

Occupational Employment in Selected Nonmanufacturing Industries

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U.S. Department of Labor
Raymond J. Donovan, Secretary
Bureau of Labor Statistics
Janet L. Norwood, Commissioner
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Preface

This bulletin provides data from a 1978 survey of occupational employment in mining; construction; finance, insurance, and real estate; and selected services industries. Wholesale and retail trade; transportation; communications; and electric, gas, and sanitary services were surveyed in 1979, and results will be published later this year. Results of the 1977 survey of manufacturing industries were published in *Occupational Employment in Manufacturing Industries, 1977* Bulletin 2057.

This periodic survey is part of a Federal-State cooperative program of occupational employment statistics (OES). The OES program also includes preparation of the National/State Industry-Occupational Matrix—a set of tables showing employment cross-classified by occupation and industry for the Nation and each State. In addition, the program includes Federal assistance to State employment security agencies in developing projections of occupational employment for States and areas.

The OES program provides information for many data users, including individuals and organizations engaged in planning vocational educational programs, training programs supported by the Comprehensive Employment and Training Act, and higher education. OES data also are used to prepare information for career counseling, for job placement activities performed at State employment security offices, and for personnel planning and market research conducted by private enterprises.

This bulletin was prepared in the Office of Employment Structure and Trends, Division of Occupational and Administrative Statistics, by Barbara L. Keitt under the direction of Thomas C. Shirk. John Shew and Warren Macurdy provided statistical and data processing support.

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Introduction

The Occupational Employment Statistics (OES) survey is designed to collect data on occupational employment of wage and salary workers by industry in non-agricultural establishments. The Bureau of Labor Statistics provides the procedures and technical assistance for the survey, State employment security agencies collect the data, and the Employment and Training Administration provides administrative support. In 1978, 43 States (including the District of Columbia) participated in the survey compared with 29 States in 1975 and 22 in 1973. BLS conducted a supplemental survey in 1978, with the financial aid of the National Science Foundation, to collect data in nonparticipating States and to develop national estimates.

This bulletin presents national data only. Data on occupational employment in each of the participating States are available from the State employment security agencies (appendix B).

Survey procedures

The survey is conducted over a 3-year cycle; manufacturing industries are surveyed in one year and non-manufacturing industries in the other two years. Data are collected from a sample of establishments primarily by mail; telephone followups and personal visits are made when an establishment response is critical to the survey. The survey is based on a probability sample, stratified by industry and size of employment, designed to represent the total or "universe" of establishments covered by the survey. Data are requested for the pay period including the 12th of the reference month, which is standard for all Federal agencies collecting employment data. For the 1978 survey, the reference month was April, May, or June (appendix A).

For the 1978 survey, 38 separate questionnaires were used, each having detailed occupations related specifically to a particular industry's activity. For example, "credit analyst" was surveyed in only two industries—banking and insurance. Cross-industry estimates, therefore, cannot be developed for most detailed occupations because not all detailed occupations were included on every survey questionnaire. This bulletin presents cross-industry data for major occupational groups.

Occupational and industrial classification

The OES classification system combines two widely used systems—the *Dictionary of Occupational Titles*

(DOT) and the system used for the 1970 Census of Population. Occupational titles and descriptions in the survey are based primarily on the *Dictionary of Occupational Titles*.¹ The DOT was used to develop the definitions of detailed classification available. Summary categories and residual groups generally follow the categories used in the 1970 census. "Crosswalks" have been developed between the two systems so that users may integrate OES data with data from sources using the Census classification.

The industrial classification system is that described in the 1972 edition of the *Standard Industrial Classification Manual*,² whereby reporting establishments are classified into industries on the basis of major product or activity.

Concepts

An *establishment* is an economic unit which produces goods or services. Generally, it is at a single physical location and is engaged predominantly in one type of economic activity. Where a single physical location encompasses two or more distinct activities, these are treated as separate establishments if separate payroll records are available and certain other criteria are met.

Employment includes full- and part-time workers; workers on paid vacations or other types of leave; workers on unpaid short-term absences (i.e., illness, bad weather, temporary layoff, jury duty); salaried officers, executives, and staff of incorporated firms; employees temporarily assigned to other units; and employees for whom a unit is their permanent (home) duty station, regardless of whether the unit prepares their paycheck. Excluded from coverage are proprietors (owners and partners of unincorporated firms), self-employed, unpaid family workers, and workers on extended leave (i.e., pensioners and members of the Armed Forces).

Occupation refers to the occupation in which employees are working rather than the occupation for which they may have been trained. For example, an employee trained as an engineer but working as a drafter is reported as a drafter.

¹ *Dictionary of Occupational Titles*, fourth edition (U.S. Employment Service, U.S. Department of Labor, 1977.)

² *Standard Industrial Classification Manual* (Office of Management and Budget, Executive Office of the President, 1972), as amended in *Supplement*, 1977.

Working supervisors (those spending 20 percent or more of their time at work similar to that done by workers under their supervision) are reported in the occupation most closely related to their work.

Part-time workers, learners, and apprentices are reported in the occupation in which they ordinarily work.

Multiple jobholders (employees who work in two or more occupations) are reported in the occupation that requires the highest level of skill or in the occupation where the most time is spent if there is no measurable difference in skill requirements.

A more detailed statement describing the survey is presented in appendix A.

Data presented

This bulletin presents occupational employment for 2-digit SIC industries. Health services (SIC 80), however, excludes data for SIC 806.³ Data are presented for each industry under the following headings: Employment, percent of total employment, relative error, and percent of establishments reporting the occupation.

Employment is based upon survey results adjusted to reflect total industry employment. The percent of total employment refers to total employment in the industry. Relative error measures the level of confidence placed on each estimate. The percent of establishments reporting a particular occupation indicates the frequency of occurrence of the occupation.

Occupations with fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are not shown separately but are included in the appropriate residual categories.

Employment is rounded to the nearest ten. The relative error and the percent of respondents reporting the occupation are rounded to the nearest whole percent. The percent of total employment was computed from rounded employment data.

³ Additional occupational employment data at the more detailed 3-digit SIC level are available upon request from the Office of Employment Structure and Trends. Definitions for all occupations surveyed are also available upon request.

Summary

In 1978, employment in the selected nonmanufacturing industries covered by this survey was 22.3 million or a little over 25 percent of all wage and salary employment in the Nation. As shown in table 1, 55 percent of surveyed employment was in service industries. Finance, insurance, and real estate industries and construction accounted for most of the rest; mining accounted for less than 5 percent.

For the survey, workers were classified into seven major occupational groups: Managers and officers; professional workers; technical workers; service workers; maintenance, construction, repair, material handling, and powerplant workers; clerical workers; and sales workers.

The maintenance, construction, repair, material handling, and powerplant occupational group includes all skilled, semiskilled, and unskilled workers performing machine and manual work. In 1978, this group was the largest surveyed (table 2). One out of every three surveyed workers was engaged in an occupation associated with construction, whether in the construction industry itself or in other industries. The survey showed that 89 percent of carpenters, plumbers, and pipefitters, and 80 percent of all electricians worked in construction.

Clerical occupations, the second largest group, are concerned with preparing, transcribing, systematizing, and preserving written communications and records; distributing information; collecting accounts; allocating; expediting; and computing materials and production costs. Clerical occupations are classified into two subgroups—office clerical and plant clerical.

The majority of clerical occupations are office oriented. In 1978, the largest single occupation in all nonmanufacturing industries surveyed was secretary, with 969,000 workers. Other clerical occupations with significant employment for the group and sector as a whole were: General office clerks, with 781,300; tellers, 387,800; and hand bookkeepers, 319,600.

Service workers constituted the third largest group of workers in 1978. The service group includes workers who provide personal and protective services to individuals in institutions and commercial establishments; maintain and clean interiors of buildings; and prepare

and serve food and beverages. Over 60 percent of service workers covered by the survey were in cleaning occupations or in personal services. Food preparation and food serving workers accounted for 20 percent of service employment; protective service workers, 10 percent.

Professional occupations, accounting for 2.8 million workers, ranked fourth in employment in 1978. This group include occupations concerned with the theoretical and practical aspects of human endeavor in such fields as art, science, engineering, medicine, law and business relations. The survey categorized professional occupations as either scientific or nonscientific. Nonscientific occupations accounted for 86 percent of these workers. Five occupations with significant employment were: Accountants and auditors, 314,700; professional nurses, 181,800; physicians and surgeons, 144,300; preschool teachers, 143,600; and lawyers, 118,600.

Managers and officers include persons concerned with policymaking, planning, and staffing, directly or through subordinates, the activities of an establishment or enterprise. Occupations in this group include office, sales, and plant managers; and corporate officers.

Managers and officers were the fifth largest group in nonmanufacturing. Significant numbers of these workers were employed in four industries: Construction, banks and credit agencies, insurance and real estate, and business services.

Technical occupations accounted for about 4 percent of the employment covered by this survey. This group includes workers who assist in health care; in engineering and scientific research, development, and testing; and in operating and programming technical equipment and systems. Forty-six percent of technical employees were in health services (excluding hospitals).

About 708,000 workers were in sales occupations. Of these, insurance sales agents, associates, and representatives constituted the largest group, 225,000 or 32 percent. Sales agents, associates, and representatives (other than insurance and real estate) made up the second largest group, 201,200, followed by real estate sales agents, associates, and representatives, 95,000.

Table 1. Employment in selected nonmanufacturing industries, 1978

Industry	Employment	Percent distribution
Total	22,345,860	100.0
Mining, total	882,200	3.9
Mining, except oil and gas extraction	460,930	2.1
Oil and gas extraction	421,270	1.9
Construction, total	4,506,610	20.2
Finance, insurance, and real estate, total	4,697,910	21.0
Banks and credit agencies	1,918,390	8.6
Security, commodity brokers and investment services	293,280	1.3
Insurance and real estate	2,486,240	11.1
Services, total	12,259,140	54.9
Hotels and other lodging places	980,770	4.4
Personal services	910,400	4.1
Business services	2,609,890	11.7
Auto repair, services, and garages	543,560	2.4
Miscellaneous repair services	262,530	1.2
Motion pictures	206,360	.9
Amusement and recreation services	693,860	3.1
Health services, except hospitals	2,236,280	10.0
Legal services	437,400	2.0
Social services	971,770	4.3
Museums, botanical and zoological gardens	29,470	.1
Membership organizations	1,504,260	6.7
Miscellaneous services	872,590	3.9

Table 2. Employment in selected nonmanufacturing industries by major occupational group, 1978

Industry	Managers and officers	Professional workers	Technical workers	Service workers	Maintenance, construction, repair, material handling, and powerplant workers	Clerical workers	Sales workers
Total	2,385,420	2,830,170	847,050	3,969,890	5,991,860	5,613,700	707,770
Mining, except oil and gas extraction	23,670	16,850	6,610	5,370	¹ 379,680	27,380	1,370
Oil and gas extraction	38,450	52,430	15,750	4,830	² 244,510	62,620	2,680
Construction	425,820	160,940	44,390	44,560	3,459,290	323,330	48,280
Banks and credit agencies	369,720	122,200	13,870	50,100	12,490	1,335,070	14,940
Security, commodity brokers and investment services	52,670	39,970	3,260	5,710	6,260	129,920	55,490
Insurance and real estate	373,490	250,600	25,330	236,810	216,790	1,033,530	349,690
Hotels and other lodging places	61,850	20,910	1,600	663,820	75,110	148,260	9,220
Personal services	94,530	48,770	630	330,730	267,210	141,320	27,210
Business services	218,540	295,300	137,830	764,850	346,370	749,230	97,770
Auto repair, services, and garages	73,070	5,850	330	6,870	368,810	75,740	12,890
Miscellaneous repair services	34,350	2,440	17,430	3,030	156,580	34,090	14,610
Motion pictures	26,440	27,890	5,670	52,470	31,420	45,070	17,400
Amusement and recreation services ..	52,480	97,090	890	317,460	108,050	98,650	19,240
Health services, except hospitals	119,630	448,830	387,530	748,740	109,200	419,900	2,450
Legal services	23,760	152,230	120	6,580	300	254,310	100
Social services	99,040	249,900	13,900	344,740	90,540	163,760	9,890
Museums, botanical and zoological gardens	3,170	5,090	1,330	8,740	4,390	5,170	1,580
Membership organizations	201,470	499,030	9,730	362,070	58,540	354,680	18,740
Miscellaneous services	93,270	333,850	160,850	12,410	56,320	211,670	4,220

¹ Includes mining and processing occupations.

² Includes petroleum and gas production workers.

Mining

In 1978, mining employed 882,200 workers or 4 percent of all workers in the surveyed industries. Mining, which includes exploration for and production of liquid and solid raw materials, was classified into two major industry groups: Mining, except oil and gas extraction; and oil and gas extraction. Employment was divided almost equally between the two.

Mining, except oil and gas extraction

This group of industries (SIC's 10, 11, 12, and 14) includes establishments primarily engaged in metal mining, anthracite mining, bituminous coal and lignite mining and mining and quarrying of nonmetallic minerals, except fuels.

As shown in table 3, the five most populous occupations in mining, except oil and gas extraction, were: Heavy equipment operators, with 47,500 or 10 percent of total industry employment; truck drivers, 30,700 or 7 percent; nonworking supervisors for maintenance,

construction, and related occupations, 28,000 or 6 percent; managers and officers, 23,700 or 5 percent; and mine machinery mechanics, 16,800 or 4 percent.

Tables 4 through 6 show occupational employment for the mining of metals, bituminous coal and lignite, and nonmetallic minerals.

Oil and gas extraction

This industry (SIC 13) includes establishments primarily engaged in producing crude petroleum, natural gas and gasoline, cycle condensate; and in the recovery of oil sands and shale.

As shown in table 7, the five most populous occupations in oil and gas extraction were: Roustabouts, with 59,100 or 14 percent of total industry employment; managers and officers, 38,400 or 9 percent; rotary drill operator helpers, 26,900 or 6 percent; rotary drill operators, 14,900 or 4 percent; and secretaries, 14,400 or 3 percent.

Table 3. Mining industry, except oil and gas extraction: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 10,11, 12, 14)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	460,930	100.00	--	100
Managers and officers	23,670	5.14	n.a.	82
Professional occupations	16,850	3.66	n.a.	n.a.
Chemical engineer	180	.04	17	2
Civil engineer	410	.09	9	5
Industrial engineer	460	.10	8	4
Mechanical engineer	490	.11	10	5
Metallurgist and/or metallurgical engineer	460	.10	6	4
Mining engineer	2,740	.59	8	17
Safety engineer	1,270	.28	7	12
All other engineers	900	.20	n.a.	n.a.
Mathematical scientist	100	.02	37	1
Chemist	910	.20	6	7
Geologist and/or geophysicist	1,960	.43	8	11
All other physical scientists	190	.04	n.a.	n.a.
Systems analyst, electronic data processing	350	.08	15	3
Purchasing agent and/or buyer	1,500	.33	5	18
Accountant and/or auditor	2,780	.60	7	20
Lawyer	180	.04	23	1
Personnel and labor relations specialists	910	.20	7	9
All other professional workers	1,060	.23	n.a.	n.a.
Technical occupations	6,610	1.43	n.a.	n.a.
Computer programmer	470	.10	12	4
Drafter	1,430	.31	10	10
Surveyor	1,170	.25	6	10
All other engineering technicians	1,210	.26	n.a.	n.a.
Science technicians	1,610	.35	6	7
All other technicians	720	.16	n.a.	n.a.
Service occupations	5,370	1.17	n.a.	n.a.
Janitor, porter, and/or cleaner	2,200	.48	5	18
Guard and/or doorkeeper	2,570	.56	6	13
Food service workers	120	.03	18	1
Supervisor, nonworking-service only	230	.05	26	2
All other service workers	250	.05	n.a.	n.a.
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations	379,680	82.37	n.a.	n.a.
Mechanic, automotive	5,690	1.23	8	27
Diesel mechanic	2,940	.64	9	9
Engineering equipment mechanic	3,070	.67	12	7
Mine machinery mechanic	16,830	3.65	7	23
Mechanic, maintenance	7,550	1.64	8	16
All other mechanics and repairers	2,690	.58	n.a.	n.a.
Truck driver	30,690	6.66	3	59
Auger machine operator	490	.11	42	1
Blaster, mining and quarrying	5,220	1.13	6	20
Bonder and/or wiper	490	.11	17	2
Header, bottomer, car dropper and/or cager	1,040	.23	15	3
Brake, train	1,680	.36	34	2
Brattice builder	3,180	.69	12	5
Carpenter	1,750	.38	13	8
Cement mason	560	.12	21	1
Coal washer	2,110	.46	25	3
Continuous mining machine operator	7,900	1.71	10	5
Crane, derrick, and/or hoist operator	4,500	.98	9	20
Cutting machine operator	2,110	.46	13	3
Delivery and/or route worker	1,450	.31	12	6
Dispatcher, mine car	630	.14	16	2
Dredge operator	1,290	.28	9	8
Drier operator, coal or ore	1,500	.33	7	7
Driller, hand	2,420	.53	11	7
Driller, machine	9,370	2.03	5	28
Dump operator	880	.19	13	3
Electrician	9,410	2.04	6	20

See footnotes at end of table.

Table 3. Mining industry, except oil and gas extraction: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 10,11, 12, 14)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations				
Fire boss	1,890	0.41	11	5
Supervisor, nonworking	28,010	6.08	4	39
Heavy equipment operator	47,500	10.31	4	67
Rigger	220	.05	16	1
Industrial truck operator	1,500	.33	8	8
Inspector	460	.10	12	3
Lamp keeper and/or repairer	830	.18	11	4
Loading machine operator, underground ..	6,700	1.45	6	20
Long wall miner operator	350	.08	20	1
Long wall miner operator helper	1,450	.31	23	1
Machinist	2,910	.63	6	9
Maintenance repairer, general utility	8,070	1.75	14	24
Helper, trades	8,870	1.92	5	18
Dinkey operator	2,380	.52	13	3
Oiler	7,540	1.64	6	24
Painter, maintenance	360	.08	8	3
Panelboard operator and/or grinding mill panelboard operator	2,380	.52	7	10
Plumber and/or pipefitter	890	.19	10	3
Rock splitter, quarry	790	.17	13	4
Reagent tender	280	.06	14	2
Rock dust sprayer	940	.20	16	2
Roof bolter	12,030	2.61	8	6
Shaker tender	910	.20	12	3
Shuttle car operator	12,320	2.67	8	6
Stationary boiler firer	200	.04	11	1
Stationary engineer	800	.17	17	3
Tipple operator	3,430	.74	10	9
Track layer	2,420	.53	8	4
Welder and/or flamecutter	11,480	2.49	5	32
Surveyor helper	1,030	.22	12	7
Belt repairer	3,220	.70	11	4
Sawyer, stone	260	.06	17	1
Separator tender	650	.14	12	2
Conveyor operator or tender	4,200	.91	7	19
Yard engineer	990	.21	12	2
Mill and/or grinder operator, minerals	5,320	1.15	4	24
Pump operator	1,600	.35	8	6
All other skilled craft and kindred workers	5,680	1.23	n.a.	n.a.
All other operatives and semiskilled workers	20,260	4.40	n.a.	n.a.
All other laborers and unskilled workers ..	41,120	8.92	n.a.	n.a.
Clerical occupations	27,380	5.94	n.a.	n.a.
Bookkeeping and/or billing machine operator	200	.04	15	2
Computer operator	320	.07	10	4
Keypunch operator	490	.11	9	4
All other office machine operators	90	.02	n.a.	n.a.
Stenographer	410	.09	17	3
Accounting clerk	1,670	.36	8	15
Bookkeeper, hand	1,180	.26	7	14
Cashier	80	.02	24	1
File clerk	270	.06	23	2
General clerk, office	4,850	1.05	5	36
Order clerk	290	.06	12	4
Payroll and/or timekeeping clerk	1,640	.36	5	20
Personnel clerk	490	.11	7	7
Receptionist	260	.06	14	4
Secretary	4,550	.99	7	30
Switchboard operator	120	.03	12	2
Switchboard operator receptionist	410	.09	6	8
Typist	820	.18	10	6
Clerical supervisor, office or plant	840	.18	9	7
All other office clerical workers	600	.13	n.a.	n.a.
Production clerk and/or coordinator	560	.12	12	4
Shipping and/or receiving clerk	470	.10	10	4

See footnotes at end of table.

Table 3. Mining industry, except oil and gas extraction: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 10,11, 12, 14)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Weigher, recordkeeping	2,790	0.61	5	26
Stock clerk, stockroom, warehouse or storage yard	3,160	.69	5	15
Dispatcher, vehicle, service or work	530	.11	8	4
All other plant clerical workers	290	.06	n.a.	n.a.
Sales occupations	1,370	.30	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	1,290	.28	9	12
Sales clerk	80	.02	16	1

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 4. Metal mining: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 10)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	92,540	100.00	--	100
Managers and officers	2,800	3.03	n.a.	80
Professional occupations	6,250	6.75	n.a.	n.a.
Chemical engineer	50	.05	18	5
Civil engineer	100	.11	6	9
Industrial engineer	160	.17	7	8
Mechanical engineer	240	.26	5	16
Metallurgist and/or metallurgical engineer	360	.39	3	22
Mining engineer	810	.88	4	38
Safety engineer	230	.25	3	24
All other engineers	270	.29	n.a.	n.a.
Chemist	430	.46	6	19
Geologist and/or geophysicist	1,550	1.67	9	50
All other physical scientists	50	.05	n.a.	n.a.
Systems analyst, electronic data processing	150	.16	7	10
Purchasing agent and/or buyer	360	.39	7	28
Accountant and/or auditor	700	.76	5	35
Personnel and labor relations specialists	280	.30	4	24
All other professional workers	510	.55	n.a.	n.a.
Technical occupations	2,360	2.55	n.a.	n.a.
Computer programmer	180	.19	13	12
Drafter	410	.44	7	32
Surveyor	380	.41	5	28
All other engineering technicians	450	.49	n.a.	n.a.
Science technicians	650	.70	7	21
All other technicians	290	.31	n.a.	n.a.
Service occupations	1,570	1.70	n.a.	n.a.
Janitor, porter, and/or cleaner	710	.77	4	28
Guard and/or doorkeeper	610	.66	4	20
Supervisor, nonworking--service only	80	.09	16	6
All other service workers	170	.18	n.a.	n.a.
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations	74,310	80.30	n.a.	n.a.
Mechanic, automotive	1,890	2.04	11	25
Diesel mechanic	920	.99	11	15
Engineering equipment mechanic	810	.88	17	8
Mine machinery mechanic	2,640	2.85	11	25
Mechanic, maintenance	2,960	3.20	9	23
All other mechanics and repairers	740	.80	n.a.	n.a.
Truck driver	5,090	5.50	5	32
Blaster, mining and quarrying	820	.89	11	17
Header, bottomer, car dropper and/or cager	220	.24	12	6
Braker, train	350	.38	15	5
Brattice builder	60	.06	22	2
Carpenter	640	.69	5	19
Crane, derrick, and/or hoist operator	950	1.03	8	20
Delivery and/or route worker	60	.06	13	5
Dispatcher, mine car	140	.15	20	3
Dredge operator	60	.06	22	3
Drier operator, coal or ore	480	.52	12	10
Driller, hand	930	1.00	17	8
Driller, machine	2,820	3.05	6	45
Dump operator	180	.19	13	4
Electrician	2,920	3.16	4	34
Supervisor, nonworking	6,170	6.67	5	39
Heavy equipment operator	3,820	4.13	5	35
Rigger	50	.05	8	2
Industrial truck operator	240	.26	15	7
Inspector	120	.13	22	3
Lamp keeper and/or repairer	60	.06	11	7
Loading machine operator, underground	1,160	1.25	9	17
Machinist	1,560	1.69	4	21

See footnotes at end of table.

Table 4. Metal mining: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 10)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations				
Maintenance repairer, general utility	760	0.82	8	13
Helper, trades	2,800	3.03	4	28
Dinkey operator	430	.46	12	7
Oiler	860	.93	4	19
Painter, maintenance	190	.21	9	10
Panelboard operator and/or grinding mill panelboard operator	730	.79	12	10
Plumber and/or pipefitter	510	.55	3	10
Reagent tender	170	.18	16	9
Roof bolter	520	.56	47	4
Shaker tender	150	.16	9	3
Shuttle car operator	320	.35	17	5
Stationary boiler firer	110	.12	8	4
Stationary engineer	180	.19	3	6
Track layer	980	1.06	7	8
Welder and/or flamecutter	2,740	2.96	6	24
Surveyor helper	220	.24	8	16
Belt repairer	100	.11	19	3
Separator tender	320	.35	16	6
Conveyor operator or tender	350	.38	9	9
Yard engineer	530	.57	13	4
Mill and/or grinder operator, minerals	1,810	1.96	4	25
Pump operator	180	.19	14	6
All other skilled craft and kindred workers	3,790	4.10	n.a.	n.a.
All other operatives and semiskilled workers	7,400	8.00	n.a.	n.a.
All other laborers and unskilled workers ..	9,300	10.05	n.a.	n.a.
Clerical occupations	5,190	5.61	n.a.	n.a.
Computer operator	140	.15	9	13
Keypunch operator	170	.18	9	12
All other office machine operators	70	.08	n.a.	n.a.
Stenographer	140	.15	9	10
Accounting clerk	380	.41	7	27
Bookkeeper, hand	110	.12	13	10
General clerk, office	560	.61	6	28
Order clerk	50	.05	9	6
Payroll and/or timekeeping clerk	280	.30	6	26
Personnel clerk	120	.13	5	13
Receptionist	70	.08	11	9
Secretary	990	1.07	6	52
Switchboard operator receptionist	100	.11	5	17
Typist	270	.29	6	14
Clerical supervisor, office or plant	190	.21	10	12
All other office clerical workers	200	.22	n.a.	n.a.
Production clerk and/or coordinator	180	.19	10	10
Shipping and/or receiving clerk	180	.19	14	8
Stock clerk, stockroom, warehouse or storage yard	790	.85	5	26
Dispatcher, vehicle, service or work	50	.05	22	2
All other plant clerical workers	150	.16	n.a.	n.a.
Sales occupations	60	.06	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 5. Bituminous coal and lignite mining: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 12)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	244,650	100.00	--	100
Managers and officers	10,610	4.34	n.a.	100
Professional occupations	7,150	2.92	n.a.	n.a.
Civil engineer	190	.08	17	13
Industrial engineer	190	.08	18	10
Mechanical engineer	110	.04	39	8
Mining engineer	1,530	.63	13	42
Safety engineer	930	.38	9	38
All other engineers	540	.22	n.a.	n.a.
Mathematical scientist	70	.03	n.a.	n.a.
Chemist	230	.09	19	13
Geologist and/or geophysicist	160	.07	34	6
Systems analyst, electronic data processing	180	.07	28	5
Purchasing agent and/or buyer	620	.25	11	34
Accountant and/or auditor	1,240	.51	15	40
Lawyer	120	.05	34	5
Personnel and labor relations specialists	490	.20	13	20
All other professional workers	550	.22	n.a.	n.a.
Technical occupations	2,710	1.11	n.a.	n.a.
Computer programmer	190	.08	26	7
Drafter	800	.33	18	22
Surveyor	690	.28	10	30
All other engineering technicians	560	.23	n.a.	n.a.
Science technicians	240	.10	22	8
All other technicians	230	.09	n.a.	n.a.
Service occupations	2,230	.91	n.a.	n.a.
Janitor, porter, and/or cleaner	670	.27	14	29
Guard and/or doorman	1,380	.56	11	32
All other service workers	180	.07	n.a.	n.a.
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations	210,100	85.88	n.a.	n.a.
Mechanic, automotive	1,640	.67	24	23
Diesel mechanic	1,190	.49	19	19
Engineering equipment mechanic	1,580	.65	22	16
Mine machinery mechanic	12,580	5.14	9	59
Mechanic, maintenance	2,400	.98	20	14
All other mechanics and repairers	1,460	.60	n.a.	n.a.
Truck driver	8,860	3.62	8	60
Auger machine operator	480	.20	43	3
Blaster, mining and quarrying	3,350	1.37	8	50
Bonder and/or winder	460	.19	18	10
Header, bottomer, car dropper and/or cager	780	.32	19	11
Brake, train	1,190	.49	48	8
Brattice builder	3,100	1.27	12	29
Carpenter	840	.34	27	19
Cement mason	420	.17	27	4
Coal washer	2,000	.82	26	19
Continuous mining machine operator	7,740	3.16	10	31
Crane, derrick, and/or hoist operator	1,700	.69	23	22
Cutting machine operator	1,830	.75	15	16
Delivery and/or route worker	60	.02	26	3
Dispatcher, mine car	420	.17	22	8
Drier operator, coal or ore	130	.05	27	5
Driller, hand	700	.29	25	8
Driller, machine	4,300	1.76	10	49
Dump operator	470	.19	22	10
Electrician	5,210	2.13	10	50
Fire boss	1,840	.75	11	27
Supervisor, nonworking	17,750	7.26	6	74
Heavy equipment operator	30,030	12.27	7	88
Industrial truck operator	380	.16	19	8
Inspector	140	.06	24	5

See footnotes at end of table.

Table 5. Bituminous coal and lignite mining: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 12)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations				
Lamp keeper and/or repairer	760	0.31	12	17
Loading machine operator, underground ..	3,310	1.35	11	32
Long wall miner operator	330	.13	21	5
Long wall miner operator helper	1,400	.57	23	6
Machinist	790	.32	17	20
Maintenance repairer, general utility	3,770	1.54	29	19
Helper, trades	4,290	1.75	9	36
Dinky operator	1,860	.76	17	11
Oiler	5,100	2.08	9	57
Painter, maintenance	50	.02	37	3
Panelboard operator and/or grinding mill panelboard operator	400	.16	22	10
Plumber and/or pipefitter	200	.08	38	4
Rock dust sprayer	940	.38	16	13
Roof bolter	11,460	4.68	9	35
Shaker tender	390	.16	25	8
Shuttle car operator	11,750	4.80	9	34
Stationary engineer	300	.12	39	7
Tipple operator	3,230	1.32	11	50
Track layer	1,380	.56	12	19
Welder and/or flamecutter	5,940	2.43	10	61
Surveyor helper	740	.30	16	23
Belt repairer	3,050	1.25	12	22
Separator tender	190	.08	30	4
Conveyor operator or tender	1,570	.64	18	16
Yard engineer	260	.11	33	4
Pump operator	1,130	.46	11	23
All other skilled craft and kindred workers	680	.28	n.a.	n.a.
All other operatives and semiskilled workers	7,250	2.96	n.a.	n.a.
All other laborers and unskilled workers ..	22,550	9.22	n.a.	n.a.
Clerical occupations	11,630	4.75	n.a.	n.a.
Bookkeeping and/or billing machine operator	90	.04	32	4
Computer operator	110	.04	23	6
Key punch operator	190	.08	19	8
Stenographer	200	.08	34	6
Accounting clerk	580	.24	18	22
Bookkeeper, hand	180	.07	34	8
File clerk	190	.08	33	6
General clerk, office	2,160	.88	10	51
Order clerk	130	.05	23	7
Payroll and/or timekeeping clerk	640	.26	10	33
Personnel clerk	240	.10	13	16
Receptionist	140	.06	25	8
Secretary	2,020	.83	15	42
Switchboard operator receptionist	160	.07	15	15
Typist	430	.18	19	11
Clerical supervisor, office or plant	480	.20	16	20
All other office clerical workers	400	.16	n.a.	n.a.
Production clerk and/or coordinator	240	.10	27	9
Shipping and/or receiving clerk	160	.07	21	8
Weigher, recordkeeping	800	.33	14	27
Stock clerk, stockroom, warehouse or storage yard	1,880	.77	9	44
Dispatcher, vehicle, service or work	120	.05	21	6
All other plant clerical workers	90	.04	n.a.	n.a.
Sales occupations	220	.09	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	220	.09	35	7

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 6. Mining and quarrying of nonmetallic minerals, except fuels: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 14)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	120,740	100.00	--	100
Managers and officers	10,110	8.37	n.a.	358
Professional occupations	3,380	2.80	n.a.	n.a.
Chemical engineer	130	.11	23	7
Civil engineer	120	.10	14	11
Industrial engineer	100	.08	11	10
Mechanical engineer	140	.12	13	11
Metallurgist and/or metallurgical engineer	60	.05	15	6
Mining engineer	380	.31	12	30
Safety engineer	100	.08	11	14
All other engineers	130	.11	n.a.	n.a.
Chemist	240	.20	10	15
Geologist and/or geophysicist	250	.21	26	18
Purchasing agent and/or buyer	520	.43	8	53
Accountant and/or auditor	800	.66	8	56
Personnel and labor relations specialists	140	.12	10	14
All other professional workers	270	.22	n.a.	n.a.
Technical occupations	1,530	1.27	n.a.	n.a.
Computer programmer	100	.08	18	9
Drafter	210	.17	12	13
Surveyor	100	.08	11	10
All other engineering technicians	200	.17	n.a.	n.a.
Science technicians	720	.60	11	18
All other technicians	200	.17	n.a.	n.a.
Service occupations	1,510	1.25	n.a.	n.a.
Janitor, porter, and/or cleaner	790	.65	6	59
Guard and/or doorkeeper	550	.46	11	34
Food service workers	50	.04	n.a.	n.a.
All other service workers	120	.10	n.a.	n.a.
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations	92,710	76.78	n.a.	n.a.
Mechanic, automotive	2,120	1.76	6	125
Diesel mechanic	780	.65	9	26
Engineering equipment mechanic	640	.53	13	21
Mine machinery mechanic	1,580	1.31	8	69
Mechanic, maintenance	2,180	1.81	8	67
All other mechanics and repairers	470	.39	n.a.	n.a.
Truck driver	16,300	13.50	4	298
Blaster, mining and quarrying	1,020	.84	7	64
Braker, train	130	.11	28	3
Carpenter	230	.19	11	13
Coal washer	70	.06	38	2
Crane, derrick, and/or hoist operator	1,830	1.52	7	87
Cutting machine operator	120	.10	20	4
Delivery and/or route worker	1,330	1.10	13	31
Dispatcher, mine car	60	.05	29	2
Dredge operator	1,190	.99	9	50
Drier operator, coal or ore	890	.74	10	29
Driller, hand	760	.63	16	32
Driller, machine	2,190	1.81	6	92
Dump operator	220	.18	17	8
Electrician	1,240	1.03	7	47
Supervisor, nonworking	3,970	3.29	4	144
Heavy equipment operator	13,240	10.97	3	317
Rigger	130	.11	21	3
Industrial truck operator	880	.73	10	35
Inspector	190	.16	18	11
Loading machine operator, underground	2,210	1.83	7	86
Machinist	530	.44	16	18
Maintenance repairer, general utility	3,480	2.88	7	125
Helper, trades	1,720	1.42	9	57
Dinky operator	90	.07	22	4
Oiler	1,420	1.18	8	78
Painter, maintenance	120	.10	13	7

See footnotes at end of table.

Table 6. Mining and quarrying of nonmetallic minerals, except fuels: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 14)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Mining, processing, maintenance, construction, repair, material handling, and powerplant occupations				
Panelboard operator and/or grinding mill panelboard operator	1,240	1.03	10	47
Plumber and/or pipefitter	180	.15	22	5
Rock splitter, quarry	770	.64	13	23
Reagent tender	80	.07	24	4
Roof bolter	50	.04	29	2
Shaker tender	340	.28	17	10
Shuttle car operator	240	.20	23	3
Stationary boiler firer	60	.05	21	2
Stationary engineer	310	.26	22	4
Tipple operator	130	.11	18	6
Track layer	70	.06	35	3
Welder and/or flamecutter	2,620	2.17	6	123
Surveyor helper	70	.06	14	6
Belt repairer	60	.05	34	2
Sawyer, stone	230	.19	16	5
Separator tender	100	.08	25	3
Conveyor operator or tender	2,280	1.89	6	104
Yard engineer	200	.17	19	7
Mill and/or grinder operator, minerals	3,440	2.85	5	131
Pump operator	280	.23	19	7
All other skilled craft and kindred workers	1,420	1.18	n.a.	n.a.
All other operatives and semiskilled workers	6,230	5.16	n.a.	n.a.
All other laborers and unskilled workers ..	8,980	7.44	n.a.	n.a.
Clerical occupations	10,430	8.64	n.a.	n.a.
Bookkeeping and/or billing machine operator	100	.08	13	11
Computer operator	70	.06	15	9
Keypunch operator	130	.11	16	9
Stenographer	70	.06	24	4
Accounting clerk	700	.58	9	51
Bookkeeper, hand	890	.74	7	75
File clerk	50	.04	20	5
General clerk, office	2,100	1.74	5	157
Order clerk	120	.10	13	12
Payroll and/or timekeeping clerk	700	.58	6	71
Personnel clerk	130	.11	8	17
Receptionist	50	.04	15	8
Secretary	1,520	1.26	9	103
Switchboard operator receptionist	140	.12	7	21
Typist	120	.10	16	11
Clerical supervisor, office or plant	170	.14	11	15
All other office clerical workers	260	.22	n.a.	n.a.
Production clerk and/or coordinator	140	.12	10	11
Shipping and/or receiving clerk	120	.10	18	11
Weigher, recordkeeping	1,940	1.61	4	140
Stock clerk, stockroom, warehouse or storage yard	470	.39	10	28
Dispatcher, vehicle, service or work	360	.30	9	18
All other plant clerical workers	80	.07	n.a.	n.a.
Sales occupations	1,070	.89	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	1,030	.85	8	66
All other sales workers	40	.03	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 7. Oil and gas extraction: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 13)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	421,270	100.00	--	100
Managers and officers	38,450	9.13	n.a.	73
Professional occupations	52,430	12.45	n.a.	n.a.
Chemical engineer	650	.15	26	2
Civil engineer	700	.17	17	2
Electrical and/or electronic engineer	1,290	.31	43	3
Mechanical engineer	680	.16	27	3
Petroleum engineer	9,810	2.33	8	22
Safety engineer	390	.09	14	6
All other engineers	1,850	.44	n.a.	n.a.
Mathematical scientist	540	.13	40	1
Chemist	570	.14	47	1
Geologist and/or geophysicist	12,000	2.85	9	18
All other physical scientists	170	.04	n.a.	n.a.
Systems analyst, electronic data processing	2,200	.52	28	4
Purchasing agent and/or buyer	2,070	.49	14	12
Accountant and/or auditor	9,910	2.35	8	24
Lawyer	980	.23	14	5
Lease buyer	3,260	.77	11	13
Personnel and labor relations specialists	1,520	.36	10	8
Title clerk	900	.21	14	3
Claim agent	140	.03	43	1
All other professional workers	2,800	.66	n.a.	n.a.
Technical occupations	15,750	3.74	n.a.	n.a.
Computer programmer	1,460	.35	18	5
Computer, prospecting and/or computer, seismograph	830	.20	28	2
Core analyst	130	.03	49	1
Drafter	4,170	.99	9	14
Electrical and/or electronic technicians	1,060	.25	35	4
Observer, electrical prospecting, and/or gravity prospecting	490	.12	35	2
Scout	200	.05	32	2
Surveyor	490	.12	31	3
All other engineering technicians	3,410	.81	n.a.	n.a.
Science technicians	1,610	.38	21	3
Airplane pilot	800	.19	17	5
All other technicians	1,100	.26	n.a.	n.a.
Service occupations	4,830	1.15	n.a.	n.a.
Janitor, porter, and/or cleaner	2,220	.53	17	11
Guard and/or doorkeeper	340	.08	25	2
Food service workers	1,030	.24	34	2
Supervisor, nonworking--service only	750	.18	29	3
All other service workers	490	.12	n.a.	n.a.
Petroleum and gas production, maintenance, construction, repair, material handling and powerplant occupations	244,510	58.04	n.a.	n.a.
Mechanic, automotive	2,310	.55	13	13
Diesel mechanic	1,440	.34	18	6
Mechanic, maintenance	4,200	1.00	13	13
All other mechanics and repairers	880	.21	n.a.	n.a.
Truck driver	12,240	2.91	12	22
Bulk station operator	140	.03	44	1
Cable driller	3,850	.91	30	5
Carpenter	190	.05	35	2
Clean out driller	2,690	.64	34	3
Derrick operator, petroleum and gas extraction	12,120	2.88	9	12
Electrician	1,020	.24	15	5
Supervisor, nonworking	13,790	3.27	7	35
Formation testing operator	430	.10	33	1
Gager	2,690	.64	27	2
Natural gas treating unit operator	1,890	.45	22	4
Heavy equipment operator	5,790	1.37	17	13

See footnotes at end of table.

Table 7. Oil and gas extraction: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 13)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Petroleum and gas production, maintenance, construction, repair, material handling and powerplant occupations—Continued				
Instrument repairer	1,000	0.24	21	3
Liquefaction and regasification plant operator	540	.13	30	1
Machinist	780	.19	33	2
Maintenance repairer, general utility	4,420	1.05	16	14
Helper, trades	2,260	.54	34	4
Mud plant operator	1,240	.29	30	1
Oil pumper	12,040	2.86	12	18
Painter, maintenance	360	.09	47	2
Pumper, head	6,810	1.62	13	12
Rotary drill operator	14,910	3.54	9	20
Rotary drill operator helper	26,920	6.39	11	13
Roustabout	59,080	14.02	7	40
Service unit operator, oil well	8,750	2.08	15	8
Stationary engineer	1,390	.33	23	3
Technical operator, oil and gas	1,650	.39	37	3
Welder and/or flamecutter	4,560	1.08	18	14
Well puller	4,850	1.15	25	5
Surveyor helper	350	.08	35	2
All other skilled craft and kindred workers	4,160	.99	n.a.	n.a.
All other operatives and semiskilled workers	12,100	2.87	n.a.	n.a.
All other laborers and unskilled workers ..	10,670	2.53	n.a.	n.a.
Clerical occupations	62,620	14.86	n.a.	n.a.
Bookkeeping and/or billing machine operator	200	.05	43	1
Computer operator	1,750	.42	16	6
Keypunch operator	1,480	.35	14	6
All other office machine operators	720	.17	n.a.	n.a.
Stenographer	1,730	.41	16	5
Accounting clerk	5,400	1.28	11	12
Bookkeeper, hand	3,840	.91	11	21
Cashier	160	.04	36	1
File clerk	1,040	.25	13	6
General clerk, office	13,510	3.21	8	36
Mail clerk	760	.18	13	5
Order clerk	240	.06	30	2
Payroll and/or timekeeping clerk	1,060	.25	12	11
Personnel clerk	790	.19	12	7
Receptionist	1,840	.44	12	15
Secretary	14,370	3.41	8	38
Switchboard operator	310	.07	15	4
Switchboard operator receptionist	1,600	.38	13	13
Typist	2,620	.62	13	12
Clerical supervisor, office or plant	3,060	.73	11	14
All other office clerical workers	3,170	.75	n.a.	n.a.
Production clerk and/or coordinator	1,170	.28	19	4
Shipping and/or receiving clerk	210	.05	33	2
Stock clerk, stockroom, warehouse or storage yard	860	.20	16	6
Dispatcher, vehicle, service or work	600	.14	20	5
All other plant clerical workers	130	.03	n.a.	n.a.
Sales occupations	2,680	.64	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	2,670	.63	17	11
All other sales workers	10	.00	n.a.	n.a.

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Construction

This industry division includes new construction, additions, alterations, and repair work.

In 1978, the construction industry employed 4.5 million workers or 20 percent of all workers covered by the survey. Over 75 percent of these workers were in maintenance, construction, repair, material handling, and powerplant occupations. As shown in table 8, the five most populous occupations in the construction industry were: Carpenters, with 527,600 or 12 percent of

total industry employment; managers and officers, 425,800 or 9 percent; heavy equipment operators, 239,200 or 5 percent; electricians, 234,000 or 5 percent; and plumbers and pipefitters, 197,000 or 4 percent.

Construction workers are employed in one of three industry segments—general building contractors (SIC 15), heavy construction contractors (SIC 16), or special trade contractors (SIC 17). See tables 9, 10, and 11.

Table 8. Construction: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 15, 16, 17)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	4,506,610	100.00	--	100
Managers and officers	425,820	9.45	n.a.	68
Professional occupations	160,940	3.57	n.a.	n.a.
Civil engineer	18,780	.42	7	4
Electrical and/or electronic engineer	7,640	.17	19	1
Mechanical engineer	13,360	.30	13	2
Safety engineer	1,580	.04	12	1
All other engineers	8,660	.19	n.a.	n.a.
Systems analyst, electronic data processing	1,470	.03	18	0
Purchasing agent and/or buyer	8,760	.19	4	5
Accountant and/or auditor	25,890	.57	2	11
Cost estimator, engineering	67,890	1.51	1	24
Personnel and labor relations specialists	1,620	.04	13	1
All other professional workers	5,290	.12	n.a.	n.a.
Technical occupations	44,390	.98	n.a.	n.a.
Computer programmer	1,430	.03	16	1
Drafter	21,780	.48	11	4
Electrical and/or electronic technicians	12,380	.27	8	1
Surveyor	3,630	.08	7	1
All other engineering technicians	2,830	.06	n.a.	n.a.
All other technicians	2,340	.05	n.a.	n.a.
Service occupations	44,560	.99	n.a.	n.a.
Janitor, porter, and/or cleaner	33,450	.74	4	9
Guard and/or doorkeeper	3,210	.07	11	1
Food service workers	1,980	.04	26	0
Supervisor, nonworking--service only	2,290	.05	16	0
All other service workers	3,630	.08	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	3,459,290	76.76	n.a.	n.a.
Mechanic, automotive	15,220	.34	4	5
Diesel mechanic	10,380	.23	5	3
Engineering equipment mechanic	11,080	.25	6	3
Mechanic, maintenance	18,620	.41	6	4
Refrigeration mechanic and/or air conditioning mechanic	53,330	1.18	3	5
All other mechanics and repairers	8,570	.19	n.a.	n.a.
Truck driver	119,020	2.64	2	19
Air hammer operator	12,510	.28	8	2
Asbestos and insulation worker	32,010	.71	5	2
Asphalt heater tender	450	.01	27	0
Blaster, construction	1,360	.03	29	0
Boilermaker	17,660	.39	8	1
Bricklayer	94,090	2.09	2	8
Cabinetmaker	6,240	.14	8	1
Carpet cutter and/or carpet layer	15,620	.35	5	1
Carpenter	527,590	11.71	1	30
Cement mason	100,560	2.23	2	12
Concrete mixer operator	3,370	.07	8	1
Concrete wall grinder operator	820	.02	16	0
Concrete rubber	2,650	.06	11	1
Conduit mechanic	1,680	.04	39	0
Crane, derrick, and/or hoist operator	25,150	.56	4	4
Delivery and/or route worker	2,100	.05	10	1
Dredge pipe installer	750	.02	45	0
Dredge operator	2,670	.06	42	0
Driller, machine	1,580	.04	25	0
Dry wall applicator	37,030	.82	4	3
Electrician	234,010	5.19	1	10
Fence erector	6,710	.15	13	0
Fine grader	1,770	.04	13	0
Fitter, pipelaying	8,320	.18	20	0
Floor sanding machine operator	2,050	.05	13	0
Supervisor, nonworking	69,000	1.53	2	13

See footnotes at end of table.

Table 8. Construction: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 15, 16, 17)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Form setter, metal road form	3,110	0.07	14	1
Form tamper operator and/or tamping machine operator	610	.01	20	0
Furnace installer and repairer, hot air	14,270	.32	6	1
Glazier	11,830	.26	8	1
Heavy equipment operator	239,190	5.31	2	19
Rigger	6,410	.14	11	1
Industrial truck operator	2,640	.06	10	1
Inspector	2,900	.06	24	0
Lather	10,830	.24	6	1
Line installer repairer	20,920	.46	11	1
Machinist	980	.02	22	0
Maintenance repairer, general utility	6,850	.15	10	1
Metal fabricator	20,090	.45	7	2
Millwright	17,530	.39	6	1
Oil burner installer and servicer	2,430	.05	11	0
Oiler	6,080	.13	7	2
Painter, maintenance	127,070	2.82	1	11
Paperhanger	4,670	.10	6	1
Pipelayer	32,240	.72	6	3
Plasterer	15,640	.35	5	2
Plumber and/or pipefitter	197,020	4.37	2	11
Reinforcing iron worker	32,800	.73	6	3
Roofer	75,120	1.67	2	5
Trench sewer shaper	890	.02	34	0
Sewer tapper	800	.02	39	0
Sheet metal worker	97,460	2.16	2	7
Stationary engineer	590	.01	40	0
Stone mason	4,170	.09	9	1
Layout worker, structural steel	4,650	.10	13	1
Structural steel worker	50,790	1.13	5	2
Taper	28,360	.63	4	3
Tile setter	13,300	.30	6	1
Welder and/or flamecutter	36,380	.81	5	5
Surveyor helper	2,390	.05	9	1
Asphalt mixing machine tender	510	.01	23	0
Asphalt plant operator	1,880	.04	12	1
Asphalt raker	8,140	.18	9	1
Installer and/or floor layer	16,940	.38	5	1
Terrazzo worker	1,940	.04	13	0
Asbestos and insulation worker helper	5,160	.11	12	0
Bricklayer helper	64,420	1.43	3	6
Carpenter helper	158,100	3.51	2	15
Cement mason helper	50,940	1.13	3	6
Electrician helper	41,160	.91	3	4
Painter helper	12,660	.28	5	3
Plasterer helper	8,060	.18	6	1
Plumber and/or pipefitter helper	48,120	1.07	3	5
Roofer helper	25,570	.57	3	3
Stone mason helper	2,060	.05	12	0
Tile setter helper	8,120	.18	7	1
Cabinetmaker helper	1,280	.03	16	0
Terrazzo worker helper	1,630	.04	15	0
All other helpers, skilled trades	22,890	.51	n.a.	n.a.
All other skilled craft and kindred workers	22,860	.51	n.a.	n.a.
All other operatives and semiskilled workers	43,620	.97	n.a.	n.a.
All other laborers and unskilled workers ..	378,250	8.39	n.a.	n.a.
Clerical occupations	323,330	7.17	n.a.	n.a.
Bookkeeping and/or billing machine operator	2,440	.05	6	1
Computer operator	1,640	.04	7	1
Keypunch operator	1,560	.03	8	1
All other office machine operators	1,160	.03	n.a.	n.a.
Stenographer	790	.02	12	0

See footnotes at end of table.

Table 8. Construction: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 15, 16, 17)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Accounting clerk	5,610	0.12	6	2
Bookkeeper, hand	64,990	1.44	1	26
File clerk	1,720	.04	11	1
General clerk, office	101,510	2.25	2	30
Order clerk	580	.01	23	0
Payroll and/or timekeeping clerk	21,500	.48	2	12
Personnel clerk	850	.02	9	1
Procurement clerk	1,020	.02	19	0
Receptionist	1,870	.04	7	1
Secretary	89,880	1.99	2	31
Switchboard operator	850	.02	11	0
Switchboard operator receptionist	1,960	.04	5	2
Typist	5,750	.13	7	2
Clerical supervisor, office or plant	2,200	.05	8	1
All other office clerical workers	4,600	.10	n.a.	n.a.
Production clerk and/or coordinator	1,430	.03	10	1
Shipping and/or receiving clerk	1,500	.03	8	1
Stock clerk, stockroom, warehouse or storage yard	6,590	.15	5	3
All other plant clerical workers	1,330	.03	n.a.	n.a.
Sales occupations	48,280	1.07	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	46,560	1.03	2	10
Sales clerk	1,720	.04	14	0

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 9. General building contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 15)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	1,302,060	100.00		100
Managers and officers	153,010	11.75	n.a.	71
Professional occupations	44,340	3.41	n.a.	n.a.
Civil engineer	5,330	.41	7	5
Electrical and/or electronic engineer	600	.05	18	1
Mechanical engineer	2,040	.16	16	1
Safety engineer	460	.04	12	1
All other engineers	2,030	.16	n.a.	n.a.
Systems analyst, electronic data processing	310	.02	16	1
Purchasing agent and/or buyer	1,820	.14	6	4
Accountant and/or auditor	8,760	.67	4	13
Cost estimator, engineering	20,910	1.61	2	25
Personnel and labor relations specialists	490	.04	8	1
All other professional workers	1,590	.12	n.a.	n.a.
Technical occupations	11,130	.85	n.a.	n.a.
Computer programmer	470	.04	12	1
Drafter	7,840	.60	7	8
Electrical and/or electronic technicians	470	.04	43	0
Surveyor	920	.07	11	2
All other engineering technicians	640	.05	n.a.	n.a.
All other technicians	790	.06	n.a.	n.a.
Service occupations	23,380	1.80	n.a.	n.a.
Janitor, porter, and/or cleaner	16,980	1.30	6	11
Guard and/or doorkeeper	1,420	.11	13	1
Food service workers	1,460	.11	31	0
Supervisor, nonworking--service only	930	.07	16	1
All other service workers	2,590	.20	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	947,240	72.75	n.a.	n.a.
Mechanic, automotive	1,360	.10	8	3
Diesel mechanic	290	.02	20	1
Engineering equipment mechanic	740	.06	15	1
Mechanic, maintenance	660	.05	14	1
Refrigeration mechanic and/or air conditioning mechanic	2,600	.20	11	1
All other mechanics and repairers	560	.04	n.a.	n.a.
Truck driver	16,370	1.26	4	17
Air hammer operator	820	.06	13	1
Asbestos and insulation worker	3,560	.27	13	1
Boilermaker	2,170	.17	16	1
Bricklayer	23,750	1.82	4	11
Cabinetmaker	2,180	.17	14	2
Carpet cutter and/or carpet layer	380	.03	27	0
Carpenter	382,550	29.38	1	80
Cement mason	29,730	2.28	3	17
Concrete mixer operator	380	.03	23	0
Concrete rubber	660	.05	15	1
Crane, derrick, and/or hoist operator	3,050	.23	7	4
Delivery and/or route worker	530	.04	20	1
Dry wall applicator	4,060	.31	11	2
Electrician	10,020	.77	6	5
Fence erector	160	.01	44	0
Fine grader	340	.03	25	0
Fitter, pipelaying	1,930	.15	19	0
Supervisor, nonworking	22,140	1.70	4	15
Form setter, metal road form	650	.05	31	0
Heavy equipment operator	24,300	1.87	4	17
Rigger	410	.03	21	0
Industrial truck operator	1,170	.09	11	2
Inspector	660	.05	16	1
Lather	340	.03	29	0
Maintenance repairer, general utility	4,140	.32	14	3

See footnotes at end of table.

Table 9. General building contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 15)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Metal fabricator	8,500	0.65	10	2
Millwright	5,450	.42	10	2
Oiler	620	.05	11	1
Painter, maintenance	17,450	1.34	5	11
Pipelayer	1,650	.13	23	0
Plasterer	640	.05	21	1
Plumber and/or pipefitter	13,620	1.05	7	5
Reinforcing iron worker	11,260	.86	6	6
Roofer	4,490	.34	11	2
Sheet metal worker	6,770	.52	11	2
Stone mason	280	.02	24	0
Layout worker, structural steel	370	.03	33	0
Structural steel worker	10,300	.79	8	3
Taper	4,140	.32	10	2
Tile setter	140	.01	46	0
Welder and/or flamecutter	7,040	.54	8	4
Surveyor helper	590	.05	11	1
Asphalt raker	150	.01	47	0
Installer and/or floor layer	400	.03	40	0
Asbestos and insulation worker helper	1,250	.10	18	0
Bricklayer helper	13,460	1.03	5	7
Carpenter helper	126,120	9.69	2	45
Cement mason helper	13,880	1.07	5	8
Electrician helper	2,780	.21	10	2
Painter helper	2,800	.22	9	3
Plasterer helper	180	.01	28	0
Plumber and/or pipefitter helper	3,810	.29	10	2
Roofer helper	1,320	.10	16	1
Stone mason helper	160	.01	36	0
Cabinetmaker helper	450	.03	28	0
All other helpers, skilled trades	7,380	.57	n.a.	n.a.
All other skilled craft and kindred workers	4,230	.32	n.a.	n.a.
All other operatives and semiskilled workers	6,300	.48	n.a.	n.a.
All other laborers and unskilled workers ..	126,600	9.72	n.a.	n.a.
Clerical occupations	104,050	7.99	n.a.	n.a.
Bookkeeping and/or billing machine operator	320	.02	13	1
Computer operator	670	.05	7	2
Key punch operator	470	.04	8	1
All other office machine operators	330	.03	n.a.	n.a.
Stenographer	340	.03	13	1
Accounting clerk	2,470	.19	7	4
Bookkeeper, hand	28,390	2.18	2	35
Cashier	180	.01	32	0
File clerk	580	.04	15	1
General clerk, office	26,660	2.05	3	28
Order clerk	300	.02	37	0
Payroll and/or timekeeping clerk	2,530	.19	4	7
Personnel clerk	300	.02	9	1
Procurement clerk	220	.02	13	1
Receptionist	1,090	.08	9	3
Secretary	32,010	2.46	2	37
Switchboard operator	370	.03	13	1
Switchboard operator receptionist	990	.08	5	4
Typist	1,030	.08	9	2
Clerical supervisor, office or plant	900	.07	11	2
All other office clerical workers	1,620	.12	n.a.	n.a.
Production clerk and/or coordinator	480	.04	12	1
Shipping and/or receiving clerk	340	.03	13	1
Stock clerk, stockroom, warehouse or storage yard	1,320	.10	9	2
All other plant clerical workers	140	.01	n.a.	n.a.

See footnotes at end of table.

Table 9. General building contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 15)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Sales occupations	18,910	1.45	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	18,250	1.40	5	11
Sales clerk	660	.05	27	0

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 10. Heavy construction contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 16)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	937,710	100.00	--	100
Managers and officers	72,760	7.76	n.a.	36
Professional occupations	51,390	5.48	n.a.	n.a.
Civil engineer	9,090	.97	13	7
Electrical and/or electronic engineer	4,400	.47	33	1
Mechanical engineer	6,700	.71	26	1
Safety engineer	1,100	.12	17	3
All other engineers	6,180	.66	n.a.	n.a.
Systems analyst, electronic data processing	1,110	.12	24	1
Purchasing agent and/or buyer	2,700	.29	10	5
Accountant and/or auditor	4,910	.52	8	8
Cost estimator, engineering	11,000	1.17	6	14
Personnel and labor relations specialists	1,070	.11	19	2
All other professional workers	3,130	.33	n.a.	n.a.
Technical occupations	15,080	1.61	n.a.	n.a.
Computer programmer	840	.09	26	1
Drafter	8,080	.86	27	2
Electrical and/or electronic technicians	350	.04	24	0
Surveyor	2,670	.28	9	3
All other engineering technicians	2,000	.21	n.a.	n.a.
All other technicians	1,140	.12	n.a.	n.a.
Service occupations	6,630	.71	n.a.	n.a.
Janitor, porter, and/or cleaner	3,250	.35	12	5
Guard and/or doorkeeper	1,320	.14	15	1
Food service workers	460	.05	50	0
Supervisor, nonworking--service only	1,300	.14	25	1
All other service workers	300	.03	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	731,270	77.98	n.a.	n.a.
Mechanic, automotive	10,840	1.16	6	12
Diesel mechanic	7,560	.81	7	9
Engineering equipment mechanic	7,980	.85	8	8
Mechanic, maintenance	2,480	.26	13	2
Refrigeration mechanic and/or air conditioning mechanic	220	.02	37	0
All other mechanics and repairers	1,410	.15	n.a.	n.a.
Truck driver	62,140	6.63	3	26
Air hammer operator	9,870	1.05	10	5
Asbestos and insulation worker	950	.10	26	0
Asphalt heater tender	390	.04	30	1
Blaster, construction	1,260	.13	31	1
Boilermaker	5,580	.60	17	1
Bricklayer	1,500	.16	32	1
Carpenter	40,570	4.33	6	10
Cement mason	17,400	1.86	6	10
Concrete mixer operator	440	.05	21	1
Concrete wall grinder operator	150	.02	41	0
Concrete rubber	520	.06	30	0
Conduit mechanic	1,430	.15	45	0
Crane, derrick, and/or hoist operator	13,100	1.40	7	7
Delivery and/or route worker	460	.05	31	1
Dredge pipe installer	710	.08	47	0
Dredge operator	2,620	.28	43	0
Driller, machine	1,410	.15	28	1
Electrician	12,010	1.28	15	2
Fence erector	910	.10	45	0
Fine grader	1,260	.13	16	1
Fitter, pipelaying	6,210	.66	26	1
Supervisor, nonworking	23,700	2.53	6	11
Form setter, metal road form	1,610	.17	18	2
Form tamper operator and/or tamping machine operator	420	.04	27	1

See footnotes at end of table.

Table 10. Heavy construction contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 16)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Heavy equipment operator	150,140	16.01	2	33
Rigger	2,490	.27	20	1
Industrial truck operator	1,030	.11	23	1
Inspector	1,880	.20	36	1
Line installer repairer	12,680	1.35	17	1
Machinist	350	.04	37	0
Maintenance repairer, general utility	1,970	.21	14	2
Metal fabricator	550	.06	47	0
Millwright	3,220	.34	16	1
Oiler	5,070	.54	8	6
Painter, maintenance	1,570	.17	14	1
Pipelayer	29,530	3.15	7	10
Plumber and/or pipefitter	20,540	2.19	11	2
Reinforcing iron worker	6,110	.65	12	2
Trench sewer shaper	680	.07	41	1
Sewer tapper	620	.07	49	0
Sheet metal worker	480	.05	36	0
Layout worker, structural steel	1,560	.17	32	0
Structural steel worker	6,620	.71	14	1
Welder and/or flamecutter	15,500	1.65	9	7
Surveyor helper	1,800	.19	11	2
Asphalt mixing machine tender	440	.05	24	1
Asphalt plant drier operator	320	.03	24	1
Asphalt plant operator	1,770	.19	12	3
Asphalt raker	6,990	.75	10	5
Asbestos and insulation worker helper	630	.07	36	0
Carpenter helper	9,790	1.04	9	4
Cement mason helper	7,450	.79	14	4
Electrician helper	1,890	.20	21	0
Painter helper	340	.04	26	0
Plumber and/or pipefitter helper	4,220	.45	18	1
All other helpers, skilled trades	8,960	.96	n.a.	n.a.
All other skilled craft and kindred workers	11,600	1.24	n.a.	n.a.
All other operatives and semiskilled workers	12,090	1.29	n.a.	n.a.
All other laborers and unskilled workers ..	163,280	17.41	n.a.	n.a.
Clerical occupations	59,190	6.31	n.a.	n.a.
Bookkeeping and/or billing machine operator	300	.03	20	1
Computer operator	860	.09	11	2
Key punch operator	970	.10	11	2
Peripheral EDP equipment operator	120	.01	44	0
All other office machine operators	690	.07	n.a.	n.a.
Stenographer	440	.05	19	1
Accounting clerk	2,890	.31	10	4
Bookkeeper, hand	6,210	.66	5	12
File clerk	1,110	.12	16	1
General clerk, office	13,450	1.43	10	13
Order clerk	110	.01	30	0
Payroll and/or timekeeping clerk	7,100	.76	4	14
Personnel clerk	550	.06	12	1
Procurement clerk	760	.08	26	1
Receptionist	600	.06	13	2
Secretary	12,970	1.38	9	14
Switchboard operator	380	.04	17	1
Switchboard operator receptionist	860	.09	9	3
Typist	2,050	.22	17	2
Clerical supervisor, office or plant	1,260	.13	12	2
All other office clerical workers	1,730	.18	n.a.	n.a.
Production clerk and/or coordinator	720	.08	17	1
Shipping and/or receiving clerk	600	.06	15	1
Stock clerk, stockroom, warehouse or storage yard	1,790	.19	12	2
All other plant clerical workers	670	.07	n.a.	n.a.

See footnotes at end of table.

Table 10. Heavy construction contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 16)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Sales occupations	1,390	0.15	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	1,210	.13	14	2
Sales clerk	180	.02	49	0

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 11. Special trade contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 17)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	2,266,850	100.00	--	100
Managers and officers	200,060	8.83	n.a.	183
Professional occupations	65,220	2.88	n.a.	n.a.
Civil engineer	4,360	.19	7	4
Electrical and/or electronic engineer	2,640	.12	10	3
Mechanical engineer	4,620	.20	6	6
All other engineers	480	.02	n.a.	n.a.
Purchasing agent and/or buyer	4,240	.19	4	11
Accountant and/or auditor	12,230	.54	2	25
Cost estimator, engineering	35,980	1.59	1	61
All other professional workers	670	.03	n.a.	n.a.
Technical occupations	18,170	.80	n.a.	n.a.
Drafter	5,850	.26	7	8
Electrical and/or electronic technicians	11,560	.51	9	3
All other engineering technicians	240	.01	n.a.	n.a.
All other technicians	520	.02	n.a.	n.a.
Service occupations	14,560	.64	n.a.	n.a.
Janitor, porter, and/or cleaner	13,220	.58	4	22
Guard and/or doorkeeper	470	.02	47	0
All other service workers	870	.04	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ..	1,780,800	78.56	n.a.	n.a.
Mechanic, automotive	3,020	.13	6	5
Diesel mechanic	2,520	.11	7	4
Engineering equipment mechanic	2,360	.10	14	2
Mechanic, maintenance	15,480	.68	7	15
Refrigeration mechanic and/or air conditioning mechanic	50,500	2.23	3	19
All other mechanics and repairers	6,600	.29	n.a.	n.a.
Truck driver	40,520	1.79	3	38
Air hammer operator	1,820	.08	12	2
Asbestos and insulation worker	27,500	1.21	6	7
Boilermaker	9,910	.44	10	2
Bricklayer	68,830	3.04	2	20
Cabinetmaker	3,860	.17	10	2
Carpet cutter and/or carpet layer	15,200	.67	5	5
Carpenter	104,470	4.61	2	37
Cement mason	53,430	2.36	3	23
Concrete mixer operator	2,550	.11	10	2
Concrete wall grinder operator	560	.02	18	1
Concrete rubber	1,470	.06	15	1
Crane, derrick, and/or hoist operator	9,000	.40	6	6
Delivery and/or route worker	1,110	.05	10	2
Dry wall applicator	32,960	1.45	4	9
Electrician	211,980	9.35	1	37
Fence erector	5,640	.25	14	2
Floor sanding machine operator	2,010	.09	13	1
Supervisor, nonworking	23,170	1.02	3	28
Form setter, metal road form	850	.04	26	0
Furnace installer and repairer, hot air	14,210	.63	6	6
Glazier	11,770	.52	8	3
Heavy equipment operator	64,750	2.86	3	32
Rigger	3,510	.15	15	1
Industrial truck operator	440	.02	18	1
Inspector	360	.02	21	0
Lather	10,440	.46	7	4
Line installer repairer	8,160	.36	10	2
Machinist	530	.02	33	0
Maintenance repairer, general utility	740	.03	24	1
Metal fabricator	11,030	.49	9	4
Millwright	8,860	.39	9	3
Oil burner installer and servicer	2,430	.11	11	2
Oiler	380	.02	29	0

See footnotes at end of table.

Table 11. Special trade contractors: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 17)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Painter, maintenance	108,040	4.77	1	32
Paperhanger	4,580	.20	6	5
Pipelayer	1,060	.05	22	1
Plasterer	14,750	.65	5	6
Plumber and/or pipefitter	162,860	7.18	2	38
Reinforcing iron worker	15,440	.68	10	3
Roofer	70,600	3.11	2	21
Sheet metal worker	90,210	3.98	2	27
Stone mason	3,780	.17	10	2
Layout worker, structural steel	2,720	.12	11	2
Structural steel worker	33,870	1.49	7	6
Taper	24,220	1.07	4	9
Tile setter	13,150	.58	6	6
Welder and/or flamecutter	13,840	.61	7	9
Asphalt raker	990	.04	17	1
Installer and/or floor layer	16,540	.73	5	6
Terrazzo worker	1,910	.08	13	1
Asbestos and insulation worker helper	3,280	.14	17	1
Bricklayer helper	50,350	2.22	3	17
Carpenter helper	22,190	.98	3	14
Cement mason helper	29,610	1.31	4	13
Electrician helper	36,500	1.61	3	17
Painter helper	9,520	.42	5	8
Paperhanger helper	290	.01	16	0
Plasterer helper	7,840	.35	7	4
Plumber and/or pipefitter helper	40,100	1.77	3	19
Roofer helper	24,260	1.07	3	12
Stone mason helper	1,900	.08	13	1
Tile setter helper	8,090	.36	7	4
Cabinetmaker helper	830	.04	19	1
Terrazzo worker helper	1,630	.07	15	1
All other helpers, skilled trades	6,970	.31	n.a.	n.a.
All other skilled craft and kindred workers	9,140	.40	n.a.	n.a.
All other operatives and semiskilled workers	25,950	1.14	n.a.	n.a.
All other laborers and unskilled workers ..	88,860	3.92	n.a.	n.a.
Clerical occupations	160,070	7.06	n.a.	n.a.
Bookkeeping and/or billing machine operator	1,820	.08	6	4
All other office machine operators	240	.01	n.a.	n.a.
Accounting clerk	240	.01	20	1
Bookkeeper, hand	30,390	1.34	2	64
General clerk, office	61,400	2.71	1	86
Payroll and/or timekeeping clerk	11,870	.52	2	29
Secretary	44,900	1.98	1	81
Typist	2,670	.12	5	5
All other office clerical workers	1,750	.08	n.a.	n.a.
Production clerk and/or coordinator	230	.01	28	1
Shipping and/or receiving clerk	560	.02	12	1
Stock clerk, stockroom, warehouse or storage yard	3,480	.15	6	6
All other plant clerical workers	520	.02	n.a.	n.a.
Sales occupations	27,970	1.23	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	27,090	1.20	3	30
Sales clerk	880	.04	17	1

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Finance, Insurance, and Real Estate

In 1978, finance, insurance, and real estate establishments employed 4.7 million workers or 21 percent of all workers covered by the survey. Banks and credit agencies employed 1.9 million workers; security and commodity brokers and investment services, 0.3 million workers; and insurance and real estate, 2.5 million.

Fifty percent of all workers in this industry division were in clerical occupations.

Banks and credit agencies

This industry group (SIC's 60 and 61) includes establishments primarily engaged in deposit banking and closely related functions, and in extending credit and other forms of loans.

As shown in table 12, clerical occupations accounted for over 70 percent of the employment in banking. The five most populous occupations in banking were: Tellers, with 313,800 or 22 percent of total industry employment; managers and officers, 257,600 or 18 percent; general clerks (office), 106,100 or 8 percent; secretaries, 67,300 or 5 percent; and clerical supervisors (office or plant), 52,200 or 4 percent.

Two-thirds of the workers in credit agencies were in clerical occupations. As shown in table 13, the five most populous occupations were: Managers and officers, with 112,700 or 22 percent of total industry employment; tellers, 74,000 or 14 percent; general clerks (office), 35,500 or 7 percent; credit clerks, 31,000 or 6 percent; and collectors, 25,700 or 5 percent.

Security and commodity brokers and investment services

This industry (SIC's 62 and 67) includes establishments engaged in underwriting, purchase, sale, or brokerage of securities and other financial contracts; exchanges; and holding and other investment institutions.

About 65 percent of the employees in this group were in security and commodity brokers and services. As shown in table 14, the five most populous occupations in security and commodity brokers and services were: Securities sales agents, with 43,300 or 23 percent of total industry employment; managers and officers, 25,200 or 13 percent; secretaries, 18,200 or 10 percent; brokerage clerks, 11,200 or 6 percent; and general clerks (office), 9,000 or 5 percent.

In 1978, 46 percent of employees in holding and other investment offices were in clerical occupations. As shown in table 15, the five most populous occupations were: Managers and officers, with 27,500 or 27 percent of total industry employment; secretaries, 12,600 or 12 percent; general clerks (office), 6,900 or 7 percent; accountants and auditors, 6,800 or 6 percent, and accounting clerks, 3,100 or 3 percent.

Insurance and real estate

This industry group (SIC's 63-66) includes insurance carriers of all types; agents and brokers dealing in insurance, and organizations offering services to insurance companies and policyholders; real estate operators, owners and lessors of real property, developers, agents, and brokers; and establishments regularly engaged in any combination of insurance, real estate, loans, and law where no one of these activities dominates the business.

In 1978, insurance carriers employed over 45 percent of all insurance and real estate workers. Fifty-five percent of employees of insurance carriers were in clerical occupations. As shown in table 16, the five most populous occupations in insurance carriers were: Insurance sales agents, associates, and representatives, with 166,600 or 14 percent of total industry employment; managers and officers, 136,100 or 12 percent; general clerks (office), 98,400 or 8 percent; typists, 53,400 or 5 percent; and secretaries, 51,100 or 4 percent.

The five most populous occupations for insurance agents, brokers, and services, as shown in table 17, were: Managers and officers, with 78,600 or 20 percent of total industry employment; insurance sales agents, associates, and representatives, 54,700 or 14 percent; general clerks (office), 37,200 or 9 percent; secretaries, 27,500 or 7 percent; and underwriters, 24,900 or 6 percent.

About one-fourth of real estate workers were employed in service occupations; another one-fourth were in maintenance, construction, repair, material handling, and powerplant occupations. As shown in table 18, the five most populous occupations in real estate were: Managers and officers, with 153,400 or 17 percent of total industry employment; janitors, porters, and cleaners, excluding maids, 101,500 or 11 percent; real estate sales agents, associates, and representatives, 86,600 or

10 percent; general utility maintenance repairers, 85,700 or 10 percent; and gardeners and groundskeepers, 65,100 or 7 percent.

About two-fifths of the workers in combined real estate, insurance, loans, and law offices were in clerical occupations. As shown in table 19, the five most populous occupations were: Managers and officers, with

5,400 or 20 percent of total industry employment; real estate sales agents, associates, and representatives, 4,900 or 18 percent; general clerks (office), 3,100 or 12 percent; secretaries, 2,500 or 9 percent; and insurance sales agents, associates, and representatives, 2,000 or 7 percent.

Table 12. Banking: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 60)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	1,407,660	100.00	--	100
Managers and officers	257,640	18.30	n.a.	99
Professional occupations	82,260	5.84	n.a.	n.a.
Engineers	440	.03	21	1
Financial analyst	2,840	.20	11	9
All other mathematical scientists	170	.01	n.a.	n.a.
Economist	740	.05	13	2
Systems analyst, electronic data processing	7,250	.52	14	13
Purchasing agent and/or buyer	1,480	.11	4	17
Accountant and/or auditor	15,840	1.13	4	40
Budget analyst	1,260	.09	9	8
Credit analyst, chief	3,460	.25	7	17
Credit analyst	7,860	.56	6	23
Lawyer	1,130	.08	11	6
Personnel and labor relations specialists	3,940	.28	6	21
Public relations practitioner	3,770	.27	5	24
Appraiser, real estate	2,700	.19	7	13
Travel agent and/or travel accommodations appraiser	300	.02	17	1
All other professional workers	29,080	2.07	n.a.	n.a.
Technical occupations	11,290	.80	n.a.	n.a.
Computer programmer	7,400	.53	7	17
Engineering technician	190	.01	23	1
All other technicians	3,700	.26	n.a.	n.a.
Service occupations	40,010	2.84	n.a.	n.a.
Janitor, porter, and/or cleaner	23,020	1.64	3	51
Guard and/or doorkeeper	11,840	.84	5	19
Food service workers	3,680	.26	11	10
Supervisor, nonworking--service only	770	.05	14	4
All other service workers	700	.05	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	9,770	.69	n.a.	n.a.
Mechanics and repairers	940	.07	n.a.	n.a.
Truck driver	180	.01	18	1
Carpenter	260	.02	10	2
Delivery and/or route worker	340	.02	16	1
Electrician	260	.02	12	2
Supervisor, nonworking	750	.05	9	6
Maintenance repairer, general utility	2,840	.20	6	13
Helper, trades	190	.01	11	2
Painter, maintenance	290	.02	11	2
Parking lot attendant	1,080	.08	12	6
Stationary engineer	650	.05	23	2
Chauffeur	570	.04	17	3
All other skilled craft and kindred workers	300	.02	n.a.	n.a.
All other operatives and semiskilled workers	820	.06	n.a.	n.a.
All other laborers and unskilled workers	300	.02	n.a.	n.a.
Clerical occupations	1,000,400	71.07	n.a.	n.a.
Addressing machine operator	830	.06	11	6
Bookkeeping and/or billing machine operator	11,920	.85	7	24
Computer operator	9,920	.70	5	21
Keypunch operator	12,270	.87	8	22
Peripheral EDP equipment operator	4,800	.34	11	8
Proof machine operator	42,820	3.04	3	65
Inserting and/or labeling machine operator	210	.01	10	2
Coin machine operator and/or currency sorter	3,900	.28	8	15

See footnotes at end of table.

Table 12. Banking: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 60)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
All other office machine operators	8,600	0.61	n.a.	n.a.
Stenographer	7,140	.51	6	19
Accounting clerk	27,040	1.92	6	45
Bookkeeper, hand	14,180	1.01	6	27
Adjustment clerk	7,820	.56	7	16
Cashier	3,110	.22	21	5
Checking clerk, bank records	12,200	.87	6	20
Collector	15,530	1.10	4	41
Credit reporter	4,980	.35	8	16
File clerk	20,560	1.46	4	37
Insurance clerk	2,600	.18	5	16
General clerk, office	106,140	7.54	1	50
Mail clerk	8,050	.57	4	34
Messenger, bank	3,730	.26	10	13
New accounts teller	34,610	2.46	3	61
Order clerk	840	.06	12	5
Payroll and/or timekeeping clerk	2,300	.16	8	18
Personnel clerk	2,930	.21	5	23
Procurement clerk	460	.03	8	5
Receptionist	6,630	.47	6	28
Safe deposit clerk	8,700	.62	4	37
Secretary	67,280	4.78	2	76
Statement clerk	27,650	1.96	4	45
Statistical clerk	2,990	.21	31	6
Switchboard operator	6,010	.43	5	39
Switchboard operator receptionist	4,740	.34	5	25
Messenger	9,220	.65	4	32
Teller	313,780	22.29	1	92
Transit clerk	8,580	.61	6	20
Travel clerk	400	.03	16	1
Typist	26,900	1.91	6	32
Clerical supervisor, office or plant	52,210	3.71	4	63
Credit clerk	14,910	1.06	4	42
Mortgage closing clerk	5,880	.42	6	28
Sorting clerk, bank	4,440	.32	7	11
Loan closer	9,190	.65	6	25
All other office clerical workers	57,670	4.10	n.a.	n.a.
Production clerk and/or coordinator	750	.05	23	1
Shipping and/or receiving clerk	400	.03	12	3
Stock clerk, stockroom, warehouse or storage yard	1,910	.14	5	14
All other plant clerical workers	670	.05	n.a.	n.a.
Sales occupations				
Sales representative, sales agent, and/or sales associate	6,290	.45	n.a.	n.a.
Sales clerk	6,150	.44	11	11
	140	.01	31	0

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 13. Credit agencies, except banks: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 61)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	510,720	100.00	--	100
Managers and officers	112,070	21.94	n.a.	213
Professional occupations	39,940	7.82	n.a.	n.a.
Financial analyst	360	.07	19	3
Social scientist	90	.02	n.a.	n.a.
Systems analyst, electronic data processing	1,390	.27	7	11
Purchasing agent and/or buyer	600	.12	11	7
Accountant and/or auditor	7,320	1.43	3	44
Budget analyst	260	.05	24	3
Credit analyst, chief	3,050	.60	7	20
Credit analyst	12,610	2.47	4	43
Lawyer	700	.14	9	5
Personnel and labor relations specialists	980	.19	5	10
Public relations practitioner	2,180	.43	6	18
Appraiser, real estate	6,140	1.20	3	32
All other professional workers	4,260	.83	n.a.	n.a.
Technical occupations	2,580	.51	n.a.	n.a.
Computer programmer	2,060	.40	7	11
All other technicians	520	.10	n.a.	n.a.
Service occupations	10,090	1.98	n.a.	n.a.
Janitor, porter, and/or cleaner	8,060	1.58	4	45
Guard and/or doorkeeper	980	.19	10	5
Food service workers	660	.13	17	3
Supervisor, nonworking--service only	90	.02	14	1
All other service workers	300	.06	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	2,730	.53	n.a.	n.a.
Mechanic and/or repairer	80	.02	n.a.	n.a.
Delivery and/or route worker	80	.02	27	1
Supervisor, nonworking	230	.05	10	3
Inspector	100	.02	18	1
Maintenance repairer, general utility	1,290	.25	7	8
Helper, trades	50	.01	33	0
Parking lot attendant	160	.03	15	1
All other skilled craft and kindred workers	380	.07	n.a.	n.a.
All other operatives and semiskilled workers	140	.03	n.a.	n.a.
All other laborers and unskilled workers	220	.04	n.a.	n.a.
Clerical occupations	334,660	65.53	n.a.	n.a.
Bookkeeping and/or billing machine operator	2,620	.51	6	19
Computer operator	1,680	.33	6	10
Keypunch operator	2,310	.45	6	12
Peripheral EDP equipment operator	670	.13	15	3
Proof machine operator	370	.07	21	2
Inserting and/or labeling machine operator	120	.02	18	1
All other office machine operators	1,200	.23	n.a.	n.a.
Stenographer	2,560	.50	7	13
Accounting clerk	13,030	2.55	3	58
Bookkeeper, hand	8,490	1.66	3	51
Adjustment clerk	1,170	.23	12	4
Cashier	14,750	2.89	4	36
Checking clerk, bank records	1,610	.32	13	6
Collector	25,700	5.03	3	81
Credit reporter	930	.18	13	4
File clerk	5,240	1.03	4	30
Insurance clerk	2,910	.57	4	19
General clerk, office	35,500	6.95	3	84
Mail clerk	2,400	.47	4	19
Messenger, bank	340	.07	25	3

See footnotes at end of table.

Table 13. Credit agencies, except banks: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 61)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
New accounts teller	13,020	2.55	3	38
Order clerk	200	.04	20	2
Payroll and/or timekeeping clerk	710	.14	6	9
Personnel clerk	740	.14	5	9
Procurement clerk	150	.03	12	2
Receptionist	3,850	.75	4	31
Safe deposit clerk	940	.18	8	6
Secretary	20,030	3.92	2	82
Statement clerk	1,890	.37	10	9
Statistical clerk	310	.06	16	3
Switchboard operator	1,360	.27	6	16
Switchboard operator receptionist	3,410	.67	3	36
Messenger	1,660	.33	5	17
Teller	74,010	14.49	1	81
Transit clerk	190	.04	31	1
Typist	10,220	2.00	4	35
Clerical supervisor, office or plant	17,980	3.52	2	68
Credit clerk	31,270	6.12	3	87
Mortgage closing clerk	13,950	2.73	3	57
Sorting clerk, bank	160	.03	16	1
Loan closer	7,730	1.51	4	21
All other office clerical workers	6,370	1.25	n.a.	n.a.
Production clerk and/or coordinator	100	.02	26	0
Shipping and/or receiving clerk	170	.03	24	1
Stock clerk, stockroom, warehouse or storage yard	460	.09	9	4
All other plant clerical workers	180	.04	n.a.	n.a.
Sales occupations	8,650	1.69	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	8,530	1.67	5	28
All other sales workers	120	.02	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 14. Security, and commodity brokers and services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 62)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	189,610	100.00	—	100
Managers and officers	25,150	13.26	n.a.	90
Professional occupations	19,580	10.33	n.a.	n.a.
Financial analyst	3,980	2.10	9	15
Statistician	770	.41	20	6
Economist	120	.06	22	2
Market research analyst	760	.40	16	4
Systems analyst, electronic data processing	1,280	.68	21	5
Purchasing agent and/or buyer	250	.13	12	4
Accountant and/or auditor	3,100	1.63	9	19
Budget analyst	140	.07	21	2
Lawyer	450	.24	16	6
Personnel and labor relations specialists ..	380	.20	15	4
Broker's floor representative, securities trader and/or securities, specialist	5,110	2.70	11	18
All other professional workers	3,240	1.71	n.a.	n.a.
Technical occupations	1,620	.85	n.a.	n.a.
Computer programmer	1,160	.61	13	7
All other technicians	460	.24	n.a.	n.a.
Service occupations	1,080	.57	n.a.	n.a.
Janitor, porter, and/or cleaner	480	.25	18	5
Guard and/or doorkeeper	340	.18	19	2
Food service workers	170	.09	25	1
All other service workers	90	.05	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	1,830	.97	n.a.	n.a.
Supervisor, nonworking	120	.06	29	1
All other skilled craft and kindred workers	260	.14	n.a.	n.a.
All other operatives and semiskilled workers	120	.06	n.a.	n.a.
All other laborers and unskilled workers ..	1,330	.70	n.a.	n.a.
Clerical occupations	87,990	46.41	n.a.	n.a.
Bookkeeping and/or billing machine operator	350	.18	18	5
Computer operator	1,250	.66	14	7
Key punch operator	2,120	1.12	11	12
Duplicating machine operator	440	.23	14	5
All other office machine operators	1,440	.76	n.a.	n.a.
Stenographer	1,030	.54	16	7
Accounting clerk	2,970	1.57	9	18
Dividend clerk	1,220	.64	9	9
Bookkeeper, hand	2,540	1.34	13	18
Brokerage clerk	11,190	5.90	7	36
Capital analyst	190	.10	40	1
Cashier	1,020	.54	11	18
File clerk	1,080	.57	12	8
General clerk, office	9,000	4.75	8	36
Securities cashier, exchange	1,680	.89	9	17
Trade recorder	2,490	1.31	15	8
Mail clerk	1,690	.89	10	13
Margin clerk	1,890	1.00	9	13
Order clerk	940	.50	21	4
Payroll and/or timekeeping clerk	490	.26	12	7
Personnel clerk	410	.22	13	5
Purchase and sales clerk and/or securities order clerk	2,210	1.17	9	8
Receptionist	860	.45	9	15
Secretary	18,180	9.59	4	72
Security description clerk	880	.46	15	6
Statistical clerk	660	.35	21	3
Switchboard operator	790	.42	10	11

See footnotes at end of table.

Table 14. Security, and commodity brokers and services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 62)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Switchboard operator receptionist	1,720	0.91	8	30
Messenger	4,140	2.18	10	18
Transfer clerk	1,660	.88	10	12
Typist	3,780	1.99	10	19
Clerical supervisor, office or plant	3,490	1.84	9	21
All other office clerical workers	3,720	1.96	n.a.	n.a.
Production clerk and/or coordinator	120	.06	46	1
Shipping and/or receiving clerk	80	.04	35	1
Stock clerk, stockroom, warehouse or storage yard	150	.08	27	1
All other plant clerical workers	120	.06	n.a.	n.a.
Sales occupations	52,360	27.61	n.a.	n.a.
Sales agent, financial service/bank	250	.13	32	2
Sales agent, securities	43,300	22.84	4	59
Broker and market operator, commodities	3,860	2.04	19	13
Portfolio manager	1,850	.98	10	10
All other sales agents, sales associates, and/or sales representatives	2,880	1.52	n.a.	n.a.
Sales clerk	220	.12	47	1

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 15. Holding and other investment offices: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 67)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	103,660	100.00	--	100
Managers and officers	27,520	26.55	n.a.	70
Professional occupations	20,360	19.64	n.a.	n.a.
Engineers	600	.58	31	2
Financial analyst	630	.61	14	5
Statistician	120	.12	21	2
Physical scientists	590	.57	n.a.	n.a.
Economist	70	.07	45	1
Market research analyst	450	.43	24	3
All other social scientists	180	.17	n.a.	n.a.
Systems analyst, electronic data processing	720	.69	14	6
Purchasing agent and/or buyer	400	.39	22	4
Accountant and/or auditor	6,780	6.54	5	32
Budget analyst	200	.19	16	2
Lawyer	1,280	1.23	14	9
Personnel and labor relations specialists	670	.65	19	5
Broker's floor representative, securities trader and/or securities, specialist	220	.21	33	1
All other professional workers	7,450	7.19	n.a.	n.a.
Technical occupations	1,630	1.57	n.a.	n.a.
Computer programmer	830	.80	15	6
Engineering technician	340	.33	30	2
All other technicians	460	.44	n.a.	n.a.
Service occupations	4,640	4.48	n.a.	n.a.
Janitor, porter, and/or cleaner	2,010	1.94	16	9
Guard and/or doorkeeper	250	.24	41	2
Food service workers	1,190	1.15	n.a.	n.a.
All other service workers	1,190	1.15	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	4,410	4.25	n.a.	n.a.
All other mechanics and repairers	210	.20	n.a.	n.a.
Supervisor, nonworking	220	.21	43	1
Maintenance repairer, general utility	1,260	1.22	15	7
All other skilled craft and kindred workers	330	.32	n.a.	n.a.
All other operatives and semiskilled workers	1,320	1.27	n.a.	n.a.
All other laborers and unskilled workers	1,070	1.03	n.a.	n.a.
Clerical occupations	41,960	40.48	n.a.	n.a.
Bookkeeping and/or billing machine operator	480	.46	21	4
Computer operator	910	.88	15	5
Keypunch operator	1,230	1.19	13	7
Duplicating machine operator	170	.16	29	2
All other office machine operators	550	.53	n.a.	n.a.
Stenographer	850	.82	21	5
Accounting clerk	3,080	2.97	9	19
Bookkeeper, hand	2,800	2.70	7	20
Brokerage clerk	210	.20	23	2
Cashier	400	.39	28	3
File clerk	590	.57	32	4
General clerk, office	6,870	6.63	22	21
Mail clerk	570	.55	15	7
Payroll and/or timekeeping clerk	620	.60	11	9
Personnel clerk	210	.20	16	3
Purchase and sales clerk and/or securities order clerk	190	.18	49	0
Receptionist	850	.82	13	9
Secretary	12,600	12.16	5	52
Security description clerk	80	.08	40	1
Statistical clerk	300	.29	34	2
Switchboard operator	230	.22	17	3

See footnotes at end of table.

Table 15. Holding and other investment offices: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 67)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Switchboard operator receptionist	1,070	1.03	9	13
Messenger	500	.48	15	5
Transfer clerk	60	.06	44	1
Typist	2,130	2.05	12	13
Clerical supervisor, office or plant	1,520	1.47	15	10
All other office clerical workers	2,250	2.17	n.a.	n.a.
Production clerk and/or coordinator	110	.11	38	1
Shipping and/or receiving clerk	220	.21	37	1
Stock clerk, stockroom, warehouse or storage yard	260	.25	31	1
All other plant clerical workers	50	.05	n.a.	n.a.
Sales occupations	3,140	3.03	n.a.	n.a.
Sales agent, financial service/bank	230	.22	34	1
Sales agent, securities	510	.49	25	1
Broker and market operator, commodities	80	.08	43	0
Portfolio manager	500	.48	27	3
All other sales agents, sales associates, and/or sales representatives	1,630	1.57	n.a.	n.a.
All other sales workers	190	.18	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 16. Insurance carriers: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 63)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	1,169,800	100.00		100
Managers and officers	136,120	11.64	n.a.	94
Professional occupations	173,440	14.83	n.a.	n.a.
Engineers	2,760	.24	15	5
Actuary	3,740	.32	11	6
Financial analyst	1,310	.11	16	3
Statistician	1,920	.16	33	3
All other mathematical scientists	340	.03	n.a.	n.a.
Economist	210	.02	24	1
Systems analyst, electronic data processing	10,770	.92	10	9
Purchasing agent and/or buyer	1,080	.09	8	6
Accountant and/or auditor	32,020	2.74	22	23
Appraiser	450	.04	31	1
Budget analyst	940	.08	14	3
Credit analyst	300	.03	20	1
Hospital insurance representative	620	.05	12	2
Investigator, insurance	4,750	.41	13	5
Lawyer	4,100	.35	7	11
Librarian, professional	420	.04	15	2
Nurse, professional	1,400	.12	18	5
Paralegal personnel	610	.05	16	2
Personnel and labor relations specialists	3,880	.33	11	11
Physician and/or surgeon	880	.08	29	3
Public relations practitioner	1,320	.11	10	5
Safety inspector	3,880	.33	12	8
Title examiner and/or abstractor	4,170	.36	5	7
Special agent, insurance	16,410	1.40	21	16
Claim examiner, property and/or casualty insurance	14,110	1.21	7	15
Building inspector, fire insurance	1,380	.12	20	3
Underwriter	43,940	3.76	4	31
All other professional workers	15,730	1.34	n.a.	n.a.
Technical occupations	20,760	1.77	n.a.	n.a.
Computer programmer	15,120	1.29	12	11
Drafter	250	.02	25	1
All other engineering technicians	210	.02	n.a.	n.a.
All other technicians	5,180	.44	n.a.	n.a.
Service occupations	13,800	1.18	n.a.	n.a.
Maid	1,060	.09	18	2
All other janitors, porters, and cleaners	6,520	.56	n.a.	n.a.
Guard and/or doorkeeper	1,950	.17	18	3
Food service workers	2,500	.21	16	3
Supervisor, nonworking--service only	880	.08	25	2
Elevator operator	200	.02	34	0
All other service workers	690	.06	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	8,410	.72	n.a.	n.a.
Mechanic, maintenance	220	.02	31	1
All other mechanics and repairers	230	.02	n.a.	n.a.
Truck driver	250	.02	37	1
Carpenter	330	.03	30	1
Compositor and/or typesetter	510	.04	14	2
Electrician	320	.03	27	1
Supervisor, nonworking	500	.04	16	3
Maintenance repairer, general utility	1,420	.12	11	5
Helper, trades	230	.02	43	1
Painter, maintenance	210	.02	20	1
Press operator and/or plate printer	1,950	.17	15	5
Stationary engineer	460	.04	21	1
Gardener and/or groundskeeper	520	.04	19	2
All other skilled craft and kindred workers	300	.03	n.a.	n.a.

See footnotes at end of table.

Table 16. Insurance carriers: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 63)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
All other operatives and semiskilled workers	740	0.06	n.a.	n.a.
All other laborers and unskilled workers ..	220	.02	n.a.	n.a.
Clerical occupations	643,250	54.99	n.a.	n.a.
Bookkeeping and/or billing machine operator	1,740	.15	11	7
Computer operator	11,190	.96	12	15
Key punch operator	18,410	1.57	5	17
Duplicating machine operator	2,430	.21	9	7
All other office machine operators	5,580	.48	n.a.	n.a.
Stenographer	13,560	1.16	8	21
Accounting clerk	25,370	2.17	6	29
Actuarial clerk	2,160	.18	16	5
Bookkeeper, hand	6,900	.59	8	19
Cancellation clerk	1,620	.14	11	5
Cashier	7,760	.66	7	21
Claim adjuster	34,190	2.92	7	21
Claims clerk	31,790	2.72	5	28
Collector	3,070	.26	18	4
Correspondence clerk	14,430	1.23	8	11
Credit reporter	220	.02	24	1
File clerk	41,650	3.56	4	36
Insurance clerk	2,700	.23	48	2
General clerk, office	98,360	8.41	5	50
Mail clerk	11,480	.98	5	22
Order clerk	910	.08	14	3
Payroll and/or timekeeping clerk	2,580	.22	13	10
Personnel clerk	2,360	.20	7	11
Policy change clerk	14,340	1.23	7	17
Rater	33,050	2.83	4	22
Real estate clerk	450	.04	20	1
Receptionist	3,390	.29	10	14
Secretary	51,070	4.37	4	58
Statistical clerk	3,250	.28	18	5
Switchboard operator	2,250	.19	8	11
Switchboard operator receptionist	4,720	.40	5	27
Messenger	2,600	.22	9	8
Title searcher	3,100	.27	7	5
Typist	53,430	4.57	4	44
Worksheet clerk	9,920	.85	10	9
Clerical supervisor, office or plant	35,730	3.05	4	39
Insurance checker	9,550	.82	8	11
Credit clerk	310	.03	28	1
Claim examiner, life, accident, and health insurance	32,660	2.79	7	20
Loan closer	2,520	.22	12	3
All other office clerical workers	35,610	3.04	n.a.	n.a.
Production clerk and/or coordinator	1,130	.10	21	1
Shipping and/or receiving clerk	730	.06	15	3
Stock clerk, stockroom, warehouse or storage yard	2,300	.20	9	7
All other plant clerical workers	680	.06	n.a.	n.a.
Sales occupations	174,020	14.88	n.a.	n.a.
Sales agent, sales associate, and/or sales representative, real estate	3,290	.28	45	1
Sales agent, sales associate, and/or sales representative, insurance	166,640	14.25	4	49
All other sales agents, sales associates, and/or sales representatives	3,890	.33	n.a.	n.a.
Sales clerk	200	.02	30	1

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 17. Insurance agents, brokers, and service: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 64)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	398,320	100.00	--	100
Managers and officers	78,550	19.72	n.a.	122
Professional occupations	46,300	11.62	n.a.	n.a.
Engineers	650	.16	36	2
Actuary	870	.22	23	1
Financial analyst	160	.04	40	0
Statistician	310	.08	27	1
Systems analyst, electronic data processing	530	.13	15	2
Purchasing agent and/or buyer	130	.03	13	1
Accountant and/or auditor	4,230	1.06	5	15
Appraiser	510	.13	24	1
Credit analyst	50	.01	49	0
Investigator, insurance	2,450	.62	14	4
Lawyer	370	.09	17	1
Nurse, professional	1,280	.32	27	1
Paralegal personnel	120	.03	23	0
Personnel and labor relations specialists	240	.06	13	2
Public relations practitioner	120	.03	29	1
Safety inspector	1,050	.26	20	2
Title examiner and/or abstractor	230	.06	41	0
Special agent, insurance	1,290	.32	19	2
Claim examiner, property and/or casualty insurance	3,980	1.00	9	10
Building inspector, fire insurance	1,070	.27	25	1
Underwriter	24,860	6.24	3	37
All other professional workers	1,800	.45	n.a.	n.a.
Technical occupations	1,870	.47	n.a.	n.a.
Computer programmer	980	.25	14	3
Drafter	40	.01	32	0
All other engineering technicians	80	.02	n.a.	n.a.
All other technicians	770	.19	n.a.	n.a.
Service occupations	3,370	.85	n.a.	n.a.
Maid	570	.14	15	2
All other janitors, porters, and cleaners	2,250	.56	n.a.	n.a.
Guard and/or doorkeeper	80	.02	45	0
Food service workers	220	.06	40	0
All other service workers	250	.06	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	1,070	.27	n.a.	n.a.
Maintenance repairer, general utility	560	.14	26	1
Press operator and/or plate printer	70	.02	28	0
All other skilled craft and kindred workers	210	.05	n.a.	n.a.
All other operatives and semiskilled workers	120	.03	n.a.	n.a.
All other laborers and unskilled workers	110	.03	n.a.	n.a.
Clerical occupations	210,420	52.83	n.a.	n.a.
Bookkeeping and/or billing machine operator	3,230	.81	6	12
Computer operator	900	.23	9	4
Keypunch operator	1,880	.47	9	4
Duplicating machine operator	140	.04	15	1
All other office machine operators	440	.11	n.a.	n.a.
Stenographer	4,980	1.25	5	16
Accounting clerk	8,470	2.13	3	28
Actuarial clerk	170	.04	25	1
Bookkeeper, hand	9,840	2.47	3	36
Cancellation clerk	210	.05	17	1
Cashier	1,790	.45	7	7
Claim adjuster	13,620	3.42	6	15
Claims clerk	12,020	3.02	3	39
Collector	250	.06	19	1

See footnotes at end of table.

Table 17. Insurance agents, brokers, and service: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 64)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Correspondence clerk	1,010	0.25	28	2
Credit reporter	540	.14	47	0
File clerk	11,150	2.80	3	33
Insurance clerk	430	.11	28	1
General clerk, office	37,220	9.34	3	55
Mail clerk	1,360	.34	6	6
Order clerk	80	.02	29	0
Payroll and/or timekeeping clerk	220	.06	12	2
Personnel clerk	250	.06	10	2
Policy change clerk	9,800	2.46	5	20
Rater	17,030	4.28	4	33
Receptionist	3,170	.80	5	14
Secretary	27,470	6.90	3	57
Statistical clerk	330	.08	17	1
Switchboard operator	870	.22	9	4
Switchboard operator receptionist	4,130	1.04	4	25
Messenger	330	.08	15	2
Typist	14,930	3.75	4	31
Worksheet clerk	630	.16	13	1
Clerical supervisor, office or plant	10,960	2.75	4	28
Insurance checker	2,280	.57	13	3
Claim examiner, life, accident, and health insurance	5,150	1.29	9	9
All other office clerical workers	2,740	.69	n.a.	n.a.
Production clerk and/or coordinator	100	.03	46	0
Shipping and/or receiving clerk	50	.01	27	0
Stock clerk, stockroom, warehouse or storage yard	210	.05	13	1
All other plant clerical workers	40	.01	n.a.	n.a.
Sales occupations	56,740	14.24	n.a.	n.a.
Placer	1,060	.27	18	1
Sales agent, sales associate, and/or sales representative, real estate	220	.06	40	0
Sales agent, sales associate, and/or sales representative, insurance	54,720	13.74	3	66
All other sales agents, sales associates, and/or sales representatives	710	.18	n.a.	n.a.
All other sales workers	30	.01	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 18. Real estate: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 65)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	891,170	100.00	--	100
Managers and officers	153,430	17.22	n.a.	221
Professional occupations	29,870	3.35	n.a.	n.a.
Engineers	1,040	.12	13	3
Systems analyst, electronic data processing	220	.02	20	1
Purchasing agent and/or buyer	430	.05	12	3
Accountant and/or auditor	8,660	.97	4	32
Landscape architect	200	.02	28	1
Architect	300	.03	20	2
Budget analyst	150	.02	19	1
Credit analyst	100	.01	47	0
Lawyer	460	.05	13	3
Nurse, professional	880	.10	17	1
Paralegal personnel	90	.01	27	1
Personnel and labor relations specialists	170	.02	13	2
Public relations practitioner	680	.08	11	3
Title examiner and/or abstractor	5,070	.57	4	12
Appraiser, real estate	7,120	.80	11	10
Special agent, insurance	110	.01	36	0
All other professional workers	4,190	.47	n.a.	n.a.
Technical occupations	2,700	.30	n.a.	n.a.
Computer programmer	340	.04	16	2
Drafter	660	.07	16	3
Surveyor	160	.02	21	1
All other engineering technicians	240	.03	n.a.	n.a.
Licensed practical nurse	430	.05	23	1
All other technicians	870	.10	n.a.	n.a.
Service occupations	218,370	24.50	n.a.	n.a.
Maid	31,350	3.52	4	42
All other janitors, porters, and cleaners	101,500	11.39	n.a.	n.a.
Guard and/or doorkeeper	34,080	3.82	4	32
Food service workers	17,070	1.92	7	7
Supervisor, nonworking--service only	9,220	1.03	5	25
Elevator operator	8,360	.94	9	5
All other service workers	16,790	1.88	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	206,420	23.16	n.a.	n.a.
Mechanic, automotive	440	.05	13	2
Mechanic, maintenance	470	.05	30	1
All other mechanics and repairers	840	.09	n.a.	n.a.
Truck driver	730	.08	16	2
Carpenter	11,270	1.26	7	20
Delivery and/or route worker	260	.03	34	1
Electrician	860	.10	12	3
Supervisor, nonworking	2,480	.28	10	8
Inspector	150	.02	43	0
Maintenance repairer, general utility	85,660	9.61	2	110
Helper, trades	8,310	.93	7	15
Painter, maintenance	12,160	1.36	5	26
Plumber and/or pipefitter	550	.06	14	2
Press operator and/or plate printer	150	.02	46	0
Stationary boiler firer	400	.04	25	1
Stationary engineer	2,280	.26	13	3
Surveyor helper	190	.02	34	1
Gardener and/or groundskeeper	65,130	7.31	2	75
All other skilled craft and kindred workers	2,460	.28	n.a.	n.a.
All other operatives and semiskilled workers	3,210	.36	n.a.	n.a.
All other laborers and unskilled workers	8,420	.94	n.a.	n.a.
Clerical occupations	169,410	19.01	n.a.	n.a.

See footnotes at end of table.

Table 18. Real estate: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 65)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Bookkeeping and/or billing machine operator	370	0.04	20	2
Computer operator	560	.06	11	3
Keypunch operator	1,210	.14	12	4
Duplicating machine operator	120	.01	29	1
All other office machine operators	140	.02	n.a.	n.a.
Stenographer	2,570	.29	8	8
Accounting clerk	11,160	1.25	4	35
Bookkeeper, hand	23,910	2.68	3	79
Cashier	1,250	.14	14	3
Collector	390	.04	16	2
File clerk	890	.10	10	4
General clerk, office	30,950	3.47	3	69
Mail clerk	390	.04	11	3
Order clerk	340	.04	24	1
Payroll and/or timekeeping clerk	770	.09	7	6
Personnel clerk	180	.02	12	2
Real estate clerk	9,620	1.08	6	21
Receptionist	10,680	1.20	4	34
Secretary	40,420	4.54	2	102
Switchboard operator	3,440	.39	12	7
Switchboard operator receptionist	8,240	.92	5	26
Messenger	640	.07	11	4
Title searcher	3,820	.43	6	9
Typist	7,720	.87	5	21
Clerical supervisor, office or plant	1,900	.21	22	5
Loan closer	2,720	.31	8	8
All other office clerical workers	4,140	.46	n.a.	n.a.
Production clerk and/or coordinator	100	.01	28	0
Shipping and/or receiving clerk	210	.02	27	1
Stock clerk, stockroom, warehouse or storage yard	350	.04	25	2
All other plant clerical workers	210	.02	n.a.	n.a.
Sales occupations				
Business broker	110,970	12.45	n.a.	n.a.
Real estate broker	770	.09	16	2
Sales agent, sales associate, and/or sales representative, real estate	12,380	1.39	6	25
Sales agent, sales associate, and/or sales representative, insurance	86,580	9.72	4	45
All other sales agents, sales associates, and/or sales representatives	1,370	.15	44	1
Sales clerk	8,780	.99	n.a.	n.a.
	1,090	.12	19	2

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 19. Combined real estate, insurance, loans, and law offices: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 66)

Occupation	Employment	Percent of total employment	Relative error (in percentage) ¹	Percent of establishments reporting the occupation
Total	27,000	100.00	--	100
Managers and officers	5,390	19.96	n.a.	26
Professional occupations	1,010	3.74	n.a.	n.a.
Accountant and/or auditor	170	.63	13	2
Investigator, insurance	90	.33	20	1
Lawyer	60	.22	37	0
Title examiner and/or abstractor	100	.37	19	1
Appraiser, real estate	360	1.33	8	3
Underwriter	100	.37	28	0
All other professional workers	130	.48	n.a.	n.a.
Technical occupations	10	.04	n.a.	n.a.
Service occupations	1,260	4.67	n.a.	n.a.
Maid	120	.44	20	1
All other janitors, porters, and cleaners	1,020	3.78	n.a.	n.a.
All other service workers	120	.44	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	940	3.48	n.a.	n.a.
Carpenter	130	.48	30	1
Maintenance repairer, general utility	350	1.30	12	2
All other skilled craft and kindred workers	40	.15	n.a.	n.a.
All other operatives and semiskilled workers	170	.63	n.a.	n.a.
All other laborers and unskilled workers	250	.93	n.a.	n.a.
Clerical occupations	10,430	38.63	n.a.	n.a.
Bookkeeping and/or billing machine operator	240	.89	11	2
All other office machine operators	70	.26	n.a.	n.a.
Stenographer	310	1.15	11	2
Accounting clerk	390	1.44	7	4
Bookkeeper, hand	1,100	4.07	3	11
Cashier	210	.78	11	2
Insurance clerk	90	.33	34	0
General clerk, office	3,130	11.59	4	14
Real estate clerk	580	2.15	7	4
Receptionist	360	1.33	7	4
Secretary	2,540	9.41	4	15
Switchboard operator receptionist	290	1.07	7	3
Typist	790	2.93	8	5
All other office clerical workers	330	1.22	n.a.	n.a.
Sales occupations	7,960	29.48	n.a.	n.a.
Placer	400	1.48	10	2
Real estate broker	70	.26	43	0
Sales agent, sales associate, and/or sales representative, real estate	4,910	18.19	5	11
Sales agent, sales associate, and/or sales representative, insurance	2,000	7.41	4	13
All other sales agents, sales associates, and/or sales representatives	580	2.15	n.a.	n.a.

¹ The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information

on sampling variability and other types of errors, see appendix A. n.a. Not available.

Services

This industry division includes establishments which provide a wide variety of services for individuals, businesses, government, and other organizations.

In 1978, 12.3 million or 55 percent of all workers covered by the survey were employed in services. Occupational employment for these industries is shown in tables 20 through 32.

Hotels and other lodging places

This industry (SIC 70) includes commercial and institutional establishments engaged in furnishing on a fee basis lodging, or lodging and meals, and camping space and facilities.

In 1978, hotels and other lodging places employed 980,800 workers. Over two-thirds of all lodging workers were employed in service occupations. As shown in table 20, the five most populous occupations were: Maids, with 212,200 or 22 percent of total industry employment; waiters and waitresses, 141,500 or 14 percent; desk clerks, 72,700 or 7 percent; managers and officers, 61,800 or 6 percent; and kitchen helpers, 48,200 or 5 percent.

Personal services

Establishments in this industry include beauty and barber shops, portrait photographic studios, laundries, dry cleaning plants, and other businesses providing personal services.

Personal services workers numbered 910,400 in 1978. Over 35 percent of personal services workers were employed in service occupations. As shown in table 21, the five most populous occupations were: Cosmetologists and hairstylists, with 204,500 or 22 percent of total industry employment; managers and officers, 94,500 or 10 percent; counter clerks, 53,200 or 6 percent; laundry pressers (machine), 40,100 or 4 percent; and delivery and route workers, 36,700 or 4 percent.

Business services

Establishments in this industry (SIC 73) render services on a fee or contract basis, such as management and consulting; advertising; mailing; employment and personal supply services; photofinishing; building maintenance; protective services; equipment rental and leasing; and commercial research, development, and testing.

In 1978, business services employed 2.6 million workers; about 30 percent were employed in service occu-

pations. As shown in table 22, the five most populous occupations were: Guards and doorkeepers, with 304,700 or 12 percent of total industry employment; managers and officers, 218,500 or 8 percent; general clerks (office), 112,900 or 4 percent; secretaries, 96,000 or 4 percent; and typists, 79,500 or 3 percent.

Automotive repair, services, and garages

Establishments in this industry (SIC 75) furnish automotive repair, rental, leasing, and parking services to the general public.

In 1978, the industry employed 543,600 workers. About two-thirds were in maintenance, construction, and related occupations. As shown in table 23, the five most populous occupations were: Auto mechanics, with 94,200 or 17 percent of total industry employment; managers and officers, 73,100 or 13 percent; auto body repairers, 53,700 or 10 percent; vehicle cleaners, 45,300 or 8 percent; and auto painters, 23,400 or 4 percent.

Miscellaneous repair services

Establishments in this industry (SIC 76) repair items such as household electrical appliances; furniture; watches, clocks, and jewelry; and bicycles, leather goods, typewriters, and locks and guns.

In 1978, miscellaneous repair services employed 262,500 workers; 60 percent were in maintenance, construction, repair, material handling, and powerplant occupations. As shown in table 24, the five most populous occupations were: Managers and officers, with 34,400 or 13 percent of total industry employment; welders and flamecutters, 22,900 or 9 percent; electrical and electronics technicians, 15,900 or 6 percent; electric motor repairers, 13,700 or 5 percent; and television servicers and repairers, and radio and tape recorder repairers, 12,800 or 5 percent.

Motion pictures

This industry includes establishments producing and distributing motion pictures, exhibiting motion pictures in commercially operated theaters, and furnishing services to the motion picture industry.

In 1978, the industry employed 206,400 workers; one-fourth were in service occupations. As shown in table 25, the five most populous occupations were: Ushers, lobby attendants, ticket takers, and drive-in theater attendants, with 26,600 or 13 percent of total industry

employment; managers and officers, 26,400 or 13 percent; cashiers, 21,300 or 10 percent; motion picture projectionists, 18,100 or 9 percent; and sales clerks, 14,900 or 7 percent.

Amusement and recreation services

Establishments in this industry (SIC 79) provide amusement or entertainment for a fee or admission charge.

In 1978, amusement and recreation services employed 693,900 workers. About 45 percent were in service occupations. As shown in table 26, the five most populous occupations were: Waiters and waitresses, with 59,200 or 9 percent of total industry employment; managers and officers, 52,500 or 8 percent; gardeners and groundskeepers, 43,500 or 6 percent; cashiers, 41,400 or 6 percent; and instrumental musicians, 35,500 or 5 percent.

Health services, except hospitals

This industry (SIC 80, except 806) includes licensed practitioners who provide health care in their offices; nursing and personal care facilities; medical laboratories; outpatient care facilities; and other allied services.

In 1978, health services, excluding hospitals, employed 2.2 million workers. Over 30 percent were in service occupations. As shown in table 27, the five most populous occupations were: Nurse aides and orderlies, with 423,200 or 19 percent of total industry employment; professional nurses, 160,200 or 7 percent; physicians and surgeons, 142,600 or 6 percent; managers and officers, 119,600 or 5 percent; and dental assistants, 114,600 or 5 percent.

Legal services

Establishments in this industry (SIC 81) are headed by members of the bar and offer legal services and advice.

In 1978, legal services employed 473,000 workers; over half were in clerical occupations. As shown in table 28, the five most populous occupations were: Secretaries, with 170,900 or 39 percent of total industry employment; lawyers, 105,600 or 24 percent; managers and officers, 23,800 or 5 percent; paralegal personnel, 20,600 or 5 percent; and law clerks, 20,600 or 5 percent.

Museums and botanical and zoological gardens

This industry (SIC 84) includes museums, art galleries, and botanical and zoological gardens which are not operated commercially.

In 1978, the industry employed 29,500 workers; 30

percent were in service occupations. As shown in table 30, the five most populous occupations were: Guards and doorkeepers, with 3,500 or 12 percent of total industry employment; managers and officers, 3,200 or 11 percent; guides, 2,400 or 8 percent; janitors, porters, and cleaners, 1,630 or 6 percent; and teachers and instructors in nonvocational education, 1,600 or 5 percent.

Social services

Establishments in this industry (SIC 83) provide social or rehabilitation services to the handicapped, disadvantaged, and others with social and personal problems.

In 1978, social services employed 971,800 workers; 35 percent were in service occupations. As shown in table 29, the five most populous occupations were: Child care workers, with 121,200 or 12 percent of total industry employment; managers and officers, 99,000 or 10 percent; preschool and kindergarten teachers, 79,600 or 8 percent; teacher aides and educational assistants, 49,900 or 5 percent; and caseworkers, 43,600 or 4 percent.

Membership organizations

This industry (SIC 86) includes organizations operating on a membership basis to promote the interests of members. It includes, among others, trade associations, labor organizations, and political and religious organizations.

In 1978, membership organizations employed 1.5 million workers. Service and clerical occupations each accounted for 24 percent of industry employment. As shown in table 31, the five most populous occupations were: Managers and officers, with 201,500 or 13 percent of total industry employment; secretaries, 131,700 or 9 percent; janitors, porters, and cleaners, 123,000 or 8 percent; clergy, 105,700 or 7 percent; and preschool and kindergarten teachers, 63,300 or 4 percent.

Miscellaneous services

Establishments in this industry (SIC 89) perform services such as those rendered by engineers, architects, accountants, artists, lecturers, and writers.

In 1978, miscellaneous services employed 872,600 workers. Professional occupations accounted for 38 percent of employment in the industry. As shown in table 32, the five most populous occupations were: Accountants and auditors, with 121,000 or 14 percent of total industry employment; managers and officers, 93,300 or 11 percent; drafters, 83,400 or 10 percent; secretaries, 55,600 or 6 percent; civil engineers, 42,800 or 5 percent; and architects, 25,200 or 3 percent.

Table 20. Hotels and other lodging places: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 70)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	980,770	100.00	—	100
Managers and officers	61,850	6.31	n.a.	82
Professional occupations	20,910	2.13	n.a.	n.a.
Engineers	680	.07	14	2
Purchasing agent and/or buyer	1,230	.13	4	9
Accountant and/or auditor	5,910	.60	4	22
Director, camp	110	.01	24	1
Musician, instrumental	1,820	.19	10	4
Nurse, professional	780	.08	23	2
Personnel and labor relations specialists	580	.06	5	4
Public relations practitioner	930	.09	7	5
Group recreation worker	7,650	.78	7	5
All other professional workers	1,220	.12	n.a.	n.a.
Technical occupations	1,600	.16	n.a.	n.a.
Computer programmer	160	.02	22	1
Engineering technician	550	.06	14	1
Licensed practical nurse	450	.05	23	1
All other technicians	440	.04	n.a.	n.a.
Service occupations	663,820	67.68	n.a.	n.a.
Maid	212,180	21.63	1	83
House cleaner	24,700	2.52	3	31
All other janitors, porters, and cleaners	13,320	1.36	n.a.	n.a.
Guard and/or doorkeeper	8,080	.82	5	15
Baker, bread and/or pastry	1,830	.19	6	7
Bartender	28,660	2.92	3	40
Dining room attendant, bartender helper, or cafeteria attendant	36,590	3.73	3	28
Butcher and/or meat cutter	640	.07	7	3
Host/hostess, restaurant, lounge or coffee shop	13,510	1.38	3	29
Kitchen helper	48,170	4.91	2	46
Waiter/waitress	141,490	14.43	2	48
Counter attendant, lunchroom, coffee shop, or cafeteria	3,760	.38	9	6
Cook, short order and/or specialty fast foods	12,280	1.25	4	19
Cook, restaurant	35,820	3.65	2	45
Food preparation and service worker, fast food restaurant	1,760	.18	13	2
Pantry, sandwich and/or coffee maker	9,670	.99	4	18
All other food service workers	4,080	.42	n.a.	n.a.
Bellhop, baggage porter, doorkeeper, and/or room service attendant	18,940	1.93	3	23
Supervisor, nonworking--service only	8,060	.82	5	16
Housekeeper	16,750	1.71	3	51
Recreation facility attendant	3,610	.37	11	4
Elevator operator	1,150	.12	17	1
Lifeguard	4,100	.42	9	9
Checkroom and/or locker room attendant	690	.07	10	2
All other service workers	13,980	1.43	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	75,110	7.66	n.a.	n.a.
Mechanic, automotive	280	.03	27	1
Mechanic, maintenance	610	.06	15	2
All other mechanics and repairers	850	.09	n.a.	n.a.
Marker, classifier, wet wash assembler, detacher, and/or checker	890	.09	13	2
Washer, machine and/or starcher	5,450	.56	4	11
Dry cleaning machine operator	180	.02	26	1
Laundry operator, small establishment	10,730	1.09	4	21
Presser, machine	130	.01	18	1
Laundry presser, machine	2,660	.27	7	4
Truck driver	190	.02	20	1
Bus driver	1,490	.15	12	2

See footnotes at end of table.

Table 20. Hotels and other lodging places: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 70)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Carpenter	1,300	0.13	8	5
Delivery and/or route worker	130	.01	28	1
Electrician	1,020	.10	8	4
Supervisor, nonworking	1,350	.14	5	8
Inspector	190	.02	20	1
Maintenance repairer, general utility	25,840	2.63	2	54
Helper, trades	880	.09	9	3
Painter, maintenance	2,790	.28	5	10
Parking lot attendant	2,710	.28	10	3
Plumber and/or pipefitter	480	.05	8	3
Stationary boiler firer	120	.01	18	1
Stationary engineer	850	.09	11	2
Gardener and/or groundskeeper	7,680	.78	5	18
Chauffeur	940	.10	13	3
All other skilled craft and kindred workers	620	.06	n.a.	n.a.
All other operatives and semiskilled workers	1,460	.15	n.a.	n.a.
All other laborers and unskilled workers ..	3,290	.34	n.a.	n.a.
Clerical occupations	148,260	15.12	n.a.	n.a.
Bookkeeping and/or billing machine operator	740	.08	7	4
Computer operator	210	.02	17	1
Keypunch operator	170	.02	15	1
All other office machine operators	290	.03	n.a.	n.a.
Stenographer	270	.03	13	1
Accounting clerk	6,650	.68	4	20
Bookkeeper, hand	8,370	.85	3	31
Cashier	19,400	1.98	3	26
File clerk	640	.07	12	3
General clerk, office	5,320	.54	8	16
Desk clerk	72,700	7.41	2	69
Order clerk	280	.03	16	1
Payroll and/or timekeeping clerk	2,060	.21	4	12
Personnel clerk	710	.07	5	5
Receptionist	1,280	.13	9	5
Secretary	8,770	.89	3	28
Switchboard operator	9,090	.93	4	15
Switchboard operator receptionist	1,450	.15	12	4
Travel clerk	820	.08	16	2
Typist	1,330	.14	7	5
Clerical supervisor, office or plant	2,970	.30	6	11
All other office clerical workers	1,540	.16	n.a.	n.a.
Shipping and/or receiving clerk	660	.07	6	4
Stock clerk, stockroom, warehouse or storage yard	2,400	.24	5	8
All other plant clerical workers	140	.01	n.a.	n.a.
Sales occupations	9,220	.94	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	4,690	.48	6	15
Sales clerk	4,530	.46	10	8

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 21. Personal services: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 72)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	910,400	100.00	--	100
Managers and officers	94,530	10.38	n.a.	58
Professional occupations	48,770	5.36	n.a.	n.a.
Engineers	100	.01	n.a.	n.a.
Systems analyst, electronic data processing	330	.04	13	0
Photographer, portrait and/or commercial	10,910	1.20	11	3
Accountant and/or auditor	6,820	.75	4	8
Dietitian and/or nutritionist	1,300	.14	35	0
Embalmer	10,790	1.19	2	10
Musician, instrumental	1,020	.11	6	2
Nurse, professional	520	.06	40	0
Tax preparer	14,690	1.61	13	1
All other professional workers	2,290	.25	n.a.	n.a.
Technical occupations	630	.07	n.a.	n.a.
Service occupations	330,730	36.33	n.a.	n.a.
Maid	8,650	.95	3	10
All other janitors, porters, and cleaners	14,280	1.57	n.a.	n.a.
Guard and/or doorman	1,020	.11	22	1
Food service workers	890	.10	26	0
Child care attendant	1,090	.12	20	0
Barber	26,440	2.90	3	7
Cosmetologist and/or hairstylist	204,540	22.47	1	38
Funeral attendant	10,020	1.10	3	8
Manicurist	8,140	.89	4	6
Masseur or masseuse	5,070	.56	13	1
Scalp treatment operator	4,320	.47	9	1
Wig dresser	330	.04	21	0
Bootblack	920	.10	14	1
Shampooer	10,540	1.16	3	7
Instructor, reducing	23,920	2.63	8	2
Lifeguard	400	.04	28	0
Checkroom and/or locker room attendant	1,870	.21	18	0
Mortuary beautician	1,290	.14	6	2
All other service workers	7,000	.77	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations	267,210	29.35	n.a.	n.a.
Mechanic, automotive	1,640	.18	5	2
Laundry machine mechanic	5,350	.59	4	6
All other mechanics and repairers	210	.02	n.a.	n.a.
Developer and/or projection printer	1,370	.15	8	1
Negative cutter and/or spotter	710	.08	18	0
Multiple-photographic printer operator	1,670	.18	42	1
Print developer, machine	950	.10	13	0
Photo checker and assembler	2,000	.22	50	1
Photographer helper	970	.11	29	1
Marker, classifier, wet wash assembler, detacher, and/or checker	13,270	1.46	3	8
Spotter, dry cleaning	5,140	.56	4	6
Spotter, washable materials	2,190	.24	6	3
Washer, machine and/or starcher	11,360	1.25	2	11
Tumbler operator	3,360	.37	4	5
Dry cleaning machine operator	12,920	1.42	3	12
Dry cleaner, hand	1,550	.17	11	1
Laundry operator, small establishment	6,690	.73	6	3
Presser, hand	4,640	.51	5	4
Presser, machine	29,130	3.20	2	16
Laundry presser, machine	40,060	4.40	2	13
Rug cleaner, hand	3,960	.43	10	1
Rug cleaner, machine	2,810	.31	10	1
Shoe repairer	4,020	.44	5	1
Truck driver	400	.04	39	0
Delivery and/or route worker	36,680	4.03	2	15

See footnotes at end of table.

Table 21. Personal services: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 72)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Supervisor, nonworking	4,960	0.54	3	5
Folder, laundry	16,020	1.76	3	8
Inspector	6,380	.70	4	6
Maintenance repairer, general utility	2,820	.31	7	3
Mender	9,090	1.00	3	9
Photograph retoucher, airbrush artist, and/or photograph colorist	1,270	.14	44	1
Production packager, hand or machine	6,740	.74	4	5
Custom sewer	920	.10	23	0
Sewing machine operator, regular equipment-garment	1,250	.14	24	0
Sewing machine operator, special equipment and/or automatic equipment-garment	950	.10	32	0
Alteration tailor	8,380	.92	4	7
Gardener and/or groundskeeper	2,130	.23	5	3
Chauffeur	3,920	.43	4	3
Ambulance driver and/or attendant	330	.04	20	0
All other skilled craft and kindred workers	510	.06	n.a.	n.a.
All other operatives and semiskilled workers	2,620	.29	n.a.	n.a.
All other laborers and unskilled workers ..	5,870	.64	n.a.	n.a.
Clerical occupations	141,320	15.52	n.a.	n.a.
Computer operator	150	.02	17	0
Keypunch operator	170	.02	23	0
All other office machine operators	140	.02	n.a.	n.a.
Accounting clerk	2,420	.27	9	2
Bookkeeper, hand	3,360	.37	6	5
Cashier	7,060	.78	17	4
Counter clerk	53,230	5.85	2	19
General clerk, office	25,360	2.79	4	19
Payroll and/or timekeeping clerk	2,770	.30	4	5
Receptionist	22,150	2.43	3	19
Secretary	5,400	.59	6	7
Switchboard operator receptionist	640	.07	10	1
Typist	500	.05	13	1
All other office clerical workers	7,380	.81	n.a.	n.a.
Production clerk and/or coordinator	2,200	.24	7	3
Shipping packer	3,820	.42	5	3
Shipping and/or receiving clerk	280	.03	24	0
Stock clerk, stockroom, warehouse or storage yard	4,200	.46	7	3
All other plant clerical workers	90	.01	n.a.	n.a.
Sales occupations	27,210	2.99	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	19,180	2.11	7	9
Sales clerk	8,030	.88	10	2

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 22. Business services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 73)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	2,609,890	100.00	--	100
Managers and officers	218,540	8.37	n.a.	79
Professional occupations	295,300	11.31	n.a.	n.a.
Aeronautical engineer	3,820	.15	31	0
Chemical engineer	4,750	.18	18	0
Civil engineer	2,980	.11	23	1
Electrical and/or electronic engineer	21,690	.83	15	2
Industrial engineer	3,590	.14	26	1
Mechanical engineer	10,190	.39	15	1
Metallurgist and/or metallurgical engineer	1,450	.06	29	0
Petroleum engineer	750	.03	28	0
Safety engineer	560	.02	46	0
All other engineers	5,710	.22	n.a.	n.a.
Financial analyst	1,490	.06	26	1
Mathematician	2,090	.08	24	1
Statistician	2,030	.08	21	1
Chemist	6,390	.24	16	1
Geologist and/or geophysicist	1,390	.05	29	1
Physicist	3,670	.14	27	0
All other physical scientists	970	.04	n.a.	n.a.
Agricultural scientist	610	.02	49	0
Biological scientist	1,930	.07	28	0
All other life scientists	490	.02	n.a.	n.a.
Economist	2,160	.08	34	0
Market research analyst	5,530	.21	17	2
Psychologist	1,560	.06	33	0
Urban and regional planner	1,200	.05	34	0
All other social scientists	1,440	.06	n.a.	n.a.
Systems analyst, business	16,620	.64	7	6
Systems analyst, scientific and technical	14,000	.54	10	3
Photographer	7,990	.31	12	4
Purchasing agent and/or buyer	3,050	.12	15	2
Accountant and/or auditor	21,070	.81	7	14
Media buyer	5,950	.23	8	3
Commercial artist	22,840	.88	3	9
Writer and/or editor	14,740	.56	6	7
Employment interviewer	30,570	1.17	6	5
Media analyst	2,860	.11	12	2
Personnel and labor relations specialists	2,260	.09	25	1
Public relations practitioner	10,510	.40	12	3
Reporter and/or correspondent	2,450	.09	30	0
Designer	3,920	.15	22	1
All other professional workers	48,030	1.84	n.a.	n.a.
Technical occupations	137,830	5.28	n.a.	n.a.
Computer programmer, business	27,990	1.07	5	8
Computer programmer, scientific and technical	12,580	.48	9	3
Drafter	18,300	.70	12	3
Electrical and/or electronic technicians	22,770	.87	10	3
Mechanical engineering technician	4,420	.17	20	1
Industrial engineering technician	1,150	.04	41	0
All other engineering technicians	6,990	.27	n.a.	n.a.
Science technicians	12,420	.48	17	1
Licensed practical nurse	23,170	.89	13	1
All other technicians	8,040	.31	n.a.	n.a.
Service occupations	764,850	29.31	n.a.	n.a.
Cleaner, heavy	60,110	2.30	4	7
Cleaner, light	93,270	3.57	4	8
Maid	12,120	.46	11	1
Window washer	10,540	.40	10	3
House cleaner	11,530	.44	13	2
All other janitors, porters, and cleaners	191,130	7.32	n.a.	n.a.
Guard and/or doorkeeper	304,690	11.67	2	8
Food service workers	14,220	.54	23	1
Detective	11,320	.43	17	2

See footnotes at end of table.

Table 22. Business services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 73)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Service occupations—Continued				
Supervisor, nonworking—service only	9,840	0.38	10	4
Protective signal operator	2,410	.09	29	1
All other service workers	43,670	1.67	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...				
Protective signal installer and/or repairer ..	346,370	13.27	n.a.	n.a.
Mechanic, automotive	3,780	.14	25	1
Diesel mechanic	1,560	.06	29	1
Electrical instrument repairer	2,750	.11	26	1
Mechanic, maintenance	940	.04	36	0
All other mechanics and repairers	3,200	.12	19	1
Developer and/or projection printer	7,030	.27	n.a.	n.a.
Negative cutter and/or spotter	14,960	.57	10	4
Multiple-photographic printer operator	2,010	.08	15	1
Print developer, machine	8,450	.32	14	2
Photo checker and assembler	520	.02	46	0
All other darkroom workers	7,910	.30	14	1
Truck driver	1,590	.06	n.a.	n.a.
Billposter	27,840	1.07	12	5
Blueprinting machine operator	1,710	.07	18	1
Carpenter	1,900	.07	10	1
Compositor and/ or typesetter	2,030	.08	20	1
Delivery and/or route worker	2,350	.09	11	1
Electrician	32,190	1.23	8	9
Exterminator	2,260	.09	20	1
Supervisor, nonworking	22,160	.85	6	4
Fumigator	20,820	.80	5	10
Inspector	1,660	.06	19	1
Machinist	9,800	.38	20	1
Maintenance repairer, general utility	3,480	.13	21	1
Helper, trades	7,400	.28	15	3
Photograph retoucher, airbrush artist, and/or photograph colorist	800	.03	32	0
Painter, maintenance	610	.02	49	0
Plumber and/or pipefitter	1,970	.08	16	1
Press operator and/or plate printer	1,060	.04	30	0
Sign erector	4,820	.18	9	3
Stationary engineer	3,420	.13	14	1
Termite treater	1,110	.04	25	0
Termite treater helper	6,260	.24	8	3
Welder and/or flamecutter	1,640	.06	15	1
Mailer	1,470	.06	26	0
Gardener and/or groundskeeper	2,680	.10	13	1
Bindery worker, assembly	4,390	.17	17	1
All other skilled craft and kindred workers	5,510	.21	16	2
All other operatives and semiskilled workers	13,890	.53	n.a.	n.a.
All other laborers and unskilled workers ..	30,420	1.17	n.a.	n.a.
Clerical occupations	76,020	2.91	n.a.	n.a.
Addressing machine operator	749,230	28.71	n.a.	n.a.
Bookkeeping and/or billing machine operator	1,410	.05	10	1
Computer operator	3,710	.14	11	2
Keypunch operator	27,770	1.06	4	10
Peripheral EDP equipment operator	60,130	2.30	4	12
Inserting and/or labeling machine operator	2,230	.09	22	0
Duplicating machine operator	7,030	.27	9	1
All other office machine operators	3,910	.15	8	3
Stenographer	4,180	.16	n.a.	n.a.
Accounting clerk	16,180	.62	6	5
Bookkeeper, hand	22,140	.85	4	14
Call out operator	23,590	.90	4	21
Cashier	3,050	.12	10	2
Collector	4,380	.17	32	1
	14,980	.57	4	6

See footnotes at end of table.

Table 22. Business services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 73)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Clerical occupations—Continued				
Credit reporter	8,840	0.34	9	3
Media clerk, estimator, and/or biller	2,850	.11	7	2
File clerk	24,740	.95	7	8
Foreign credit reporter	400	.02	15	1
General clerk, office	112,930	4.33	4	28
In file operator	5,910	.23	8	2
Mail clerk	4,970	.19	12	2
Order clerk	1,810	.07	14	1
Payroll and/or timekeeping clerk	8,660	.33	4	11
Personnel clerk	1,150	.04	18	1
Receptionist	15,140	.58	4	13
Secretary	96,000	3.68	3	38
Statistical clerk	960	.04	47	0
Survey worker	28,100	1.08	14	1
Switchboard operator	43,660	1.67	10	6
Switchboard operator receptionist	19,490	.75	11	13
Typist	79,520	3.05	4	19
Clerical supervisor, office or plant	17,900	.69	6	12
All other office clerical workers	30,110	1.15	n.a.	n.a.
Production clerk and/or coordinator	13,450	.52	8	6
Shipping packer	5,420	.21	20	1
Shipping and/or receiving clerk	9,370	.36	8	5
Stock clerk, stockroom, warehouse or storage yard	20,650	.79	13	6
Dispatcher, vehicle, service or work	1,110	.04	24	1
All other plant clerical workers	1,400	.05	n.a.	n.a.
Sales occupations	97,770	3.75	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	78,390	3.00	4	29
Sales clerk	19,380	.74	13	4

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 23. Automotive repair, services, and garages: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 75)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	543,560	100.00	--	100
Managers and officers	73,070	13.44	n.a.	70
Professional occupations	5,850	1.08	n.a.	n.a.
Purchasing agent and/or buyer	100	.02	28	0
Accountant and/or auditor	4,710	.87	4	8
Instructor, automobile driving	210	.04	29	0
All other professional workers	830	.15	n.a.	n.a.
Technical occupations	330	.06	n.a.	n.a.
Computer programmer	190	.03	43	0
All other technicians	140	.03	n.a.	n.a.
Service occupations	6,870	1.26	n.a.	n.a.
Janitor, porter, and/or cleaner	5,700	1.05	4	10
Guard and/or doorkeeper	290	.05	21	0
All other service workers	880	.16	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ..	368,810	67.85	n.a.	n.a.
Mechanic, automotive	94,220	17.33	2	39
Body repairer, automotive	53,680	9.88	2	26
Diesel mechanic	16,500	3.04	5	7
All other mechanics and repairers	1,780	.33	n.a.	n.a.
Truck driver	14,670	2.70	6	8
Automobile repair service estimator	180	.03	21	0
Cleaner, vehicle	45,300	8.33	2	19
Delivery and/or route worker	1,380	.25	16	2
Supervisor, nonworking	9,780	1.80	3	14
Inspector	170	.03	21	0
Machinist	4,710	.87	9	3
Maintenance repairer, general utility	4,780	.88	8	5
Helper, trades	14,180	2.61	3	14
Painter, automotive	23,450	4.31	3	19
Parking lot attendant	22,320	4.11	2	5
Tire fabricator and/or repairer	10,500	1.93	6	5
Trailer and/or van rental attendant	4,750	.87	10	1
Welder and/or flamecutter	6,540	1.20	7	4
Fuel pump attendant and/or lubricator	12,840	2.36	4	9
Painter, production	1,620	.30	12	1
Automobile seat cover, convertible or vinyl top installer	4,500	.83	10	2
Glass installer, automotive	4,840	.89	9	3
Rental car deliverer	7,550	1.39	13	2
All other skilled craft and kindred workers	1,350	.25	n.a.	n.a.
All other operatives and semiskilled workers	5,400	.99	n.a.	n.a.
All other laborers and unskilled workers ..	1,820	.33	n.a.	n.a.
Clerical occupations	75,740	13.93	n.a.	n.a.
Computer operator	120	.02	32	0
Key punch operator	490	.09	48	0
Accounting clerk	5,200	.96	4	9
Bookkeeper, hand	11,610	2.14	2	20
Car rental clerk	13,200	2.43	5	7
Cashier	13,100	2.41	4	11
General clerk, office	19,200	3.53	3	25
Payroll and/or timekeeping clerk	590	.11	8	2
Receptionist	1,860	.34	6	4
Secretary	7,660	1.41	4	13
All other office clerical workers	850	.16	n.a.	n.a.
Production clerk and/or coordinator	60	.01	30	0
Shipping and/or receiving clerk	150	.03	20	0
Stock clerk, stockroom, warehouse or storage yard	1,230	.23	9	2
Dispatcher, vehicle, service or work	280	.05	18	1
All other plant clerical workers	140	.03	n.a.	n.a.

See footnotes at end of table.

Table 23. Automotive repair, services, and garages: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 75)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Sales occupations	12,890	2.37	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	12,440	2.29	4	14
Sales clerk	450	.08	28	0

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 24. Miscellaneous repair services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 76)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	262,530	100.00	--	100
Managers and officers	34,350	13.08	n.a.	69
Professional occupations	2,440	.93	n.a.	n.a.
Electrical and/or electronic engineer	170	.06	26	0
All other engineers	130	.05	n.a.	n.a.
Purchasing agent and/or buyer	140	.05	13	1
Accountant and/or auditor	1,720	.66	5	7
All other professional workers	280	.11	n.a.	n.a.
Technical occupations	17,430	6.64	n.a.	n.a.
Drafter	530	.20	9	2
Electrical and/or electronic technicians	15,890	6.05	3	15
All other engineering technicians	140	.05	n.a.	n.a.
Taxidermist	540	.21	26	0
All other technicians	330	.13	n.a.	n.a.
Service occupations	3,030	1.15	n.a.	n.a.
Janitor, porter, and/or cleaner	2,780	1.06	6	9
Guard and/or doorkeeper	40	.02	38	0
All other service workers	210	.08	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	156,580	59.64	n.a.	n.a.
Mechanic, automotive	4,880	1.86	7	6
Bicycle repairer	240	.09	28	0
Camera repairer and/or motion picture camera repairer	820	.31	18	1
Electric motor repairer	13,690	5.21	4	10
Electric tool repairer	350	.13	19	1
Electrical instrument repairer	540	.21	19	1
Farm equipment mechanic	120	.05	43	0
Gasoline engine or mower repairer	490	.19	19	0
Gunsmith	90	.03	42	0
Locksmith	4,680	1.78	7	3
Marine mechanic and/or repairer	180	.07	35	0
Mechanic, maintenance	5,880	2.24	6	6
Office machine servicer and/or cash register servicer	1,180	.45	15	1
Refrigeration mechanic and/or air conditioning mechanic	7,920	3.02	5	7
Television servicer and repairer, radio repairer and/or tape recorder repairer	12,780	4.87	4	11
Gas and electric appliance repairer	6,200	2.36	5	6
All other mechanics and repairers	3,200	1.22	n.a.	n.a.
Truck driver	4,080	1.55	5	11
Boilermaker	2,400	.91	11	2
Cabinetmaker	770	.29	12	1
Carpenter	600	.23	18	1
Delivery and/or route worker	1,020	.39	9	3
Electrician	3,320	1.26	8	4
Filer, grinder, buffer, chipper, cleaner, and/or polisher	4,120	1.57	8	4
Supervisor, nonworking	2,400	.91	4	8
Furnace installer and repairer, hot air	350	.13	24	0
Industrial truck operator	40	.02	36	0
Inspector	110	.04	23	0
Instrument repairer	230	.09	32	0
Jeweler and/or silversmith	1,330	.51	10	1
Machinist	8,470	3.23	5	11
Maintenance repairer, general utility	620	.24	13	1
Helper, trades	6,420	2.45	4	9
Musical instrument repairer	340	.13	25	0
Painter, maintenance	230	.09	25	1
Plumber and/or pipefitter	1,630	.62	12	2
Sewing machine operator, regular equipment-nongarment	2,520	.96	5	6

See footnotes at end of table.

Table 24. Miscellaneous repair services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978—Continued

(SIC 76)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations				
Sewing machine operator, special equipment and/or automatic equipment-nongarment	390	0.15	16	1
Sheet metal worker	400	.15	20	0
Watchmaker	1,280	.49	10	1
Welder and/or flamecutter	22,920	8.73	3	18
Furniture finisher	3,140	1.20	6	4
Furniture upholsterer	8,880	3.38	3	10
Septic tank servicer and/or sewer pipe cleaner	4,910	1.87	8	3
Saw filer	100	.04	46	0
All other skilled craft and kindred workers	2,090	.80	n.a.	n.a.
All other operatives and semiskilled workers	3,720	1.42	n.a.	n.a.
All other laborers and unskilled workers ..	4,510	1.72	n.a.	n.a.
Clerical occupations	34,090	12.99	n.a.	n.a.
Bookkeeping and/or billing machine operator	490	.19	9	2
Computer operator	40	.02	31	0
Keypunch operator	100	.04	16	0
Accounting clerk	30	.01	33	0
Bookkeeper, hand	8,720	3.32	2	32
Cashier	350	.13	12	1
Counter clerk	80	.03	35	0
General clerk, office	9,120	3.47	2	24
Receptionist	120	.05	45	0
Secretary	7,920	3.02	2	28
Switchboard operator	100	.04	37	0
Typist	2,510	.96	4	9
All other office clerical workers	340	.13	n.a.	n.a.
Production clerk and/or coordinator	70	.03	25	0
Shipping packer	120	.05	28	0
Shipping and/or receiving clerk	3,340	1.27	4	12
Stock clerk, stockroom, warehouse or storage yard	330	.13	12	1
Dispatcher, vehicle, service or work	220	.08	19	1
All other plant clerical workers	90	.03	n.a.	n.a.
Sales occupations	14,610	5.57	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	8,320	3.17	3	19
Sales clerk	6,290	2.40	7	8

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 25. Motion pictures: Employment, relative error, and percent of establishments reporting selected occupations, April 1978

(SIC 78)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	206,360	100.00	—	100
Managers and officers	26,440	12.81	n.a.	88
Professional occupations	27,890	13.52	n.a.	n.a.
Engineers	250	.12	n.a.	n.a.
Systems analyst, electronic data processing	140	.07	23	1
Photographer	3,630	1.76	27	6
Purchasing agent and/or buyer	590	.29	14	5
Accountant and/or auditor	1,360	.66	15	9
Actor or actress	10,280	4.98	26	1
Commercial artist	1,060	.51	34	5
Writer and/or editor	720	.35	37	3
Film editor	2,300	1.11	20	5
Lawyer	150	.07	31	1
Motion picture narrator	150	.07	43	1
Music director	130	.06	36	1
Musician, instrumental	4,790	2.32	42	1
Painter, artistic	200	.10	35	1
Personnel and labor relations specialists	70	.03	25	1
Public relations practitioner	340	.16	33	3
Singer	540	.26	39	0
Designer	90	.04	42	1
All other professional workers	1,100	.53	n.a.	n.a.
Technical occupations	5,670	2.75	n.a.	n.a.
Computer programmer	170	.08	23	1
Electrical and/or electronic technicians	710	.34	37	2
Sound recording and reproduction technician	2,650	1.28	31	5
All other engineering technicians	470	.23	n.a.	n.a.
All other technicians	1,670	.81	n.a.	n.a.
Service occupations	52,470	25.43	n.a.	n.a.
Janitor, porter, and/or cleaner	12,170	5.90	3	57
Guard and/or doorkeeper	1,720	.83	15	7
Kitchen helper	250	.12	32	1
Cook, short order and/or specialty fast foods	2,520	1.22	14	7
Food preparation and service worker, fast food restaurant	4,540	2.20	8	10
All other food service workers	3,390	1.64	n.a.	n.a.
Supervisor, nonworking—service only	440	.21	24	1
Makeup artist	250	.12	48	1
Usher, lobby attendant, ticket taker, and/or drive-in theater attendant	26,610	12.89	3	55
All other service workers	580	.28	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	31,420	15.23	n.a.	n.a.
Camera repairer and/or motion picture camera repairer	620	.30	26	2
All other mechanics and repairers	140	.07	n.a.	n.a.
Darkroom workers	2,370	1.15	n.a.	n.a.
Truck driver	730	.35	34	1
Carpenter	780	.38	44	1
Delivery and/or route worker	320	.16	35	2
Electrician	260	.13	42	1
Supervisor, nonworking	200	.10	50	1
Inspector	1,230	.60	23	5
Maintenance repairer, general utility	510	.25	25	3
Painter, maintenance	380	.18	41	0
Property handler	580	.28	40	1
Plumber and/or pipefitter	90	.04	33	0
Motion picture projectionist	18,100	8.77	2	67
All other skilled craft and kindred workers	990	.48	n.a.	n.a.
All other operatives and semiskilled workers	2,010	.97	n.a.	n.a.
All other laborers and unskilled workers ..	2,110	1.02	n.a.	n.a.

See footnotes at end of table.

Table 25. Motion pictures: Employment, relative error, and percent of establishments reporting selected occupations, April 1978—Continued

(SIC 78)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Clerical occupations	45,070	21.84	n.a.	n.a.
Computer operator	250	.12	45	2
Keypunch operator	360	.17	35	1
All other office machine operators	430	.21	n.a.	n.a.
Stenographer	250	.12	42	1
Accounting clerk	1,530	.74	17	6
Bookkeeper, hand	1,020	.49	15	9
Cashier	21,280	10.31	2	65
Film booker	1,420	.69	13	9
File clerk	220	.11	33	3
General clerk, office	4,280	2.07	14	17
Order clerk	550	.27	40	2
Payroll and/or timekeeping clerk	220	.11	20	3
Personnel clerk	70	.03	27	1
Receptionist	490	.24	26	4
Secretary	5,270	2.55	13	22
Switchboard operator	330	.16	28	1
Switchboard operator receptionist	660	.32	17	5
Typist	1,030	.50	18	7
Clerical supervisor, office or plant	1,360	.66	26	4
All other office clerical workers	1,070	.52	n.a.	n.a.
Production clerk and/or coordinator	550	.27	33	3
Shipping packer	580	.28	31	4
Shipping and/or receiving clerk	1,080	.52	22	6
Stock clerk, stockroom, warehouse or storage yard	580	.28	23	3
All other plant clerical workers	190	.09	n.a.	n.a.
Sales occupations	17,400	8.43	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	2,460	1.19	20	10
Sales clerk	14,940	7.24	4	32

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 26. Amusements and recreation services: Employment, relative error, and percent of establishments reporting selected occupations, April 1978

(SIC 79)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	693,860	100.00	--	100
Managers and officers	52,480	7.56	n.a.	78
Professional occupations	97,090	13.99	n.a.	n.a.
Engineers	80	.01	n.a.	n.a.
Purchasing agent and/or buyer	240	.03	14	1
Accountant and/or auditor	3,600	.52	4	13
Actor or actress	5,510	.79	11	1
Announcer, radio and television	940	.14	12	2
Athlete, professional	5,800	.84	7	2
Coach, professional athletes	140	.02	42	0
Comedian	260	.04	29	0
Dance instructor	9,770	1.41	4	6
Dancer	3,560	.51	12	1
Music director	730	.11	18	2
Musician, instrumental	35,520	5.12	4	10
Nurse, professional	140	.02	14	0
Painter, artistic	70	.01	39	0
Public relations practitioner	3,800	.55	4	10
Sports instructor	16,020	2.31	5	25
Singer	2,590	.37	15	2
Umpire	1,360	.20	17	1
Designer	1,080	.16	12	2
Athletic trainer	820	.12	19	2
Group recreation worker	2,510	.36	14	2
All other professional workers	2,550	.37	n.a.	n.a.
Technical occupations	890	.13	n.a.	n.a.
Electrical and/or electronic technicians	400	.06	35	0
All other engineering technicians	180	.03	n.a.	n.a.
All other technicians	310	.04	n.a.	n.a.
Service occupations	317,460	45.75	n.a.	n.a.
Maid	5,730	.83	8	7
All other janitors, porters, and cleaners	26,180	3.77	n.a.	n.a.
Guard and/or doorkeeper	13,010	1.88	4	10
Bartender	25,900	3.73	2	35
Dining room attendant, bartender helper, or cafeteria attendant	13,750	1.98	4	13
Host/hostess, restaurant, lounge or coffee shop	4,910	.71	29	7
Kitchen helper	18,230	2.63	3	21
Waiter/waitress	59,250	8.54	2	33
Counter attendant, lunchroom, coffee shop, or cafeteria	6,630	.96	4	9
Cook, short order and/or specialty fast foods	15,160	2.18	4	20
Cook, restaurant	12,140	1.75	3	19
Food preparation and service worker, fast food restaurant	630	.09	45	0
Pantry, sandwich and/or coffee maker	220	.03	25	0
All other food service workers	300	.04	n.a.	n.a.
Child care attendant	7,470	1.08	3	15
Costumer	150	.02	42	0
Supervisor, nonworking--service only	6,810	.98	4	12
Housekeeper	1,420	.20	7	5
Masseur or masseuse	320	.05	16	1
Recreation facility attendant	17,210	2.48	5	14
Game operator, ride operator and/or concession worker	23,000	3.31	8	4
Usher; lobby attendant, ticket taker, and/or drive-in theater attendant	13,330	1.92	7	4
Instructor, reducing	340	.05	38	0
Guide, sightseeing or establishment	2,500	.36	16	1
Lifeguard	13,440	1.94	6	10
Checkroom and/or locker room attendant	5,360	.77	4	9
All other service workers	24,070	3.47	n.a.	n.a.

See footnotes at end of table.

Table 26. Amusements and recreation services: Employment, relative error, and percent of establishments reporting selected occupations, April 1978—Continued

(SIC 79)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations ...	108,050	15.57	n.a.	n.a.
Mechanic, automotive	170	.02	42	0
Mechanic, maintenance	2,240	.32	8	4
Pinsetter mechanic, automatic	6,780	.98	2	18
Coin machine servicer and/or vending machine repairer	5,300	.76	10	4
All other mechanics and repairers	470	.07	n.a.	n.a.
Truck driver	330	.05	33	1
Carpenter	1,040	.15	13	1
Delivery and/or route worker	400	.06	31	0
Electrician	1,600	.23	8	3
Supervisor, nonworking	1,970	.28	10	3
Maintenance repairer, general utility	16,680	2.40	3	26
Painter, maintenance	70	.01	23	0
Parking lot attendant	5,020	.72	10	3
Custom sewer	440	.06	14	1
Animal caretaker	5,750	.83	8	3
Pin chaser	9,620	1.39	2	17
Racker, poolroom	720	.10	16	1
Gardener and/or groundskeeper	43,540	6.28	2	27
All other skilled craft and kindred workers	400	.06	n.a.	n.a.
All other operatives and semiskilled workers	2,050	.30	n.a.	n.a.
All other laborers and unskilled workers ..	3,460	.50	n.a.	n.a.
Clerical occupations	98,650	14.22	n.a.	n.a.
Office machine operators	190	.03	n.a.	n.a.
Accounting clerk	3,410	.49	4	11
Bookkeeper, hand	6,720	.97	3	24
Cashier	41,440	5.97	3	19
Desk clerk, bowling floor	15,960	2.30	2	20
General clerk, office	10,260	1.48	4	22
Payroll and/or timekeeping clerk	1,840	.27	5	8
Receptionist	3,170	.46	7	8
Secretary	7,930	1.14	3	21
Switchboard operator	1,050	.15	7	2
Switchboard operator receptionist	1,880	.27	6	5
Typist	70	.01	37	0
Clerical supervisor, office or plant	2,370	.34	8	5
All other office clerical workers	1,880	.27	n.a.	n.a.
Shipping and/or receiving clerk	90	.01	34	0
Stock clerk, stockroom, warehouse or storage yard	200	.03	19	1
All other plant clerical workers	190	.03	n.a.	n.a.
Sales occupations	19,240	2.77	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	4,030	.58	8	6
Sales clerk	12,440	1.79	11	9
Vendor	2,770	.40	11	2

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 27. Health services, except hospitals: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 80 except 806)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	2,236,280	100.00	--	100
Managers and officers	119,630	5.35	n.a.	44
Professional occupations	448,830	20.07	n.a.	n.a.
Chemist	260	.01	28	0
Biological scientist	440	.02	29	0
Psychologist	6,360	.28	7	2
Accountant and/or auditor	8,220	.37	4	7
Caseworker	14,680	.66	4	7
Chiropractor	3,050	.14	10	1
Dentist	48,030	2.15	1	20
Dietitian and/or nutritionist	8,280	.37	3	9
Nurse, professional	160,220	7.16	1	33
Occupational therapist	4,110	.18	5	3
Optometrist	8,850	.40	5	4
Personnel and labor relations specialists	310	.01	12	0
Pharmacist	820	.04	9	1
Physical therapist	11,000	.49	5	7
Physician and/or surgeon	142,560	6.37	1	32
Podiatrist	3,330	.15	10	2
All other therapists	550	.02	n.a.	n.a.
Manual arts, music, and/or recreational therapist	11,400	.51	2	8
Speech pathologist and/or audiologist	4,790	.21	7	3
Corrective therapist	410	.02	16	0
Inhalation therapist	3,430	.15	15	1
All other professional workers	7,730	.35	n.a.	n.a.
Technical occupations	387,530	17.33	n.a.	n.a.
Science technicians	400	.02	n.a.	n.a.
Dental assistant	114,610	5.13	1	29
Licensed practical nurse	106,380	4.76	1	23
Physician's assistant	15,670	.70	5	5
Surgical technician	260	.01	26	0
Radiologic technician	21,620	.97	4	8
Medical record librarian	830	.04	10	1
Dental hygienist	50,640	2.26	1	20
Medical laboratory technologist	20,000	.89	3	6
Biochemistry technologist	570	.03	16	0
Microbiology technologist	760	.03	8	1
Cytotechnologist	1,970	.09	8	1
Histologic technologist	970	.04	13	1
Medical laboratory technician	26,330	1.18	3	9
Electrocardiograph technician	2,270	.10	10	1
Electroencephalograph technician	780	.03	21	0
Dietetic technician	5,240	.23	4	5
Blood bank technology specialist	2,660	.12	10	1
Physical therapy assistant	9,360	.42	5	5
Radiologic technologist and/or nuclear medical technologist	1,040	.05	17	0
All other medical and dental technologists and technicians	3,430	.15	n.a.	n.a.
All other technicians	1,740	.08	n.a.	n.a.
Service occupations	748,740	33.48	n.a.	n.a.
Maid	52,710	2.36	2	17
All other janitors, porters, and cleaners	40,770	1.82	n.a.	n.a.
Guard and/or doorkeeper	2,010	.09	7	1
Dining room attendant, bartender helper, or cafeteria attendant	260	.01	44	0
Kitchen helper	72,260	3.23	1	11
Waiter/waitress	10,450	.47	7	1
Cook, institution	37,670	1.68	1	12
All other food service workers	390	.02	n.a.	n.a.
Supervisor, nonworking--service only	460	.02	12	0
Housekeeper	18,330	.82	3	10
Nurse aide and/or orderly	423,170	18.92	1	15
Psychiatric aide	630	.03	26	0

See footnotes at end of table.

Table 27. Health services, except hospitals: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 80 except 806)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Service occupations—Continued				
Social service aide	8,440	0.38	5	5
Medical assistant	73,460	3.28	2	18
Occupational therapy assistant	680	.03	13	0
All other service workers	7,050	.32	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	109,200	4.88	n.a.	n.a.
Washer, machine and/or starcher	19,950	.89	2	9
Laundry presser, machine	5,410	.24	4	3
Delivery and/or route worker	7,230	.32	4	3
Maintenance repairer, general utility	18,300	.82	2	12
Dental laboratory technician	35,620	1.59	3	7
Optician, dispensing and/or optical mechanic	12,750	.57	5	4
Gardener and/or groundskeeper	6,990	.31	5	5
All other skilled craft and kindred workers	630	.03	n.a.	n.a.
All other operatives and semiskilled workers	1,420	.06	n.a.	n.a.
All other laborers and unskilled workers ..	900	.04	n.a.	n.a.
Clerical occupations	419,900	18.78	n.a.	n.a.
Bookkeeping and/or billing machine operator	8,700	.39	4	5
Computer operator	600	.03	14	0
Keypunch operator	1,410	.06	9	1
Stenographer	1,870	.08	6	2
Accounting clerk	5,800	.26	5	3
Bookkeeper, hand	37,630	1.68	2	24
Cashier	5,950	.27	5	4
File clerk	17,520	.78	3	8
General clerk, office	47,880	2.14	2	19
Insurance clerk, medical	35,240	1.58	2	16
Receptionist	114,530	5.12	1	47
Secretary	90,470	4.05	2	35
Switchboard operator	3,820	.17	4	3
Switchboard operator receptionist	10,570	.47	4	7
Typist	20,310	.91	3	11
Clerical supervisor, office or plant	12,130	.54	4	8
All other office clerical workers	3,580	.16	n.a.	n.a.
Shipping and/or receiving clerk	1,050	.05	9	1
Stock clerk, stockroom, warehouse or storage yard	500	.02	12	0
All other plant clerical workers	340	.02	n.a.	n.a.
Sales occupations	2,450	.11	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	2,210	.10	7	1
Sales clerk	240	.01	35	0

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 28. Legal services: Employment, relative error, and percent of establishments reporting selected occupations, June 1978

(SIC 81)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	437,400	100.00	--	100
Managers and officers	23,760	5.43	n.a.	34
Professional occupations	152,230	34.80	n.a.	n.a.
Accountant and/or auditor	3,010	.69	8	7
Law clerk	20,560	4.70	3	36
Lawyer	105,630	24.15	1	76
Librarian, professional	830	.19	7	4
Paralegal personnel	20,630	4.72	3	30
Title examiner and/or abstractor	420	.10	22	1
All other professional workers	1,150	.26	n.a.	n.a.
Technical occupations	120	.03	n.a.	n.a.
Drafter	80	.02	42	0
All other technicians	40	.01	n.a.	n.a.
Service occupations	6,580	1.50	n.a.	n.a.
Janitor, porter, and/or cleaner	5,960	1.36	5	15
Food service workers	60	.01	30	0
Detective	410	.09	21	1
All other service workers	150	.03	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ..	300	.07	n.a.	n.a.
All other skilled craft and kindred workers	180	.04	n.a.	n.a.
All other operatives and semiskilled workers	10	.00	n.a.	n.a.
All other laborers and unskilled workers ..	110	.03	n.a.	n.a.
Clerical occupations	254,310	58.14	n.a.	n.a.
Bookkeeping and/or billing machine operator	2,100	.48	6	7
Computer operator	370	.08	12	1
Keypunch operator	100	.02	19	0
All other office machine operators	1,140	.26	n.a.	n.a.
Stenographer	7,170	1.64	6	8
Accounting clerk	4,300	.98	4	12
Bookkeeper, hand	11,680	2.67	3	32
File clerk	6,480	1.48	4	15
General clerk, office	8,380	1.92	5	15
Receptionist	9,260	2.12	3	23
Secretary	170,870	39.06	1	96
Switchboard operator	1,520	.35	7	4
Switchboard operator receptionist	11,120	2.54	3	31
Messenger	7,710	1.76	3	17
Title searcher	220	.05	26	0
Typist	9,720	2.22	4	14
Clerical supervisor, office or plant	210	.05	16	1
All other office clerical workers	1,910	.44	n.a.	n.a.
Stock clerk, stockroom, warehouse or storage yard	50	.01	25	0
Sales occupations	100	.02	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	50	.01	n.a.	n.a.
All other sales workers	50	.01	n.a.	n.a.

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 29. Social services: Employment, relative error, and percent of establishments reporting selected occupations, May 1978

(SIC 83)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	971,770	* 100.00	--	100
Managers and officers	99,040	10.19	n.a.	85
Professional occupations	249,900	25.72	n.a.	n.a.
Statistician	160	.02	34	0
Psychologist	2,970	.31	12	6
Sociologist	400	.04	35	1
All other social scientists	160	.02	n.a.	n.a.
Systems analyst, electronic data processing	110	.01	33	0
Teacher, preschool or kindergarten	79,580	8.19	5	30
Teacher and/or instructor, vocational education or training	9,420	.97	23	4
Teacher and/or instructor, nonvocational education	7,620	.78	22	5
Vocational and educational counselor	19,660	2.02	10	14
All other teachers	3,620	.37	n.a.	n.a.
Purchasing agent and/or buyer	1,720	.18	11	5
Accountant and/or auditor	7,950	.82	6	19
Budget analyst	1,380	.14	10	4
Director, camp	240	.02	21	1
Caseworker	43,570	4.48	5	29
Clergy	850	.09	32	3
Dietitian and/or nutritionist	4,530	.47	8	12
Lawyer	620	.06	28	1
Nurse, professional	13,250	1.36	8	16
Occupational therapist	1,070	.11	29	2
Personnel and labor relations specialists	2,200	.23	23	4
Physical therapist	1,620	.17	33	3
Public relations practitioner	2,530	.26	14	7
Director of religious activities and/or director, religious education	260	.03	38	1
Community organization worker	16,070	1.65	9	12
Welfare investigator	190	.02	28	0
All other therapists	1,440	.15	n.a.	n.a.
Group recreation worker	15,670	1.61	12	15
Manual arts, music, and/or recreational therapist	980	.10	32	1
All other professional workers	10,060	1.04	n.a.	n.a.
Technical occupations	13,900	1.43	n.a.	n.a.
Computer programmer	420	.04	24	1
Engineering technician	120	.01	n.a.	n.a.
Licensed practical nurse	8,280	.85	5	11
Medical and dental technicians and technologists	1,980	.20	40	1
All other technicians	3,100	.32	n.a.	n.a.
Service occupations	344,740	35.48	n.a.	n.a.
Maid	6,860	.71	8	7
House cleaner	12,110	1.25	18	13
All other janitors, porters, and cleaners	25,200	2.59	n.a.	n.a.
Guard and/or doorkeeper	4,100	.42	20	4
Baker, bread and/or pastry	160	.02	23	1
Dining room attendant, bartender helper, or cafeteria attendant	5,300	.55	9	4
Kitchen helper	18,070	1.86	20	16
Waiter/waitress	5,800	.60	9	3
Pantry, sandwich and/or coffee maker	460	.05	19	1
Cook, institution	27,550	2.84	4	40
All other food service workers	2,160	.22	n.a.	n.a.
Child care attendant	13,200	1.36	11	5
Supervisor, nonworking--service only	4,920	.51	19	7
Nurse aide and/or orderly	40,260	4.14	5	10
Psychiatric aide	1,020	.10	32	0
Child care worker	121,250	12.48	5	31
Social service aide	25,810	2.66	16	17
Medical assistant	770	.08	21	1
All other service workers	29,740	3.06	n.a.	n.a.

See footnotes at end of table.

Table 29. Social services: Employment, relative error, and percent of establishments reporting selected occupations, May 1978—Continued

(SIC 83)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Maintenance, construction, repair, material handling, and powerplant occupations ...	90,540	9.32	n.a.	n.a.
Mechanic and/or repairer	600	.06	n.a.	n.a.
Marker, classifier, wet wash assembler, detacher, and/or checker ..	540	.06	35	1
Washer, machine and/or starcher	2,540	.26	14	5
Laundry presser, machine	670	.07	19	2
Truck driver	3,900	.40	23	4
Bus driver	2,910	.30	17	3
Carpenter	5,390	.55	17	4
Supervisor, nonworking	8,990	.93	14	9
Maintenance repairer, general utility	10,560	1.09	7	16
Painter, maintenance	970	.10	23	2
Plumber and/or pipefitter	290	.03	42	0
Stationary boiler firer	300	.03	31	1
Bus driver, school	7,460	.77	13	8
All other skilled craft and kindred workers	950	.10	n.a.	n.a.
All other operatives and semiskilled workers	15,660	1.61	n.a.	n.a.
All other laborers and unskilled workers ..	28,810	2.96	n.a.	n.a.
Clerical occupations	163,760	16.85	n.a.	n.a.
Bookkeeping and/or billing machine operator	2,660	.27	9	8
Computer operator	490	.05	25	1
Key punch operator	750	.08	24	1
All other office machine operators	210	.02	n.a.	n.a.
Accounting clerk	4,410	.45	9	11
Bookkeeper, hand	13,160	1.35	4	30
File clerk	2,380	.24	20	5
General clerk, office	17,560	1.81	21	20
Payroll and/or timekeeping clerk	1,640	.17	13	5
Personnel clerk	2,170	.22	21	7
Procurement clerk	500	.05	26	2
Receptionist	6,630	.68	9	14
Secretary	31,580	3.25	4	45
Switchboard operator	1,440	.15	15	3
Switchboard operator receptionist	4,800	.49	7	14
Typist	12,070	1.24	14	19
Clerical supervisor, office or plant	4,400	.45	23	9
Teacher aide and/or educational assistant	49,870	5.13	8	21
All other office clerical workers	5,270	.54	n.a.	n.a.
Shipping and/or receiving clerk	380	.04	45	1
Stock clerk, stockroom, warehouse or storage yard	600	.06	47	1
All other plant clerical workers	790	.08	n.a.	n.a.
Sales occupations	9,890	1.02	n.a.	n.a.
Contribution solicitor	3,020	.31	23	3
All other sales agents, sales associates, and/or sales representatives	2,540	.26	n.a.	n.a.
Sales clerk	4,310	.44	39	1
All other sales workers	20	.00	n.a.	n.a.

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A. n.a. Not available.

Table 30. Museums, botanical and zoological gardens: Employment, relative error, and percent of establishments reporting selected occupations, April 1978

(SIC 84)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	29,470	100.00	—	100
Managers and officers	3,170	10.76	n.a.	90
Professional occupations	5,090	17.27	n.a.	n.a.
Life scientist	70	.24	n.a.	n.a.
Teacher and/or instructor, nonvocational education	1,600	5.43	8	29
Accountant and/or auditor	220	.75	7	21
Archivist	250	.85	8	19
Librarian, professional	430	1.46	7	29
Curator, museum	1,250	4.24	5	53
Designer	360	1.22	8	23
All other professional workers	910	3.09	n.a.	n.a.
Technical occupations	1,330	4.51	n.a.	n.a.
Science technicians	70	.24	n.a.	n.a.
Museum technician and/or restorer	930	3.16	7	36
Technical assistant, library	200	.68	9	14
All other technicians	130	.44	n.a.	n.a.
Service occupations	8,740	29.66	n.a.	n.a.
Janitor, porter, and/or cleaner	1,630	5.53	4	63
Guard and/or doorkeeper	3,500	11.88	9	41
Food service workers	1,100	3.73	11	12
Guide, sightseeing or establishment	2,400	8.14	8	33
All other service workers	110	.37	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	4,390	14.90	n.a.	n.a.
Carpenter	300	1.02	9	18
Maintenance repairer, general utility	1,180	4.00	6	42
Helper, trades	290	.98	12	11
Painter, maintenance	140	.48	10	9
Animal caretaker	760	2.58	10	10
Gardener and/or groundskeeper	1,310	4.45	7	33
All other skilled craft and kindred workers	210	.71	n.a.	n.a.
All other operatives and semiskilled workers	100	.34	n.a.	n.a.
All other laborers and unskilled workers ..	100	.34	n.a.	n.a.
Clerical occupations	5,170	17.54	n.a.	n.a.
Stenographer	180	.61	12	7
Accounting clerk	260	.88	10	19
Bookkeeper, hand	340	1.15	5	38
Cashier	700	2.38	12	19
General clerk, office	710	2.41	8	31
Library assistant	180	.61	11	12
Receptionist	420	1.43	7	25
Secretary	1,470	4.99	4	60
Switchboard operator	90	.31	18	6
Switchboard operator receptionist	240	.81	8	21
Typist	280	.95	7	18
All other office clerical workers	240	.81	n.a.	n.a.
Production clerical occupations	60	.20	n.a.	n.a.
Sales occupations	1,580	5.36	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	290	.98	9	16
Sales clerk	1,290	4.38	9	36

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 31. Membership organizations: Employment, relative error, and percent of establishments reporting selected occupations, April 1978

(SIC 86)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	1,504,260	100.00	--	100
Managers and officers	201,470	13.39	n.a.	77
Professional occupations	499,030	33.17	n.a.	n.a.
Engineers	680	.05	n.a.	n.a.
Statistician	1,800	.12	9	2
Economist	200	.01	31	0
Sociologist	460	.03	23	0
All other social scientists	250	.02	n.a.	n.a.
Systems analyst, electronic data processing	220	.01	42	0
Teacher, preschool or kindergarten	63,280	4.21	3	2
Teacher and/or instructor, vocational education or training	12,460	.83	8	3
Teacher and/or instructor, nonvocational education	60,560	4.03	4	2
All other teachers	13,860	.92	n.a.	n.a.
Purchasing agent and/or buyer	1,530	.10	10	1
Accountant and/or auditor	12,390	.82	4	13
Director, camp	3,970	.26	4	4
Caseworker	12,560	.83	10	3
Choirmaster	42,550	2.83	1	8
Clergy	105,720	7.03	1	13
Dietitian and/or nutritionist	220	.01	18	0
Writer and/or editor	9,920	.66	5	9
Law clerk	250	.02	18	0
Lawyer	1,690	.11	9	2
Musician, instrumental	35,760	2.38	7	6
Nurse, professional	2,820	.19	11	1
Personnel and labor relations specialists	14,080	.94	10	7
Public relations practitioner	5,790	.38	6	8
Director of religious activities and/or director, religious education	30,100	2.00	2	4
Community organization worker	7,340	.49	6	4
Group recreation worker	37,780	2.51	4	7
All other professional workers	20,790	1.38	n.a.	n.a.
Technical occupations	9,730	.65	n.a.	n.a.
Computer programmer	1,610	.11	16	1
Engineering technician	3,300	.22	n.a.	n.a.
Science technicians	310	.02	n.a.	n.a.
Licensed practical nurse	1,690	.11	15	0
All other medical and dental technologists and technicians	420	.03	n.a.	n.a.
All other technicians	2,400	.16	n.a.	n.a.
Service occupations	362,070	24.07	n.a.	n.a.
Maid	20,320	1.35	3	8
All other janitors, porters, and cleaners	123,050	8.18	n.a.	n.a.
Guard and/or doorkeeper	7,580	.50	7	5
Bartender	34,810	2.31	3	13
Dining room attendant, bartender helper, or cafeteria attendant	7,410	.49	7	4
Host/hostess, restaurant, lounge or coffee shop	180	.01	40	0
Kitchen helper	23,970	1.59	5	8
Waiter/waitress	29,540	1.96	4	9
Cook, short order and/or specialty fast foods	3,650	.24	6	3
Cook, restaurant	7,160	.48	4	6
Cook, institution	18,450	1.23	3	5
All other food service workers	860	.06	n.a.	n.a.
Supervisor, nonworking--service only	4,980	.33	5	4
Nurse aide and/or orderly	4,920	.33	21	0
Recreation facility attendant	5,990	.40	9	3
Game operator, ride operator and/or concession worker	2,770	.18	17	1

See footnotes at end of table.

Table 31. Membership organizations: Employment, relative error, and percent of establishments reporting selected occupations, April 1978—Continued

(SIC 86)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Service occupations—Continued				
Child care worker	41,610	2.77	3	5
Social service aide	6,640	.44	9	2
All other service workers	18,180	1.21	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...				
Mechanic, automotive	58,540	3.89	n.a.	n.a.
Laundry operator, small establishment	220	.01	23	0
Truck driver	390	.03	25	0
Bus driver	1,430	.10	11	1
Delivery and/or route worker	1,480	.10	11	1
Supervisor, nonworking	200	.01	30	0
Inspector	730	.05	20	0
Maintenance repairer, general utility	430	.03	28	0
Helper, trades	25,170	1.67	2	12
Painter, maintenance	580	.04	27	0
Animal caretaker	1,470	.10	9	1
Bus driver, school	3,540	.24	12	1
All other skilled craft and kindred workers	720	.05	17	1
All other operatives and semiskilled workers	9,790	.65	n.a.	n.a.
All other laborers and unskilled workers ..	4,480	.30	n.a.	n.a.
	7,910	.53	n.a.	n.a.
Clerical occupations				
Computer operator	354,680	23.58	n.a.	n.a.
Key punch operator	3,200	.21	10	4
Duplicating machine operator	2,420	.16	12	1
All other office machine operators	470	.03	17	1
Stenographer	1,870	.12	n.a.	n.a.
Accounting clerk	8,310	.55	4	6
Bookkeeper, hand	14,080	.94	4	12
Cashier	33,250	2.21	1	31
File clerk	2,180	.14	9	1
General clerk, office	6,810	.45	4	6
Mail clerk	49,500	3.29	4	24
Payroll and/or timekeeping clerk	8,290	.55	5	7
Personnel clerk	2,390	.16	5	6
Receptionist	170	.01	16	0
Secretary	14,430	.96	3	13
Statistical clerk	131,710	8.76	2	56
Switchboard operator	230	.02	30	0
Switchboard operator receptionist	2,760	.18	7	3
Travel counselor, auto club	9,840	.65	3	12
Travel clerk	5,750	.38	8	2
Typist	230	.02	32	0
Clerical supervisor, office or plant	28,790	1.91	3	18
Teacher aide and/or educational assistant	870	.06	19	1
All other office clerical workers	16,320	1.08	4	2
Shipping packer	6,530	.43	n.a.	n.a.
Stock clerk, stockroom, warehouse or storage yard	280	.02	35	0
Dispatcher, vehicle, service or work	2,500	.17	7	4
All other plant clerical workers	1,180	.08	20	0
	320	.02	n.a.	n.a.
Sales occupations				
Contribution solicitor	18,740	1.25	n.a.	n.a.
All other sales agents, sales associates, and/or sales representatives	3,010	.20	14	1
Sales clerk	11,950	.79	n.a.	n.a.
	3,780	.25	12	1

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Table 32. Miscellaneous services: Employment, relative error, and percent of establishments reporting selected occupations,¹ June 1978

(SIC 89)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Total	872,590	100.00	--	100
Managers and officers	93,270	10.69	n.a.	62
Professional occupations	333,850	38.26	n.a.	n.a.
Aeronautical engineer	1,300	.15	25	0
Chemical engineer	3,880	.44	11	2
Civil engineer	42,790	4.90	3	21
Electrical and/or electronic engineer	18,860	2.16	6	10
Industrial engineer	2,960	.34	14	2
Mechanical engineer	20,960	2.40	5	10
Metallurgist and/or metallurgical engineer	760	.09	24	0
Mining engineer	250	.03	34	0
Petroleum engineer	700	.08	25	1
Safety engineer	450	.05	32	1
All other engineers	7,690	.88	n.a.	n.a.
Actuary	1,760	.20	14	1
Mathematician	950	.11	21	1
Statistician	590	.07	22	1
All other mathematical scientists	220	.03	n.a.	n.a.
Chemist	1,900	.22	14	2
Geologist and/or geophysicist	2,720	.31	12	2
Oceanographer	300	.03	28	0
Physicist	970	.11	18	1
All other physical scientists	1,400	.16	n.a.	n.a.
Life scientist	5,660	.65	12	2
Economist	810	.09	18	1
Market research analyst	500	.06	17	1
Psychologist	1,020	.12	19	1
All other social scientists	2,020	.23	n.a.	n.a.
Systems analyst, business	3,810	.44	9	4
Systems analyst, scientific and technical	2,550	.29	13	2
Teacher, preschool or kindergarten	690	.08	28	0
Photographer	590	.07	12	2
Purchasing agent and/or buyer	2,300	.26	7	4
Accountant and/or auditor	121,000	13.87	1	46
Landscape architect	2,540	.29	10	3
Architect	25,240	2.89	5	13
Budget analyst	500	.06	13	1
Caseworker	1,550	.18	20	1
Commercial artist	3,720	.43	12	3
Cost estimator, engineering	4,780	.55	8	6
Writer and/or editor	4,310	.49	8	5
Lawyer	750	.09	14	1
Librarian, professional	1,280	.15	7	4
Nurse, professional	1,140	.13	17	1
Personnel and labor relations specialists	1,520	.17	6	4
Designer	9,070	1.04	8	5
Tax preparer	11,260	1.29	5	12
All other professional workers	13,830	1.58	n.a.	n.a.
Technical occupations	160,850	18.43	n.a.	n.a.
Computer programmer, business	3,450	.40	8	6
Computer programmer, scientific and technical	2,990	.34	13	3
Core analyst	130	.01	42	0
Drafter	83,390	9.56	2	36
Electrical and/or electronic technicians	6,150	.70	9	3
Surveyor	24,270	2.78	9	16
Specification writer, engineering	1,320	.15	13	2
Civil engineering technician	21,200	2.43	5	13
All other engineering technicians	7,040	.81	n.a.	n.a.
Physical science technician	3,090	.35	14	2
Biological science technician	3,300	.38	15	1
All other science technicians	1,080	.12	n.a.	n.a.
Licensed practical nurse	180	.02	34	0
All other technicians	3,260	.37	n.a.	n.a.

See footnotes at end of table.

Table 32. Miscellaneous services: Employment, relative error, and percent of establishments reporting selected occupations,¹ June 1978—Continued

(SIC 89)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Service occupations	12,410	1.42	n.a.	n.a.
Janitor, porter, and/or cleaner	6,880	.79	6	11
Guard and/or doorkeeper	1,120	.13	15	1
Food service workers	740	.08	19	1
Supervisor, nonworking--service only	240	.03	17	1
Social service aide	1,320	.15	19	1
All other service workers	2,110	.24	n.a.	n.a.
Maintenance, construction, repair, material handling, and powerplant occupations ...	56,320	6.45	n.a.	n.a.
Mechanic, automotive	170	.02	44	0
Mechanic, maintenance	1,050	.12	16	1
All other mechanics and repairers	350	.04	n.a.	n.a.
Truck driver	240	.03	21	0
Blueprinting machine operator	1,180	.14	8	3
Carpenter	910	.10	19	1
Delivery and/or route worker	400	.05	24	0
Electrician	460	.05	16	1
Supervisor, nonworking	1,230	.14	11	2
Industrial truck operator	100	.01	26	0
Inspector	2,510	.29	12	2
Machinist	1,360	.16	16	1
Maintenance repairer, general utility	1,950	.22	14	3
Helper, trades	380	.04	19	1
Painter, maintenance	180	.02	21	0
Plumber and/or pipefitter	820	.09	23	0
Stationary engineer	260	.03	21	0
Welder and/or flamecutter	650	.07	23	0
Surveyor helper	31,200	3.58	4	15
All other skilled craft and kindred workers	3,610	.41	n.a.	n.a.
All other operatives and semiskilled workers	3,200	.37	n.a.	n.a.
All other laborers and unskilled workers ..	4,110	.47	n.a.	n.a.
Clerical occupations	211,670	24.26	n.a.	n.a.
Bookkeeping and/or billing machine operator	3,180	.36	9	4
Computer operator	8,090	.93	4	14
Keypunch operator	7,980	.91	7	9
Peripheral EDP equipment operator	810	.09	29	1
All other office machine operators	3,470	.40	n.a.	n.a.
Stenographer	5,560	.64	6	8
Accounting clerk	16,360	1.87	4	21
Bookkeeper, hand	20,430	2.34	3	33
Cashier	360	.04	27	1
File clerk	3,990	.46	9	6
General clerk, office	23,780	2.73	3	28
Mail clerk	2,560	.29	8	6
Order clerk	1,260	.14	35	1
Payroll and/or timekeeping clerk	1,420	.16	6	5
Personnel clerk	1,020	.12	5	4
Receptionist	7,160	.82	4	16
Secretary	55,610	6.37	2	61
Statistical clerk	1,360	.16	15	2
Switchboard operator	1,040	.12	7	3
Switchboard operator receptionist	6,500	.74	3	19
Messenger	1,880	.22	8	4
Typist	23,130	2.65	3	29
Clerical supervisor, office or plant	3,860	.44	6	6
Proofreader, clerical	1,450	.17	13	2
All other office clerical workers	6,650	.76	n.a.	n.a.
Production clerk and/or coordinator	1,060	.12	12	1
Shipping and/or receiving clerk	640	.07	10	1
Stock clerk, stockroom, warehouse or storage yard	760	.09	11	2
All other plant clerical workers	300	.03	n.a.	n.a.

See footnotes at end of table.

Table 32. Miscellaneous services: Employment, relative error, and percent of establishments reporting selected occupations,¹ June 1978—Continued

(SIC 89)

Occupation	Employment ¹	Percent of total employment	Relative error (in percentage) ²	Percent of establishments reporting the occupation
Sales occupations	4,220	0.48	n.a.	n.a.
Sales representative, sales agent, and/or sales associate	3,940	.45	8	5
Sales clerk	280	.03	25	0

¹ Estimates of fewer than 50 workers, or with less than 0.01 percent of industry employment, or with a relative error greater than 50 are generally not shown separately since such estimates are considered unreliable. Estimates that are not shown have been counted in the appropriate "All other" categories.

² The relative standard errors apply equally to data on estimated employment and percent of total employment; relative standard errors estimated at the level of 2 chances out of 3. For further information on sampling variability and other types of errors, see appendix A.
n.a. Not available.

Appendix A. Survey Methods and Reliability of Estimates

Scope of survey

The survey covered private nonmanufacturing establishments in Standard Industrial Classification (SIC) codes 10-17, 60-67, 70-79, 80 (except 806), 81, 83, 84, 86, and 89. Geographically, the survey covered all 50 States plus the District of Columbia.

Method of collection

Survey schedules were mailed to most sample establishments; personal visits were made to some larger companies.

Two additional mailings were sent to nonrespondents at approximately 6-week intervals. Nonrespondents considered critical to the survey (due to size) were called by telephone or visited.

Sampling procedure

The sampling frame for this survey was the list of units in the specified SIC's as reported to the State employment security agency. Because each State selected its own sample, dates of the sampling frame varied according to the last updates to the frame and the time sampling took place. The reference date for the frame used for sampling in the 8 supplemental States was the first quarter of 1977. The reporting week of the survey, depending on the SIC of the sampled unit, was the week that included April 12, May 12, or June 12, 1978, as shown in table A-1.

Table A-1. SIC coverage and reference dates of survey

Survey	SIC	Reference date	Survey	SIC	Reference date
100	10, 11, 12, 14	May 12	750	75	May 12
130	13	May 12	760	76	June 12
150	15, 16, 17	June 12	780	78	April 12
600	60, 61	May 12	790	79	April 12
620	62, 67	June 12	801	80 (except 806)	May 12
630	63, 64, 65, 66	May 12	810	81	June 12
700	70	May 12	830	83	May 12
720	72	May 12	840	84	April 12
730	73	June 12	860	86	April 12
			890	89	June 12

The universe was stratified into SIC and size classes. The size classes were determined by employment as follows:

Size class	Employees
1	0-3
2	4-9
3	10-19
4	20-49
5	50-99
6	100-249
7	250-499
8	500-999
9	1,000 and over

Reporting units with 0-3 employees were not sampled in all States, but units with 4-9 employees were sampled more heavily to represent the employment in the smaller size class. Reporting units with 250 or more employees were included in the sample with certainty. Sample sizes intended to produce State estimates with target relative errors of 10, 15, 17.5, and 20 percent at one standard deviation were developed for noncertainty size classes. This was done for groups of SIC's based on averages of occupational rates and coefficients of variation (CV's) from the previous survey for a set of typical occupations. This SIC sample size was allocated to the size classes proportional to size class employment. The sample was selected systematically with equal probability within each State/SIC/size class cell.

The sample size for 8 supplemental States was developed by first determining the sample size required for national estimates in each 2-digit SIC with a target relative error of 15 percent at one standard deviation. This was done by averaging CV's and occupational rates for a set of scientific, technical, and engineering occupations from the previous survey. Establishments with 1,000 or more employees were included with certainty. This national SIC sample size was then allocated to the noncooperating State/size class cells proportional to employment.

The above allocations resulted in a total initial sample size for all States of 333,115 reporting units.

Response

There were 321,916 final eligible units in the sample (i.e. excluding establishments that were out of business, out of scope, etc.). Usable responses were obtained from 214,686 units, producing a response rate of 66.7 percent based on units and 62.8 percent based on weighted employment. Subsequent to preparation of national estimates, States received additional data to prepare State estimates. Response rates in most States were significantly higher than the response rate used to develop national estimates.

Estimation

A weight was determined for each sample unit from which a usable response was received. Each weight was composed of two factors. The first factor is the inverse of the probability of selection. For questionnaires that were not returned or otherwise not usable, a nonresponse adjustment, the second factor, was made to correct for these nonrespondents. For each of the 3-digit State/SIC/size class sampling cells, a nonresponse factor was calculated that was equal to:

$$\frac{\text{Weighted sample employment of all eligible units in sample}}{\text{Weighted sample employment of all responding eligible units}}$$

Sample employment was taken from the sampling frame. If the factor in a cell was greater than a predetermined maximum factor, which increased as the number of respondents in a cell increased, the cell was collapsed with other homogeneous cells within the SIC until the factor for the combined cells was not greater than the appropriate maximum factor. If the collapsing procedure terminated (i.e. no more cells were available for collapse) before satisfying the above constraint, then the appropriate maximum factor was used. For size classes 1-6, homogeneous cells were determined to be other *size* cells within the SIC and State. For size classes 7-9, homogeneous cells were determined to be other *State* cells within the SIC and size. The weight for each establishment was the product of the two factors.

A combined ratio estimate of occupational employment was used to develop national estimates. The auxiliary variable used was total employment. The estimating formula is:

$$\hat{p} = \sum_i \left[\frac{\sum_{j,k} w_{ijk} P_{ijk}}{\sum_{j,k} w_{ijk} e_{ijk}} \cdot M_i \right]$$

Where: $\hat{p}$ = 2-digit industry occupational employment estimate
 i = 3-digit industry within a 2-digit industry
 j = size class
 k = establishment
 w_{ijk} = weight after nonresponse adjustment

P_{ijk} = occupational employment in i-th industry, j-th size class and k-th establishment
 e_{ijk} = total employment in i-th industry, j-th size class and k-th establishment
 M_i = benchmark total employment in i-th industry

The population value of total employment (M_i) was obtained from the BLS monthly survey of employment, hours, and earnings in nonagricultural establishments.

The standard form for the sampling variance for a combined ratio estimate is:

$$V(\hat{p}) = \sum_i \sum_j \frac{N_{ij}^2 (1 - f_{ij})}{n_{ij}} \cdot A_{ij}$$

Where: $A_{ij} = S_{pij}^2 + R_i^2 S_{eij}^2 - 2R_i P_{ij} S_{pij} S_{eij}$
 $V(\hat{p})$ = variance of $\hat{p}$
 i = 3-digit industry within a 2-digit industry
 j = size class
 N_{ij} = total number of units in the i-th industry and j-th size class
 f_{ij} = sampling fraction in the i-th industry and j-th size class
 n_{ij} = number of sample units in the i-th industry and j-th size class
 S_{pij} = standard deviation of p within the i-th industry and j-th size class
 S_{eij} = standard deviation of e within the i-th industry and j-th size class
 P_{ij} = correlation coefficient between p and e within the i-th industry and j-th size class.

The variances for the occupational estimates were estimated from the following formula:

$$\text{Var}(\hat{P}) = \sum_i \sum_j T_{ij} V_{ij}^2$$

$T_{ij} = [B_{ij}] \cdot [D_{ij}] \cdot [F_{ij}]^2$
 $B_{ij} = (M_{ij} - e_{ij}) / (M_{ij})$
 $D_{ij} = (G_{ij}) / (H_{ij})$
 $G_{ij} = \left(\sum_k w_{ijk}^2 \right) \left(\sum_k w_{ijk} \right)$
 $H_{ij} = \left(\sum_k w_{ijk} \right)^2 - \left(\sum_k w_{ijk}^2 \right)$
 $F_{ij} = (M_i) / \left(\sum_{j,k} w_{ijk} e_{ijk} \right)$
 $V_{ij}^2 = \sum_k w_{ijk} \cdot L_{ijk}^2$
 $L_{ijk} = (P_{ijk} - R_i e_{ijk}) - (\bar{P}_{ij} - R_i \bar{e}_{ij})$

Where: M_{ij} = benchmark total employment in the i-th industry and j-th size class

$$R_i = \left(\sum_j \sum_k w_{ijk} P_{ijk} \right) / \left(\sum_j \sum_k w_{ijk} e_{ijk} \right)$$

$$e_{ij} = \sum_k e_{ijk}$$

All other terms are defined earlier. This formula is almost a computational form of the earlier standard formula. One simplifying assumption has been made, as follows:

$$W_{ijk} = c_{ij} \text{ for all } k \text{ in a given } ij \text{ cell}$$

That is, the weights are equal to a constant c within a given 3-digit industry/size cell.

At this time, the total effect of this assumption on the variance estimates has not been measured.

Reliability of estimates

Estimates from the sample may differ from results of a complete survey of all establishments in the sampled lists. Two types of errors, sampling and nonsampling, are possible in an estimate based on a sample survey. Sampling error occurs because observations are made only on a sample, not on the entire population. Nonsampling error can be attributed to many sources, e.g., inability to obtain information about all cases in the sample; differences in the respondents' interpretation of questions; inability of respondents to provide correct information; errors in recording, coding, or processing; errors in estimating values for missing data; and failure to represent all units in the population.

Standard errors of estimates provide guides to the potential size of sampling errors. Estimates of the standard errors, computed from the sample data, are presented in the form of variance and relative errors. The variance is the standard error squared and the relative error is the standard error divided by the estimated value to which it refers.

The sample estimate and its standard error enable one to construct confidence intervals or ranges that would include the complete coverage survey value for specified percentages of all the possible samples that could be ob-

tained from the sample design for this survey. The complete coverage value would be included in the range:

1. From one standard error below to one standard error above the derived estimate for 68 percent of all samples.
2. From 1.6 standard errors below to 1.6 standard errors above the derived estimate for 90 percent of all samples.
3. From two standard errors below to two standard errors above the derived estimate for 95 percent of all samples.
4. From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the complete coverage value would be within the indicated ranges would be correct in approximately the relative frequencies shown.

For example, suppose an estimated total is shown as 5,000 with an associated relative error of 2 percent. Then the standard error is $100 \cdot (2 \text{ percent of } 5,000)$ and there is a 68-percent chance that the complete coverage total would be between 4,900 and 5,100 and it is almost certain that the complete coverage total would be between 4,700 and 5,300.

Relative errors primarily indicate the magnitude of the sampling error, but do not measure biases in the data due to nonsampling error. Efforts were made to reduce the biases due to errors in recording, coding, and processing the data. The adjustment made for nonrespondents assumed that the characteristics of the nonrespondents were the same as those of the respondents. To the extent this is not true, bias is introduced in the data. The magnitude of these biases is not known.

Particular care should be exercised in interpreting small estimates, estimates based on a small number of cases, or small differences between estimates because the sampling errors are relatively large and the magnitude of the biases is unknown.

Appendix B. OES Survey Data Available from State Agencies

State data on occupational employment in selected nonmanufacturing industries are available as indicated in the following table. These reports may be obtained from the State employment security agencies listed on the inside back cover of this publication.

Table B-1. OES survey data available by State and year

State	1973	1975	1978	State	1973	1975	1978
Alabama		X	X	Mississippi		X	X
Alaska	X	X	X	Missouri	X	X	X
Arizona		X	X	Nevada	X	X	X
Arkansas			(1)	New Hampshire			X
California		X	X	New Jersey	X	X	X
Colorado	X	X	X	New Mexico			X
Connecticut			X	New York		X	X
Delaware	X	X	X	North Carolina	X	X	X
District of Columbia	X	X	X	North Dakota			X
Florida	X	X	X	Oklahoma	X	X	X
Georgia		X	X	Oregon	X	X	X
Hawaii			X	Pennsylvania		X	X
Idaho			X	Rhode Island			X
Illinois			(1)	South Carolina	X	X	X
Indiana	X	X	X	South Dakota			X
Kentucky		X	X	Tennessee	X	X	X
Louisiana			X	Texas		X	X
Maine	X	X	X	Utah	X	X	X
Maryland	X	X	X	Virginia	X	X	X
Massachusetts	X	X	X	West Virginia	X	X	X
Michigan			(1)	Wisconsin	X	X	X
Minnesota	X	X	X	Wyoming			X

(1) Report in progress.

U.S. Department of Labor

Bureau of Labor Statistics

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REGION V-CHICAGO 230 S. Dearborn Street Chicago, Ill. 60604	REGION VI-DALLAS 555 Griffin Sq., 2nd Fl. Dallas, Tex. 75202	REGION VII & VIII-KANSAS CITY 911 Walnut Street Kansas City, Mo. 64106	REGION IX & X-SAN FRANCISCO 450 Golden Gate Avenue, Box 36017 San Francisco, Calif. 94102

State Agencies Cooperating in the OES Program

BLS	
Region	
IV ALABAMA	-Department of Industrial Relations, Industrial Relations Building, Montgomery 36130
X ALASKA	-Department of Labor, Employment Security Division, P.O. Box 1149, Juneau 99802
IX ARIZONA	-Department of Economic Security, Labor Market Information, P.O. Box 6123, Phoenix 85005
VI ARKANSAS	-Department of Labor, Employment Security Division, P.O. Box 2981, Little Rock 72203
IX CALIFORNIA	-Employment Development Department, P.O. Box 1679, Sacramento 95808
VIII COLORADO	-Department of Labor, Division of Employment and Training, 251 East 12th Avenue, Denver 80203
I CONNECTICUT	-Labor Department, Employment Security Division, 200 Folly Brook Boulevard, Wethersfield 06109
III DELAWARE	-Department of Labor, University Plaza Office Complex, Bldg. D, Chapman Rd., Route 273, Newark 19713
III DIST. OF COL.	-D.C. Department of Labor, Division of Labor Market Information, Research, and Analysis, 605 G Street, N.W., Washington 20001
IV FLORIDA	-Department of Labor and Employment Security, Caldwell Bldg., Tallahassee 32301
IV GEORGIA	-Department of Labor, Labor Information Systems, 254 Washington Street, S.W., Atlanta 30334
IX HAWAII	-Department of Labor and Industrial Relations, P.O. Box 3680, Honolulu 96811
X IDAHO	-Department of Employment, Research and Analysis Division, P.O. Box 35, Boise 83707
V ILLINOIS	-Bureau of Employment Security, Research and Analysis Division, 910 South Michigan Avenue, 12th Floor, Chicago 60605
V INDIANA	-Employment Security Division, 10 North Senate Avenue, Indianapolis 46204
IV KENTUCKY	-Department of Human Resources, 275 E. Main Street, 2nd Floor West, Frankfort 40621
VI LOUISIANA	-Department of Labor, P.O. Box 44094, Capitol Station, Baton Rouge 70804
I MAINE	-Department of Manpower Affairs, Employment Security Commission, 20 Union Street, Augusta 04330
III MARYLAND	-Department of Human Resources, 1100 North Eutaw Street, Baltimore 21201
I MASSACHUSETTS	-Division of Employment Security, Research and Statistics Division, Charles F. Hurley Bldg., Boston 02114
V MICHIGAN	-Employment Security Commission, Research and Statistics Division, 7310 Woodward Avenue, Detroit 48202
V MINNESOTA	-Department of Economic Security, Research and Statistical Services Office, 390 North Robert Street, St. Paul 55101
IV MISSISSIPPI	-Employment Security Commission, P.O. Box 1699, Jackson 39205
VII MISSOURI	-Department of Labor and Industrial Relations, Division of Employment Security, P.O. Box 59, Jefferson City 65101
IX NEVADA	-Employment Security Department, Employment Security Research Division, 500 E. Third Street, Carson City 89713
I NEW HAMPSHIRE	-Department of Employment Security, 32 South Main Street, Concord 03301
II NEW JERSEY	-Department of Labor and Industry, Division of Planning and Research, OES Survey, P.O. Box 359, Trenton 08625
VI NEW MEXICO	-Department of Human Services, Employment Service Division, P.O. Box 1928, Albuquerque 87103
II NEW YORK	-N.Y. State Department of Labor, Division of Research and Statistics, State Campus—Building 12, Albany 12201
IV NORTH CAROLINA	-Employment Security Commission, P.O. Box 25903, Raleigh 27611
VIII NORTH DAKOTA	-Employment Security Bureau, P.O. Box 1537, Bismarck 58505
VI OKLAHOMA	-Employment Security Commission, Research and Planning, Room 310, Will Rogers Memorial Office Building, Oklahoma City 73105
X OREGON	-Department of Human Resources, Employment Division, 875 Union Street, N.E., Salem 97130
III PENNSYLVANIA	-Department of Labor and Industry, Research and Statistics Division, Seventh and Forster Streets, Harrisburg 17120
I RHODE ISLAND	-Department of Employment Security, 24 Mason Street, Providence 02903
IV SOUTH CAROLINA	-Employment Security Commission, P.O. Box 995, Columbia 29202
VIII SOUTH DAKOTA	-Department of Labor, Research and Statistics Division, 607 North Fourth Street, Aberdeen 57401
IV TENNESSEE	-Department of Employment Security, Room 519, Cordell Hull Office Building, Nashville 37219
VI TEXAS	-Employment Commission, TEC Building, 15th and Congress Avenue, Austin 78778
VIII UTAH	-Department of Employment Security, P.O. Box 11249, Salt Lake City 84147
III VIRGINIA	-Employment Commission, Manpower Research Division, P.O. Box 1358, Richmond 23211
III WEST VIRGINIA	-Department of Employment Security, State Office Building, 112 California Avenue, Charleston 25305
V WISCONSIN	-Department of Industry, Labor, and Human Relations, 201 East Washington Avenue, Madison 53707
VIII WYOMING	-Employment Security Commission, Reports and Analysis Section, P.O. Box 2760, Casper 82601