natural gas	20.1	18.8	-1.3	-6.5
47	Transportation services	188.7	341.6	152.9	81.0
48	Communication	1,309.0	1,254.0	-55.0	-4.2
49	Electric, gas, and sanitary services	805.7	936.3	130.6	16.2
50-51	Wholesale trade	5,204.0	6,234.0	1,030.0	19.8
50	Durable goods distribution	3,081.0	3,696.0	615.0	20.0
51	Nondurable goods distribution	2,123.0	2,539.0	416.0	19.6

transition away from the goods-producing sector. While manufacturing's long-term share of total output has remained fairly stable, its share of overall employment has declined steadily. This phenomenon partially reflects the superior productivity gains of manufacturing vis-a-vis the service-producing sector. However, the lack of long-term growth also stems from stiff foreign competition.

Manufacturing's all-time employment peak occurred in June 1979. Between then and July 1980, manufacturing firms lost 1.4 million jobs. Only 40 percent of these jobs had been recovered when the recession of 1981-82 began. This recession, much more severe than the first, caused manufacturers to eliminate 2.3 million jobs, or 10 percent of the work force. The subsequent recovery lasted 20 months, but only 1.5 million

jobs were added—just two-thirds of those lost. In the mid-1980's, factories experienced another slowdown while the overall economy continued to expand. The strong exchange rate value of the dollar rendered U.S. exports more expensive and imports less costly. Consumer spending was vigorous during this period, but was increasingly directed toward foreign goods. The dollar's value peaked in 1985, but the trade adjustment process required 2 years before manufacturing's improved competitive position translated into job growth. Between manufacturing's January 1987 trough and March 1989 peak, 810,000 jobs were added. After March, however, job losses ensued as the major domestic markets for manufactured goods—housing, automobiles, and defense—provided less demand and the growth of exports slowed.³

Table 2. Continued — Employment change from 1979 to 1989, various sic industry groups

[Numbers in thousands]

SIC	Industry	1979	1989	Change	
				Number	Percent
52-59	Retail trade	14,989.0	19,575.0	4,586.0	30.6
52	Building materials and garden supplies	629.2	769.8	140.6	22.3
53	General merchandise stores	2,287.4	2,483.4	196.0	8.6
54	Food stores	2,296.8	3,269.5	972.7	42.4
55	Automotive dealers and service stations	1,812.3	2,157.1	344.8	19.0
56	Apparel and accessory stores	949.4	1,191.9	242.5	25.5
57	Furniture and home furnishings stores	614.9	811.2	196.3	31.9
58	Eating and drinking places	4,513.1	6,369.9	1,856.8	41.1
59	Miscellaneous retail	1,885.7	2,521.7	636.0	33.7
60-67	Finance, insurance, and real estate	4,975.0	6,814.0	1,839.0	37.0
60	Banking	1,498.5	1,774.3	275.8	18.4
61	Credit agencies other than banks	554.0	907.5	353.5	63.8
62	Security, commodity brokers, and services	204.2	435.2	231.0	113.1
67	Holding and other investment offices	111.2	212.0	100.8	90.6
63	Insurance carriers	1,199.8	1,468.0	268.2	22.4
64	Insurance agents, brokers, and service	430.1	659.8	229.7	53.4
65	Real estate	954.5	1,348.0	393.5	41.2
66	Combined real estate, insurance, etc.	22.8	9.0	-13.8	-60.5
07,70-86,89,99	Services	17,112.0	26,892.0	9,780.0	57.2
70	Hotels and other lodging places	1,059.8	1,603.4	543.6	51.3
72	Personal services	904.0	1,196.1	292.1	32.3
73	Business services	2,905.9	5,788.7	2,882.8	99.2
75	Auto repair, services, and garages	575.1	898.7	323.6	56.3
76	Miscellaneous repair services	281.8	359.9	78.1	27.7
78	Motion pictures	227.6	265.2	37.6	16.5
79	Amusement and recreation services	712.0	975.6	263.6	37.0
80	Health services	4,992.8	7,635.3	2,642.5	52.9
81	Legal services	459.9	896.3	436.4	94.9
82	Educational services	1,089.7	1,628.8	539.1	49.5
83	Social services	1,081.3	1,736.9	655.6	60.6
84	Museums, botanical and zoological gardens	32.2	52.5	20.3	63.0
86	Membership organizations	1,516.2	1,761.6	245.4	16.2
89	Miscellaneous services	940.7	1,459.3	518.6	55.1
	Government	15,947.0	17,727.0	1,780.0	11.2
	Federal Government	2,773.0	2,988.0	215.0	7.8
	State government	3,541.0	4,134.0	593.0	16.7
	Local government	9,633.0	10,606.0	973.0	10.1

¹ Although published monthly estimates begin in 1982, the previously unpublished annual average for 1979 was computed and used for these comparisons.

NOTE: Figures shown for 1979 and 1989 are annual averages from the CES program.

Job Growth and Industry Shifts

Among the 20 manufacturing industry groups (the so-called two-digit industries), only five managed net employment growth during the 1980's. *Printing and publishing* stands out in sharp contrast to all other manufacturing industries, having grown by 30 percent and added 370,000 jobs. Helping to spur this growth was the surge in numbers of new businesses and the strong demand for print advertising. Two other industry groups with net gains over the decade, *lumber* (3,000) and *furniture* (35,000), are closely tied to the fortunes of the construction industries. *Rubber and miscellaneous plastics products* (60,000) benefited from the increasing substitution of plastics for other products. The growth in the *instruments* industry (85,000) resulted from a strong competitive market position as well as the rising demand for medical products.

Of the 15 manufacturing industry groups that lost jobs over the decade, *primary metals, machinery except electrical, and fabricated metals* demonstrated the most weakness, losing a combined total of more than a million jobs. These durable goods industries were forced to undergo significant restructuring to improve efficiency and compete effectively. The outputs of all three are important inputs for the production processes of the rest of the manufacturing sector. Hence, these industries suffered from manufacturing's

overall structural decline. They also felt the adverse effects of the strong dollar, especially its impact on international competitiveness.

The breadth of the weakness in manufacturing over the decade is demonstrated in table 4: 13 of the 20 most rapidly declining industries are in manufacturing. Three of these are in primary metals. *Blast furnaces and basic steel products* showed the fifth highest rate of decline and lost more jobs (nearly 300,000) than any other industry. This industry was forced to restructure and close inefficient plants, leading to a dramatic turnaround in steel productivity, which nearly doubled since the recession of 1981-82. As a result of improved technology, more favorable foreign exchange rates, concessionary labor pacts, and import restraints, the basic steel industry was able to stop the job erosion in 1987 after losing just over half of its workers.

Employment in machinery manufacturing dropped by 540,000—21 percent of the work force in the industry—during the 1981-82 recession. During the subsequent recovery, only 250,000 jobs were restored. From mid-1984 to the beginning of 1987, the industry underwent another downturn, losing as many jobs as it had previously recovered. The weak dollar of the latter part of the 1980's improved the industry's trade posture and spurred job growth, and ma-

Table 3. The 20 fastest growing industries from 1979 to 1989

[Numbers in thousands]

SIC	Rank	Industry	Employees		Change	
			1979	1989	Number	Percent
737	1	Computer and data-processing services	270.8	763.4	492.6	181.9
808	2	Outpatient care facilities ¹	113.0	317.3	204.3	180.8
736	3	Personnel supply services	526.5	1,351.2	824.7	156.6
616	4	Mortgage bankers and brokers ¹	62.3	148.8	86.5	138.8
824	5	Correspondence and vocational schools ¹	44.9	105.1	60.2	134.1
615	6	Business credit institutions ¹	30.2	67.1	36.9	122.2
832	7	Individual and family services ¹	161.0	353.1	192.1	119.3
733	8	Mailing, reproduction, stenographic	113.3	245.1	131.8	116.3
836	9	Residential care ¹	201.1	426.4	225.3	112.0
495	10	Sanitary services	47.0	96.8	49.8	106.0
376	11	Guided missiles, space vehicles, parts	101.5	207.8	106.3	104.7
458	12	Air transportation services ¹	47.3	96.8	49.5	104.7
621	13	Security brokers and dealers	164.7	336.5	171.8	104.3
81	14	Legal services	459.9	896.3	436.4	94.9
67	15	Holding and other investment offices	111.2	212.0	100.8	90.6
274	16	Miscellaneous publishing	46.1	82.8	36.7	79.6
739	17	Miscellaneous business services ¹	1,277.5	2,256.5	979.0	76.6
731	18	Advertising	145.9	256.4	110.5	75.7
893	19	Accounting, auditing, and bookkeeping	299.0	520.4	221.4	74.0
411	20	Local and suburban transportation	75.8	130.3	54.5	71.9

¹ Although published monthly estimates begin in 1982, the previously unpublished annual average for 1979 was computed and used for these comparisons.

NOTE: Figures shown for 1979 and 1989 are annual

averages from the CES program. Industries are compared at the three-digit Standard Industrial Classification (sic) level, unless the CES program only publishes monthly estimates at the two-digit level.

Table 4. The 20 most rapidly declining industries from 1979 to 1989

[Numbers in thousands]

SIC	Rank	Industry	Employees		Change	
			1979	1989	Number	Percent
101	1	Iron ores	24.8	9.3	-15.5	-62.5
66	2	Combined real estate, insurance, etc.	22.8	9.0	-13.8	-60.5
387	3	Watches, clocks, and watchcases	27.7	11.3	-16.4	-59.2
102	4	Copper ores	33.3	14.1	-19.2	-57.7
331	5	Blast furnaces and basic steel products	570.5	274.3	-296.2	-51.9
302	6	Rubber and plastics footwear	22.7	11.0	-11.7	-51.5
317	7	Handbags and personal leather goods	32.8	16.1	-16.7	-50.9
374	8	Railroad equipment	74.3	39.0	-35.3	-47.5
40	9	Railroad transportation	556.3	294.8	-261.5	-47.0
314	10	Footwear, except rubber	148.9	79.6	-69.3	-46.5
12	11	Bituminous coal and lignite mining	255.6	139.3	-116.3	-45.5
393	12	Musical instruments	24.0	13.1	-10.9	-45.4
153	13	Operative builders	83.3	45.7	-37.6	-45.1
412	14	Taxicabs	59.6	35.1	-24.5	-41.1
324	15	Cement, hydraulic	32.7	19.4	-13.3	-40.7
332	16	Iron and steel foundries	240.7	143.6	-97.1	-40.3
352	17	Farm and garden machinery	182.3	109.8	-72.5	-39.8
353	18	Construction and related machinery	382.8	237.0	-145.8	-38.1
333	19	Primary nonferrous metals	72.5	45.4	-27.1	-37.4
221	20	Weaving mills, cotton	150.9	95.9	-55.0	-36.4

NOTE: Figures shown for 1979 and 1989 are annual averages from the CES program. Industries are compared at the three-digit Standard Industrial Classification (sic) level,

unless the CES program only publishes monthly estimates at the two-digit level.

chinery became one of the most robust of the manufacturing industries through most of 1989. Yet, the employment level at the end of the decade was only 85 percent of its January 1980 all-time peak. The machinery industry group includes two of the most rapidly declining industries—*farm and garden machinery* and *construction machinery*—which together lost more than 200,000 jobs. Productivity remained relatively constant in these industries, as output and employment fell proportionately over the decade.

Large numbers of jobs also were lost in the *textile* and *apparel* industry groups. Throughout the 1980's, both faced increasingly intense competition from imported goods, particularly goods from low-wage countries in the Far East. Imports made up one-third of the apparel market and one-fifth of the total textile and apparel market by the mid-1980's. In response to the growing impact of imports, the textile industry invested heavily in labor-saving capital equipment such as shuttleless looms. The effect was to reduce employment even further, but also to improve competitiveness. Bolstered by a favorable exchange rate, import growth moderated for apparel and imports actually declined for textiles in 1987-88, but the trade position was again slipping at the end of the decade. *Women's and misses' outerwear* lost more jobs than any other industry in the two groups (down 100,000), and

cotton weaving mills suffered the greatest percentage job loss (down 36 percent).

The service-producing sector

Transportation and public utilities. The slowest growing of the private service-producing industry divisions was transportation and public utilities, whose 11-percent employment increase was half that of all industries. After job losses of more than 4 percent of employment during the two recessions, transportation and public utilities posted slow but steady growth over the remainder of the decade. The modest gains came in the transportation and public utilities components, while the communications component lost jobs following deregulation.⁴

A review of the industries within transportation and public utilities shows dramatic contrasts. Although the industry division experienced slow growth, it included 3 of the 20 fastest growing industries—*sanitary services, local and suburban transit, and air transportation services*—and 2 of the 30 industries that added the most jobs—*trucking and air transportation*, which together added a half million jobs. Partially offsetting the rapid growth in transportation were 2 of the 20 most rapidly declining industries—*railroads* and *taxicabs*. The railroad industry, which has been on a downward trend since the middle of the century, lost more

Just over three-fourths of all jobs are now in the service sector.

Job Growth and Industry Shifts

than a quarter million jobs, or nearly half of its employment, over the decade. Communications, after growing by 25 percent during the 1970's, lost 4 percent of its jobs in the 1980's. The breakup of AT&T had much to do with this decline, as new competition in the field led to cost cutting and consequent job cutbacks.

Wholesale trade. Employment in wholesale trade and each of its two components, durable goods distribution and nondurable goods distribution, grew at exactly the average rate for all industries over the decade, 20 percent. Job growth was restrained by the increasing tendency of retailers to import products made abroad in their own factories and of manufacturers to sell goods directly to retailers, bypassing the wholesaler. Strong parallels can be drawn between employment trends in manufacturing and wholesale trade, as both are affected by exports. Wholesale trade experienced moderate job

losses during the recessions, but the losses were recouped by the end of 1983, and the strongest growth of the decade followed in 1984. The second half of the decade began with a weak 1985 performance and an even weaker 1986 showing as a strong dollar led to a reduced demand for exports. Responding to a falling dollar in 1986, the demand for exports rose, and employment growth in wholesale trade began to pick up again in 1987-88. Growth decelerated beginning in the second quarter of 1989.

Two industries within wholesale trade were in the top 30 job gainers. *Machinery, equipment, and supplies distribution* added 315,000 jobs. Contained in this industry is the distribution of computers and equipment (terminals, software, printers) and office machines such as word processors. The market for these goods grew during the 1980's due to improved technology and the widespread use of this machinery at home and at the office. Also in this industry, hospital and lab-

Table 5. The 30 industries adding the most jobs from 1979 to 1989

[Numbers in thousands]

Rank	Industry	SIC	Employees		Change	
			1979	1989	Number	Percent
1	Eating and drinking places	58	4,513.1	6,369.9	1,856.8	41.1
2	Miscellaneous business services ¹	739	1,277.5	2,256.5	979.0	76.6
3	Grocery stores	541	2,001.9	2,889.1	887.2	44.3
4	Hospitals	806	2,608.4	3,490.7	882.3	33.8
5	Personnel supply services	736	526.5	1,351.2	824.7	156.6
6	Hotels, motels, and tourist courts	701	1,019.9	1,548.9	529.0	51.9
7	Computer and data-processing services	737	270.8	763.4	492.6	181.9
8	Offices of physicians	801	716.8	1,206.8	490.0	68.4
9	Legal services	81	459.9	896.3	436.4	94.9
10	Nursing and personal care facilities	805	950.8	1,384.2	433.4	45.6
11	Miscellaneous shopping goods stores	594	568.5	905.4	336.9	59.3
12	Services to buildings	734	487.0	807.6	320.6	65.8
13	Machinery, equipment, and supplies	508	1,260.8	1,574.0	313.2	24.8
14	Trucking and trucking terminals	421.3	1,248.8	1,537.7	288.9	23.1
15	Colleges and universities	822	716.9	990.9	274.0	38.2
16	Amusement and recreation services	79	712.0	975.6	263.6	37.0
17	Engineering and architectural services	891	515.0	756.1	241.1	46.8
18	Insurance agents, brokers, and service	64	430.1	659.8	229.7	53.4
19	Residential care ¹	836	201.1	426.4	225.3	112.0
20	Accounting, auditing, and bookkeeping	893	299.0	520.4	221.4	74.0
21	Outpatient care facilities ¹	808	113.0	317.3	204.3	180.8
22	Air transportation	451.2	390.9	595.0	204.1	52.2
23	Commercial and stock savings banks	602	1,369.3	1,572.8	203.5	14.9
24	Individual and family services ¹	832	161.0	353.1	192.1	119.3
25	Real estate agents and managers	653	360.2	550.6	190.4	52.9
26	Groceries and related products	514	648.1	837.9	189.8	29.3
27	Offices of dentists	802	322.0	511.6	189.6	58.9
28	Department stores	531	1,878.1	2,056.2	178.1	9.5
29	Security brokers and dealers	621	164.7	336.5	171.8	104.3
30	Savings and loan associations	612	236.0	402.8	166.8	70.7

¹ Although published monthly estimates begin in 1982, the previously unpublished annual average for 1979 was computed and used for these comparisons.

NOTE: Figures shown for 1979 and 1989 are annual

averages from the CES program. Industries are compared at the three-digit Standard Industrial Classification (sic) level, unless the CES program only publishes monthly estimates at the two-digit level.

oratory equipment distribution grew steadily, because of its relation to the robust health services field. *Groceries distribution*, also a top 30 job gainer, added 190,000 workers. This mirrors the strength in food stores and restaurants and the introduction of a wide range of innovative food products, such as microwaveable items, single-serving portions, and gourmet ice creams. Companies introduced low-sodium, cholesterol-free, or "lite," versions of their products and added items containing ingredients, such as oat bran and fiber, for the health conscious. This explosion of new product lines required more workers to distribute, as well as to manufacture and sell, the products.

Retail trade. The long economic expansion during the 1980's was reflected in strong employment growth in retail trade. Changing lifestyles, such as the increase in the percentage of women who work outside the home and in that of workers who have two jobs, also contributed to growth. The combination of greater spending power and less free time left its mark on retail trade. Stores that sold products aimed at saving time and work and stores that offered service and convenience were among the most successful retail establishments during the 1980's. Fast food and carryout restaurants, as well as restaurants delivering food to the home, helped to meet the growing need for meals on the run. *Eating and drinking places* of all types headed the list of industries that added the most jobs in the 1980's; 1 job in every 10 added over the decade was in this huge industry. Mail-order catalog sales also benefited from the inability of busy consumers to find time to shop at stores. Other rushed consumers started using personal shoppers who preselected requested items, a new service offered by many department stores to facilitate many purchases in a short time.

Grocery stores also introduced features conducive to the need for convenience and timesaving, helping to spur growth that placed the industry third on the list of job gainers. Many grocery stores added flower sections, photo processing, pharmacies, and bakeries, making them one-stop shopping places. Grocery stores also began offering ready-made specialty foods and salad bars, which appeal to busy people. Many establishments extended their hours to accommodate the growing number of families unable to shop during the weekday. Partially because these new services are labor intensive, 1 of every 20 jobs gained over the decade was in grocery stores.

Many new shopping malls were built, and many existing malls were renovated during the

Table 6. Employment growth in government from 1979 to 1989

[Numbers in thousands]

Industry	1979	1989	Change	
			Number	Percent
Government	15,947.0	17,727.0	1,780.0	11.2
Federal Government ¹	2,773.0	2,988.0	215.0	7.8
Executive	2,719.8	2,928.2	208.4	7.7
Department of Defense	895.4	973.4	78.0	8.7
Postal service	660.9	832.2	171.3	25.9
Other executive	1,163.4	1,122.7	-40.7	-3.5
Legislative	39.8	37.9	-1.9	-4.8
Judicial	13.2	21.4	8.2	62.1
State government	3,541.0	4,134.0	593.0	16.7
Hospitals	537.7	449.4	-88.3	-16.4
Education	1,378.3	1,628.4	250.1	18.1
General administration	1,005.7	1,521.8	516.1	51.3
Local government	9,633.0	10,606.0	973.0	10.1
Transportation and public utilities ..	594.2	495.9	-98.3	-16.5
Hospitals	570.6	649.4	78.8	13.8
Education	5,107.3	5,862.3	755.0	14.8
General administration	2,968.6	3,243.3	274.7	9.3

¹ Federal Government data are actual counts of Federal workers provided monthly by the U.S. Office of Personnel Management.

NOTE: Figures shown for 1979 and 1989 are annual averages from the CES program.

1980's. Retail developers tended toward the two extremes of upscale and discount malls. Renovated malls frequently catered to a more affluent clientele, as did several well-known department store chains that added name brand or celebrity-endorsed merchandise. Other exclusive chains expanded their markets. Many department store chains experienced hard times during the decade as local or regional chains were bought by investors. The debts incurred in these buyouts proved disastrous to some stores: financial problems, combined with a consumer propensity for buying merchandise only after several markdowns, caused many well-known chains to suffer large losses. As a result, *department store* employment grew at only half the average rate of all industries. Because of the large number of people employed in department stores, however, the industry was nonetheless among the top 30 job gainers of the 1980's. In sharp contrast to department stores, some apparel chains experienced great success during the 1980's and made inroads into the market usually served by the larger department stores. Other mall stores also fared very well, with *miscellaneous shopping goods stores* adding jobs at 3 times the rate for all industries and making the list of the top 30 job gainers.

The fastest growing segment of retail trade was *radio, television, and music stores*, which increased employment by 71 percent over the decade and added 110,000 jobs. These stores

specialize in several high-demand items that were introduced in the 1980's, such as VCR's, compact disc players, cable-ready television sets, and video camcorders. Personal computers also are available at many of the stores. The industry includes stores that rent or sell movies and tapes, provided that they sell the electronic equipment as well, and this aspect boosted employment further.

Finance, insurance, and real estate. The growth rate for this relatively small industry division was second only to that of services during the 1980's and, at 37 percent, was nearly twice the average for all industries. The prosperity was shared among the three parts, with large gains in several component industries. The recessions had little effect on employment in the division, with only real estate showing minor declines.

Substantial shifts occurred within finance, due largely to the impact of the Depository Institutions Deregulation and Monetary Control Act of March 1980. Barriers to entry into the industry were greatly reduced by this legislation, and large gains were seen in all areas except banking, which grew only moderately. As a result of its slow growth, banking's share of employment in finance industries dropped from 63 to 53 percent. In sharp contrast to banking, 4 of the 20 fastest growing industries were in nonbanking financial industries: *mortgage brokers, business credit institutions, security brokers, and holding and other investment offices.* Security brokers also made the list of 30 industries that added the most jobs. This industry posted even larger gains prior to the November 1987 stock market crash, but lost 25,000 jobs in 1988-89. The *commercial banks* industry, although growing at a relatively slow rate, also made the top 30 list of job gainers due to its large employment base.

Within insurance and real estate, two more industries were on the "most jobs added" list. *Insurance agents* and *real estate agents* each increased employment by 53 percent over the decade, for a combined total of more than 400,000 jobs. All the gains for real estate agents were made after 1982, as some jobs were lost during the recessions.

Services. The main reason for the impressive 1980's expansion was the performance of the services industries, which were responsible for half of all job growth during the decade. Of the 20 fastest growing industries, 11 were services, as were 17 of the 30 industries adding the most jobs.

The *business services* industry was both the most rapidly growing and the biggest employment gainer of the industry groups within the services division (table 2), doubling its employment and adding 2.9 million jobs. As businesses

emerged from the 1981-82 recession, one approach taken by many to retain a lean posture was to contract for some of the services that they previously performed in-house. Employment mushroomed in such services as advertising, mailing and reproduction, services to buildings, and management and public relations. Within the business services industry group were five of the most rapidly growing industries, including *computer and data-processing services*, which nearly tripled its employment by adding a half million jobs. Much of the strength in computer services was in specialized programming and software. *Personnel supply services* grew nearly as fast, adding 825,000 jobs. This industry is dominated by temporary help supply firms, which grew very rapidly during the recovery period as organizations looked for ways to increase their staffing flexibility.⁵ Although categorized under miscellaneous services rather than business services, the *accounting, auditing, and bookkeeping services* industry profited from the same demand factors affecting business services in general and increased its employment by three-fourths, adding 220,000 jobs over the decade.

Health services employment grew at half the pace of business services, but this was still 3 times the rate for all industries. The large health services industry group added 2.6 million workers during the 1980's. Factors behind this growth include the growing elderly population; technological advances that make new treatments possible; and more requirements for paperwork, imposed by both Government and private insurers. Employment growth was somewhat restrained by cost-cutting efforts aimed at reducing inpatient hospital stays when care could be provided on an outpatient basis and shortening the length of hospital stays when they were required. As a result, employment in *outpatient care facilities* nearly tripled over the decade, making this component the second fastest growing industry, while the *hospitals* industry, with a 34-percent growth rate, was one of the slower growing health services. Nevertheless, considering the large number of persons employed in hospitals, this moderate growth rate was sufficient to place the industry fourth on the list of job gainers. *Offices of physicians* also made this list, adding nearly half a million jobs and increasing employment by two-thirds over the decade.

Another rapidly growing health service industry was *nursing and personal care facilities*; the aging population was a factor behind a 46-percent employment increase in the industry, amounting to 435,000 new jobs. A related *social service* industry, *residential care*, benefited from the same demographics. Employment more than

Thirteen of the 20 most rapidly declining industries are in manufacturing.

doubled in residential care institutions, which provide 24-hour, year-round personal care with only incidental health care. The industry added 225,000 jobs over the decade, placing it on both the list of biggest gainers and the list of fastest growers. A similar performance was posted by another social service industry—*individual and family services*—which includes elderly day care and senior citizens' centers, as well as private community social service agencies.

The *legal services* industry also is noteworthy because of both its high growth rate, 95 percent, and the large number of jobs added, 435,000, over the decade. Part of this strength can be attributed to the rising number of high-income families that need and can afford more sophisticated legal services.

Government. One of the two slowest growing of the service sector industry groups, government added nearly 1.8 million jobs during the 1980's. Within this industry division, the number of State government jobs grew most rapidly, with a 17-percent increase, and local government added the most jobs, accounting for more than half of the total added.

The Federal Government demonstrated slow growth over the decade, with a 7.8-percent increase in jobs. The substrata within the Federal Government, however, showed divergent patterns. Civilian employment in the *Department of Defense* gained 80,000 jobs, reflecting the military buildup during the 1980's; civilian defense jobs had dropped by 3 times that amount in the prior decade as the country adjusted from war to peace. During the 1980's, the *postal service* added 1 worker for every 4 already employed, for a total of 170,000 new jobs. In sharp contrast, all *other executive agencies* lost a total of 40,000 employees, reflecting, among other things, a cut-back in the number of Federal grant programs and their funding. The relatively small legislative and judicial agencies also had divergent movements. *Legislative agencies* lost 2,000 jobs, or 1 employee in 20, while the *judicial branch* added 3 employees for every 5 employed at the beginning of the decade—a gain of 8,000 jobs and almost as rapid a growth rate as for private legal services. (See table 6.)

State and local government, affected by the recessions and by the California-led revolt against taxes ("Proposition 13"), lost 430,000 jobs in the early 1980's. State and local governments later benefited from increased revenue attributable to growth in the economy, State and local tax increases, and increased income from

user fees and State lotteries. Although growth in school enrollments decelerated markedly during the 1980's, new resources were geared toward initiatives to improve education following the release of a critical report by the National Commission on Excellence in Education.⁶

Against this backdrop, *State general administration* added a half million jobs, or 1 new worker for every 2 employed in 1979. *State education* added another quarter million jobs, for an 18-percent increase, even though enrollment in public 4-year colleges grew by only 4 percent. *State hospitals*, on the other hand, lost 90,000 workers, reflecting, at least in part, the trend to deinstitutionalize mental patients.

Like that of State education, employment growth in *local education* cannot be explained by enrollment trends. Schools added three-quarters of a million jobs, for a 15-percent growth rate, while enrollment in grades K-12 fell by 3 percent and the number of students in public 2-year colleges increased by just 2 percent. *Local general administration* grew at a more modest rate than State administration, but accounted for more than a quarter million new jobs. *Local government hospitals* added nearly as many jobs as State hospitals lost, but *transportation and public utilities* owned by local governments suffered significant jobs losses over the decade.

Into the 1990's

What is the employment trend buried in the employment data for the first half of 1990? Little can be known for sure at this point, but one development is clear: the slowdown of the economic expansion continued into 1990, with average monthly growth in employment (excluding Decennial Census workers) considerably below that of 1989—165,000, compared with 205,000. Manufacturing continued the employment declines begun in April 1989, averaging a loss of 20,000 a month during the first half of 1990. Employment also was down in construction, and growth slowed in trade. In contrast, health services continued its robust and consistent employment expansion, adding 40,000 to 60,000 jobs each month, and several other service industries continued to grow without signs of slowing. The current situation could be a repeat of the economic slowdown in 1986, or the prelude to the first recession in the decade of the 1990's. Regardless, the monthly employment estimates will continue to provide early insight into the economy as it unfolds. □

The services industries were responsible for half of all job growth during the decade.

Footnotes

¹ Employment data used in this article are from the Bureau of Labor Statistics Current Employment Statistics (CES) program, a monthly survey of the number of employees on nonfarm payrolls, their earnings, and hours for which they were paid. This article presents only employment data. Other CES data, including average hourly earnings and average weekly hours, are presented each month in the Bureau's publication, *Employment and Earnings*. Also included in this publication are data for most manufacturing and many non-manufacturing industries at the more detailed four-digit Standard Industrial Classification (SIC) level. State and area estimates are presented at the industry division level. Data are reported each month by a sample of over 300,000 establishments, and estimates are benchmarked annually to correspond with the complete counts of employment that are obtained primarily from administrative records of the Unemployment Insurance System. The data presented in this article have been reconciled with universe counts as of March for each year up to 1988, the most recent year for which data are available on the 1972 SIC codes. For a description of CES concepts and methodology, see *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, April 1988), ch. 2.

² Comparisons are made at the three-digit SIC level, except in the relatively few cases where the CES program only publishes at the two-digit level. Data are based on the 1972

SIC codes. Although the CES program introduced the 1987 codes in September 1990, substantial changes in many of the industry series do not allow for analysis over the decade under the new scheme.

³ For more detail on the export-driven resurgence in manufacturing, see Christopher J. Singleton, "The 1987-88 surge in exports and the rise in factory jobs," *Monthly Labor Review*, May 1990, pp. 42-48.

⁴ The Federal Government filed and won an antitrust suit against American Telephone and Telegraph (AT&T) that resulted in the divestiture of the Bell System in 1984. This action ended AT&T's "natural monopoly," and competitors were able to enter the market. Regulation of rates and other important aspects of service also were ended at this time.

⁵ For a discussion of the rapid growth in business services during the early years of the recovery period, see Wayne J. Howe, "The business services industry sets pace in employment growth," and Max L. Carey and Kim L. Hazelbaker, "Employment growth in the temporary help industry," *Monthly Labor Review*, April 1986, pp. 29-36 and 37-44, respectively.

⁶ National Commission on Excellence in Education, *A Nation at Risk* (Washington, DC, National Commission on Excellence in Education, 1983).

Evolving technical jobs

Technical changes on the job tend to change basic skill requirements incrementally. Sometimes these changes accumulate to the point of creating new occupations. In manufacturing, craft occupations such as machinist and tool and die maker are evolving quickly into technician and technologist jobs. The same has happened with the skill jobs of assembler, repair person, and materials handler. In services, the secretary is evolving into the information manager and the bank teller is becoming the financial services portfolio consultant for individual customers.

—Anthony P. Carnevale, Lelia J. Gainer, Ann S. Meltzer
Workplace Basics: The Skills Employers Want
(Alexandria, VA, The American Society for
Training and Development, 1989), p.3.
