

1980 Census of Population and Housing 1970 & 1980 Industry and Occupational Classification Systems. Technical Documentation

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CENSUSES OF POPULATION, 1970 AND 1980: INDUSTRY AND OCCUPATIONAL CLASSIFICATION SYSTEMS

This documentation consists of the following materials:

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Attachment 4	1970 Census of Population Occupational Classification System
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Attachment 7	1980 Census of Population Industrial Classification System

NOTE

Questions about the **documentation** should be directed to Data User Services Division, Data Access and Use Staff, Bureau of the Census, Washington, D.C. 20233. Phone: (301)763-2074.

Questions about the **tape** should be directed to Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, D.C. 20233. Phone: (301) 763-4100.

Questions about the **subject matter** should be directed to Labor Force Statistics Branch, Housing and Household Economic Statistics Division, Bureau of the Census, Washington, D.C. 20233. Phone: (301)763-8575.

ATTACHMENT 1

ABSTRACT

Censuses of Population, 1970 and 1980: Industry and Occupational Classification Systems [machine-readable data file] / prepared by the Bureau of the Census. -- Washington: The Bureau [producer and distributor], 1989.

Type of File:

Microdata

Universe Description:

All industries and occupations as identified in the 1970 and 1980 censuses.

Subject-Matter Description:

This file includes the industry and occupational classification systems used in the 1970 Census of Population (1970 Census) and in the 1980 Census of Population (1980 Census). It is intended to help users compare codes from the 2 censuses.

Geographic Coverage:

The United States and its territories.

Technical Description:

File Structure: Rectangular.

File Size: 1,798 Logical records; 220 character logical record length.

File Sort Sequence: Ascending order by Census year (1970 or 1980) and occupation or industry classification code.

Related Report:

The data on this file are published in U.S. Bureau of the Census, Technical Paper 59, *The Relationship Between the 1970 and 1980 Industry and Occupation Classification Systems*. GPO stock number: 003-024-07008-1; cost \$6.00.

Reference Materials:

1980 Census of Population, *Alphabetical Index of Industries and Occupations* (Final Edition), series number PHC80-R3; GPO stock number: 003-024-4939-2; cost: \$11.

1980 Census of Population, *Classified Index of Industries and Occupations*, series number: PHC80-R4; GPO stock number: 003-024-05002-1; cost: \$8.50.

1970 Census of Population, *Alphabetical Index of Industries and Occupations*; available on microfiche.

1970 Census of Population, *Classified Index of Industries and Occupations*; available on microfiche.

File Availability:

The file may be ordered from Data User Services Division using the Customer Services order form for tapes on the following page. The following technical options are available at a cost of \$175 per reel.

	Reels	Cost
9 track, 1600 bpi (EBCDIC or ASCII)	1	\$250 \$175
9 track, 6250 bpi (EBCDIC or ASCII)	1	\$175

ATTACHMENT 2

The Relationship Between the 1970 and 1980 Industry and Occupation Classification Systems Data File

<u>No.</u>	<u>Field Size</u>	<u>Location</u>	<u>Description</u>
1	1	1	Code 1 occupation, Code 2 industry
2	3	2-4	1970 industry or occupation code, see Attachments 4 & 6 ¹
3	76	5-80	1970 industry or occupation category title, see Attachments 4 & 6 ¹
4	3	81-83	1980 industry or occupation code, see Attachments 5 & 7 ²
5	76	84-159	1980 industry or occupation category title, see Attachments 5 & 7 ²
6	8	160-167	Male cases in 1970, Experienced Civilian Labor Force
7	11	168-178	Percent this segment represents of total 1970 category (for males)
8	11	179-189	Percent this segment represents of total 1980 category (for males)
9	8	190-197	Female cases in 1970 Experienced Civilian Labor Force
10	11	198-208	Percent this segment represents of total 1970 category (for females)
11	12	209-220	Percent this segment represents of total 1980 category (for females)

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1. Attachment 4 shows 1970 occupational titles and codes.
Attachment 6 shows 1970 industrial titles and codes.
 2. Attachment 5 shows 1980 occupational titles and codes.
Attachment 7 shows 1980 industrial titles and codes.

The Relationship Between the 1970 and 1980 Industry and Occupation Classification Systems

INTRODUCTION

This paper describes the changes in the industry and occupation classification systems used in the 1970 Census of Population (1970 census) and the classification systems used in the 1980 Census of Population (1980 census). As a result of these changes, some 1980 industry categories and most 1980 occupation major groups and detailed categories are not comparable to similar categories in the 1970 and earlier censuses.

From 1940 to 1980, the basic structure of the industry classification system used in the Censuses of Population was generally the same. The occupation classification system had a similar structure from 1940 to 1960. For 1970 the occupation classification was enlarged by almost 50 percent from 297 categories in 1960 to 441 categories in 1970. The 1980 system had 503 categories, an increase of 14 percent from 1970. The 1980 occupation classification also was a major departure from earlier censuses because of the adoption of the Standard Occupational Classification (SOC) by Federal agencies. (See "Revisions to the Occupational Classification" below.)

This report is designed to help users compare 1970 and 1980 census data by quantifying the relationship between the two sets of classification systems. Included are detailed tables showing the proportional flows for individual occupation and industry categories between the two census years and tables comparing the major groups. We derived these proportions from a sample of actual responses from the 1970 Census of Population. See the section on the "1970 Census Sample" for more information.

REVISIONS TO THE OCCUPATIONAL CLASSIFICATION

We developed the 1980 census classification to be consistent with the 1980 *Standard Occupational Classification (SOC) Manual*.¹ This significantly altered the structure, order, and content of the 1980 census classification, compared to 1970. The major principles used

to develop the Standard Occupational Classification established the criteria for the 1980 census occupation classification. The primary guidelines are:

1. The classification should realistically reflect the current occupational structure of the United States.
2. An occupation should be classified on the basis of work performed.
3. Occupations should be classified into homogeneous groups that can be defined so that the content of each group is well delineated.

The principles used in developing the 1970 system were similar to these but never formally listed. The differences between 1970 and 1980 are primarily due to differences in application and interpretation of the classification principles rather than to different principles.

The occupational classification system used in the 1980 census did not follow precisely the same hierarchical format as the SOC. The SOC has four levels: division, major group, minor group and unit group. The census system has 13 major groups that map into 20 SOC divisions, and 503 detailed occupational categories that map into 664 SOC unit groups. The SOC also has major groups and minor groups in its hierarchical system. The census system has no official list of subheadings between the major group and detailed occupation levels. Many SOC minor groups are shown in tabulations showing detailed occupations, but the number will vary depending in part on the lines available on the printed page.

The hierarchical levels for each classification are as follows:

SOC Levels		Census Levels	
Title	No. of Categories	Title	No. of Categories
Division	20	Major Group ²	13
Major Group	59		-
Minor Group	212		-
Unit Group	664	Detailed Occupation	503

¹*Standard Occupational Classification Manual: 1980*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 003-005-00187-5.

²In the census classification system, additional "minor group" headings shown but are unnumbered and are not accorded any "official" status.

In comparing SOC Divisions to census major groups, one finds seven census major groups each map into one SOC division. The "professional" major group includes seven divisions, "technicians" two divisions, and "precision production" three divisions. The census has three major groups for "services" that map into just one SOC division. These census major groups for "services" equate to SOC major groups. The following chart shows the Census major groups, their relationship to SOC divisions, and the number of detailed occupational categories.

1980 Census Major Occupation Groups	No. of SOC Divisions	No. of Detailed Categories		
		SOC	Census	
1. Executive, administrative, and managerial occupations.	1	46	26	
2. Professional specialty occupations	7	115	106	
3. Technicians and related support occupations	2	28	22	
4. Sales occupations	1	47	23	
5. Administrative support occupations, including clerical ...	1	66	57	
6. Private household occupations	}	{	7	5
7. Protective service occupations			11	11
8. Service occupations, except protective and household ...		30	28	
9. Farming, forestry, and fishing occupations	1	28	19	
10. Precision production, craft, and repair occupations	3	114	103	
11. Machine operators, assemblers, and inspectors	1	112	62	
12. Transportation and material moving occupations	1	28	25	
13. Handlers, equipment cleaners, helpers, and laborers ...	1	32	16	
Total	20	664	503	

Many users of census occupational data are interested in only a few summary categories. The 20 SOC divisions were too many lines for these users. To better meet our data users needs and to better preserve comparability, the 20 SOC divisions were combined into 13 census major groups. This shorter list of major groups better relate to the 12 major groups in the 1970 census occupational structure.

Some users show occupational data using fewer than the 13 lines needed to present major groups. The SOC provides a suggested summary of six categories. Some 1980 census publications used these six summary lines as suggested.

Six Summary Occupation Groupings	Census Major Group No. (from list above)
Managerial and professional specialty occupations	1, 2
Technical, sales, and administrative support occupations	3, 4, 5
Service occupations	6, 7, 8
Farming, forestry, and fishing occupations	9
Precision production, craft, and repair occupations	10
Operators, fabricators, and laborers	11, 12, 13

As stated above, the SOC major group and minor group levels are not formally included in the census classification, but are sometimes shown to enhance the understanding of census detailed distributions. These major and minor group headings are also considered and often used in developing the shorter occupational listings used for some reports.

The 1980 census had 503 detailed occupational categories. This number relates to 664 SOC unit groups or equivalents. (Not every SOC minor group has unit groups listed under it. In these cases, we counted the minor group as a unit group.) The primary reason for fewer census detailed occupations than SOC unit groups is that the responses given on the census questionnaire are often not specific enough to classify into one of the SOC unit groups. One major example is in the SOC division for production working occupations. The SOC has separate major groups for "machine setup operators," and "machine operators and tenders." Census responses are not adequate to distinguish between these two groups so they were combined for the census. Forty-nine census machine operator detailed occupations account for 95 SOC unit groups.

Although the 1980 census classification has 503 detailed categories, the occupational tables found in census reports range from 6 summary groups to 701 data lines. The most detailed listings exceed 503 because: 1) they include summary, major group, and other headings in addition to the detailed categories; and 2) some occupations are subdivided by industry and/or class of worker categories. For example, in one detailed listing the line for the "managers and administrators, n.e.c." is subdivided for "salaried" workers into 17 industry categories, and for "self-employed" workers into the same 17 industries.

Tables 5A-C present the relationship between the 1970 and 1980 major occupation groups and the shift of occupations from one major group to another. The paragraphs below describe the major structural changes made to the 1970 occupation classification to bring the 1980 classification into conformity with the SOC.

1. The major group "executive, administrative, and managerial occupations" basically replaces the 1970 major group for "managers" except for differences noted below.
2. A minor group called "management related occupations" includes "accountants and auditors" and "personnel, training, and labor relations specialists" which were classified in the 1970 "professional" major group.
3. "Working proprietors" in sales occupations and other sales managers who perform some of the same duties as the workers they supervise are classified as "sales supervisors" rather than "managers."
4. The movement of some managers to the major group "precision production, craft, and repair occupations" is similar to the change for working proprietors like those described in "sales" above. See the "supervisory" craft categories.
5. "Technicians" are now a separate major group. In 1970, they were the "technical" part of the major group "professional, technical, and kindred workers."
6. "Licensed practical nurses" are now classified as health technicians, but were included among health service workers in 1970.
7. "Cashiers" and some "counter clerks, except food" were transferred from "clerical" to "sales."
8. The new major group "protective service occupations" was a subgroup under the 1970 major group "service workers, except private household."
9. Agricultural occupations are expanded to include related "off-farm" activities, so that former laborers such as "animal caretakers" and "groundskeepers and gardeners" are transferred to the 1980 "farm" major group.
10. "Precision production, craft, and repair occupations" is roughly the 1970 "craft" major group. It includes also such 1970 operatives as "butchers and meat cutters," "dressmakers," "drywall installers," "precision assemblers," and some of the mine operatives.
11. The new census major group for "machine operators" includes "job setters" (persons who set up a machine for others) and "printing press operators" who were in the "craft" group in 1970.
12. The 1980 major group "transportation and material moving occupations" also contains former "craft" occupations. The transportation occupations now contain locomotive engineers and firemen. Most of the "material moving" portion contains the detailed categories that came from the 1970 craft major group. The largest of these categories are "operating engineers," "excavating and loading machine operators," and "grader, dozer, and scraper operators."
13. The major group "handlers, equipment cleaners, helpers, and laborers" includes a number of 1970 "operative occupations." Two 1970 operative categories moved are "hand packers and packagers" and "garage workers and service station attendants." Most of the remainder came out of the 1970 large residual categories. One such category is "machine feeders and offbearers." Also many helpers were moved from the 1970 "operatives" to the 1980 "handlers...laborers" major group.

There was one processing change that caused another break in comparability between 1970 and 1980. In 1970 the Bureau allocated "not reported" cases for the first time. However, the allocation was not done at the detailed category level, but to each of the major groups. The last category in each major group had a line titled "major group name—allocated," for example, "sales workers—allocated." Thus the major group totals included a portion of the nonresponses, but the detailed categories did not have any allocated cases. In 1980 the not reported cases were allocated to detailed categories. On average 6.7 percent of the employed had occupation allocated. When we adjusted the 1970 data shown in this report, we prorated the cases in each 1970 allocation category among the detailed categories in the major group of the allocation category. Therefore, the 1970 experienced civilian labor force (ECLF) counts for each occupation shown in Table 1 will average 6.7 percent higher than the counts published after the 1970 Census. The percent allocated did differ by major group. For example, for male professionals the rate was 4.4 percent, but for male laborers it was 8.6 percent. This processing change also makes 1980 categories that conceptually are identical to 1970 categories larger because of the inclusion of the not reported cases. For more information on this topic, see U.S. Bureau of the Census, 1970 Census of Population and Housing, *Procedural History*, PHC(R)-I, Chapter 15, page 38.

The revision of the 1970 occupational classification for 1980 had a different focus than the 1960 revision did for 1970. As stated above, the purpose of the 1970-1980 revision was to bring the classification into conformity with the SOC. The greatest criticism of the 1960 system was that eight large "not elsewhere classified" (n.e.c.) categories contained one-third of the labor force. The task in preparing the 1970 classification was to search these large "n.e.c." categories for occupational groups that could be identified separately. For 1970 the Bureau added 132 occupational categories plus the 12 allocation categories. These 144 new categories gave the 1970 system a total of 441. The revision

for 1980 added 74 new categories, but deleted the 12 allocation categories for a net increase of 62. The 1960-1970 revision had fewer content changes among categories present in both censuses than did the 1970-1980 revision. There were also fewer existing categories moved from one major group to another in the earlier revision. Therefore, even though more categories were added for 1970, the comparability between 1960 and 1970 was greater than that between 1970 and 1980.

Table 1 shows the relationship between 1970 and 1980 detailed occupations sorted by the 1970 categories; Table 2 shows the same relationship sorted by the 1980 categories. Approximately 16 percent of the 1970 occupation categories correspond to a single 1980 occupation category. See the section below for "Explanation of the Tables" for more details about using the tables.

REVISIONS TO THE INDUSTRIAL CLASSIFICATION

The 1980 census industrial classification is based on the 1972 Standard Industrial Classification (SIC) and its 1977 Supplement prepared by the Office of Management and Budget.³ The 1980 classification contains 232 categories compared to 227 in 1970. Tables 6A-C present the 1970 census industry data in terms of the 1970 major industry classification cross-classified by the 1980 major industry groups.

Most of the changes reflect revisions to the SIC since the development of the 1970 census industry system. Three such major revisions are:

1. The U.S. Postal Service was transferred from "public administration" to "transportation."
2. Wholesale and retail trade are now two separate major groups, giving the census industry classification 13 major groups instead of 12.
3. "Public administration" is now classified by primary activity, for example, "public finance;" rather than by level of government, as in Federal, state, or local.

Minor changes to the 1980 industry classification are:

- Detailed 1970 categories for construction and several chemical manufacturing industries are combined in 1980 because respondents in the Population Censuses do not provide enough information to make the proper detailed distinctions shown in the 1970 system.

- Agriculture production is separately identified as "crops" or "livestock."
- Nondurable goods manufacturing industries are listed before durable goods to better follow the SIC order.

As with occupation, the 1970 and 1980 census industrial classification systems did not strictly follow the hierarchical format of the SIC.

The SIC has the four levels of division, major group (two digit), group (three digit), and industry (four digit).

This hierarchical level is similar to that described above for the SOC. That is because the SOC was modeled after the SIC which was first developed in the late 1930's. The hierarchical relationship between the SIC and the Census industrial classification system is as follows:

SIC Levels		Census Levels	
Title	No. of Categories ⁴	Title	No. of Categories
Division	10	Major group	13
Major Group	83		-
Three digit industry group	422		-
Four digit industry	1004	Detailed industry	231

The 13 census major groups generally correspond to the 10 SIC divisions: nine SIC divisions match nine census major groups; four census major groups equate to the SIC division for "services." These four major groups are "business and repair services," "personal services," "entertainment and recreation services," and "professional and related services." The census major groups have been very stable over the years. The split of wholesale and retail trade into two major groups was the first change since the present system was established in 1940.

The 1980 census industrial classification had 231 detailed categories. The 1970 system had 213 industrial categories plus 14 allocation categories for a total of 227. The SIC has 1005 four-digit categories. The census classifications had fewer categories because the industrial descriptions reported in the census are not detailed enough to identify many of the detailed SIC categories. For example, many employees of a chemical manufacturing plant do not report whether the firm's product is organic chemicals or inorganic chemicals; the SIC makes this distinction, but the census classification does not.

⁴Does not include Division K, nonclassifiable, establishments and its subcategories.

⁵In the census classification system, additional "minor group" headings are shown but are unnumbered and are not accorded any official status.

³Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; Stock No. 041-001-00066-6. 1977 Supplement; Stock No. 003-005-00176-0.

The processing change described in the occupation section of allocating nonresponses to detailed categories in 1980 rather than to major groups as in 1970, also applies to industry. Detailed industry categories published in 1970 census reports did not have any nonresponse cases allocated to them, but similar categories in the 1980 reports did include such cases. The 1980 industry nonresponse rate averaged 6.7 percent.

Table 3 shows the relationship between 1970 and 1980 detailed industries sorted by the 1970 categories; and Table 4 shows the same relationships sorted by the 1980 categories.

There are many more one-to-one matches of detailed industries than for occupation. About 53 percent of the industry categories are identical for the two censuses. This is so because there were fewer changes for industry than for occupation.

DATA RESOURCES

We used the following sources to develop the 1980 census occupational and industry classification systems:

1. *Standard Occupational Classification Manual: 1980*—This manual provided the criteria and structure for the 1980 occupation classification.
2. *Standard Industrial Classification Manual: 1972 and its 1977 Supplement*—This manual provided the structure for the 1980 industry classification.
3. *1970 Census of Population: Classified Index of Industries and Occupations*—This volume lists the individual job titles that constitute each 1970 census category.
4. *1970 Census Sample*—This is a sample of 127,125 persons in the "experienced civilian labor force" drawn from respondents to the 1970 census long form questionnaire. This sample was used to determine what fraction of the cases with a given 1970 code correspond to each of several 1980 codes. See the detailed discussion in the section called "1970 Census Sample" below.
5. *Current Population Survey (CPS)*—This is a sample survey of households conducted each month by the Bureau of the Census for the Department of Labor's Bureau of Labor Statistics. It provides detailed information on the labor force, the employed, and the unemployed. We reviewed actual responses to the industry and occupation questions to identify new job titles and job terminology.
6. *Dictionary of Occupational Titles (DOT)*—This volume provided occupation descriptions of work activities associated with jobs.

7. *County Business Patterns: 1976, U.S. Summary*—This volume contains first-quarter employment data by SIC industry. We compared detailed industry employment in the 1976 County Business Patterns to the 1970 census industry categories to determine if industries not shown separately in 1970 had grown large enough to be shown in 1980.

1970 CENSUS SAMPLE

The sample used to make the estimates shown in this report consisted of 127,125 persons in the experienced civilian labor force (ECLF) from the 1970 Census of Population.

The narrative descriptions of the industry and the "kind of work performed" (occupation) reported by these persons were coded to 1970 classifications during census processing. We recoded the responses into the categories of the 1980 industry, occupation, and class of worker classifications. We also verified the 1970 coding and entered the correct code on the record if an error was made by the 1970 census coder. This "double coded" sample was used to determine 1970 categories that were reclassified into more than one 1980 category, and what fraction of the cases with a given 1970 code correspond to each 1980 category.

As from any sample, the proportions shown in the comparability tables are subject to sampling error, especially when the numbers for a detailed category are very small. Furthermore, since the sample is from 1970, it reflects the occupational composition at that date. Because occupations change over time, the sample would be less useful for other time periods. Surveys and other data bases may measure the industrial and occupational distribution of the labor force differently from the decennial census. Therefore, although the *adjustment factors contained in this paper can be used for other data sources*, the conversion may not be as accurate as for data from the 1970 census. Keep in mind also that these factors will vary in accuracy for different races or other subgroups and for different geographic areas. See the section on "Reliability of the Data" for a more detailed discussion of sampling variability.

Calculation of the Adjustment Factors

Columns 4, 6, and 8 of Tables 1 and 3 contain adjustment factors representing an estimate of the percent of a 1970 category that would be in a different category in the 1980 classification system. We calculated the adjustment percents from the tally of industry and occupation responses in the 1970 census sample. Using a separate tally for each 1970 industry and occupation category, we counted the number of cases containing the industry descriptions or occupation job titles that were classified into each 1980 category. The

adjustment percent equals 100 times the number of cases transferred to each 1980 category divided by the total number of cases in the 1970 category. We calculated adjustment percents separately for the total labor force, males and females.

These adjustment percents were then applied to the data published in the *1970 Census of Population, Detailed Characteristics, United States Summary*, Table 221 (occupation) and Table 235 (industry), to produce numerical estimates of the changes. For example, we split the 1970 industry "department and mail order establishments" (1970 code 609) into two distinct categories in 1980: "department stores" (1980 code 591) and "mail order houses" (1980 code 662). In the 1970 sample there were 24 females working for mail order houses out of the total 1,819 female respondents for the 1970 category. Therefore, mail order houses formed 1.319406 percent of this category. Multiplying this percent by the 1970 total of 1,119,311 women in the experienced civilian labor force in the 1970 category "department and mail order establishments" produces an estimate of 14,768 for the 1980 category "mail order houses."

EXPLANATORY NOTES

(1) This report may show a higher final 1970 ECLF figure for specific detailed categories than was published in 1970 because of the inclusion of the allocation cases among the detailed industry and occupation categories. See the discussion of 1970 allocation categories on page 3.

(2) The inclusion of the corrected 1970 "error" cases into the tally means that the 1970 data displayed in 1980 terms (Tables 2 and 4) may differ from 1970 data shown in similar tables published in earlier 1980 census

reports. Error cases were those responses on the 1970 sample that we discovered were coded incorrectly in the 1970 census processing. In this report the error cases were included in the 1970 category that should have been assigned. In the earlier adjustments we excluded these cases.

(3) Thirty occupation categories in the 1970 census sample contained no females. The full 1970 ECLF counts for women in these occupations was small. To make the component 1980 categories (Table 1) sum to the correct "Total, ECLF" we have assumed the same proportional flows as for men and assigned the same adjustment percents. The 30 occupations by code are:

025	221	433	536	704	752
110	403	440	540	710	760
155	404	445	560	712	763
161	421	449	601	713	824
170	423	520	701	750	935

EXPLANATION OF THE TABLES

All tables in this report show 1970 census data for the experienced civilian labor force for the United States in terms of the 1970 and 1980 census classification structures. The adjustment percents derived from the 1970 census sample produced the 1970 ECLF data shown in Tables 1 and 3. Tables 2 and 4 report that same data by the 1980 classification code. Illustrations of the box-head for occupation Tables 1 and 2 are shown below. Tables 3 and 4 are the corresponding industry tables.

Table 1 displays the 1970 occupation classification scheme in terms of the 1980 structure. The content of the columns is described below. The format of the corresponding industry table (Table 3) is the same.

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS							
001	ACCOUNTANTS	747 190	100.00	549 602	100.00	197 588	100.00
	007 FINANCIAL MANAGERS	9 810	1.31	5 948	1.08	3 862	1.95
	023 ACCOUNTANTS AND AUDITORS	640 112	85.67	474 061	86.26	166 051	84.04
	025 OTHER FINANCIAL OFFICERS	50 930	6.82	30 335	5.52	20 505	10.42
	036 INSPECTORS AND COMPLIANCE OFFICERS, EXCEPT CONSTRUCTION	14 870	1.99	14 870	2.71	0	00
	337 BOOKKEEPERS, ACCOUNTING, AND AUDITING CLERKS	31 467	4.21	24 387	4.44	7 080	3.58
002	ARCHITECTS	59 475	100.00	57 339	100.00	2 136	100.00
	043 ARCHITECTS	52 454	88.20	50 318	87.76	2 136	100.00
	053 CIVIL ENGINEERS	4 096	6.89	4 096	7.14	0	00
	058 MARINE ENGINEERS AND NAVAL ARCHITECTS	2 925	4.92	2 925	5.10	0	00
003	COMPUTER PROGRAMMERS	171 788	100.00	132 988	100.00	39 400	100.00
	064 COMPUTER SYSTEMS ANALYSTS AND SCIENTISTS	7 943	4.62	7 943	6.00	0	00
	229 COMPUTER PROGRAMMERS	163 845	95.38	124 445	94.00	39 400	100.00
004	COMPUTER SYSTEMS ANALYSTS	84 804	100.00	72 127	100.00	12 677	100.00
	064 COMPUTER SYSTEMS ANALYSTS AND SCIENTISTS	84 804	100.00	72 127	100.00	12 677	100.00
005	COMPUTER SPECIALISTS, N.E.C.	14 029	100.00	12 078	100.00	1 951	100.00
	064 COMPUTER SYSTEMS ANALYSTS AND SCIENTISTS	14 029	100.00	12 078	100.00	1 951	100.00
006	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	72 001	100.00	70 748	100.00	1 253	100.00

- Column (1) — 1970 classification code.
- (2) — 1970 category title shown opposite its code followed by the listing of the component 1980 categories.
- (3) (5) (7) — 1970 "experienced civilian labor force" totals shown by sex for the 1970 categories and the amount represented by their component 1980 categories.
- (4) (6) (8) — Percent of the 1970 category classified into each 1980 category.

The footnote symbols 1, 2, or 3 beside the 1970 occupation codes identify those 1970 occupations with a high degree of comparability with one 1980 occupation code or with the 1980 occupation category with the same or similar name. Two conditions must be met: 1) at least 90 percent (column 4, Table 1) or more of the persons in a 1970 category are classified into one 1980 category and 2) that same 1970 category must comprise at least 90 percent of its 1980 counterpart in Table 2. The lower of the two percents determines the level of comparability. Similarly, the level of comparability for a 1970 industry code is based on the lower of the percent pairs in industry Tables 3 and 4. The three levels of comparability are:

- 1 = Directly comparable
- 2 = Estimated to be at least 95 percent comparable
- 3 = Estimated to be between 90 and 94.9 percent comparable

Table 1 (see illustration) displays the proportional flows by sex from each 1970 occupation category into its equivalent 1980 categories. Table 1 shows, for example, that 1970 occupation category 001, "accountants" went into five categories for 1980. The majority

went to 1980 category 023, "accountants and auditors." Other "accountants" in 1970, however, would be classified in 1980 as "financial managers" (007), "other financial officers" (025), "inspectors and compliance officers, except construction" (036), and "bookkeepers, accounting and auditing clerks" (337).

When only one 1980 category appears for a 1970 code, then that entire 1970 category went into a single 1980 category. For example, all persons in 1970 occupation category 015, "metallurgical and materials engineers," went to 1980 category 045, same title. (See the full Table 1 for this and other examples.) The reverse, however, is not necessarily true. Some persons in 1980 category 045 were not in 1970 category 015.

Table 2 (see illustration) shows the same 1970 census data, but in the reverse of the format of Table 1, that is, the 1980 occupational classification in terms of the 1970 categories. The corresponding industry table is Table 4.

Table 2 identifies which 1970 occupations contribute to each the 1980 category. But we advise readers to check Table 1 to compare the proportion of each 1970 occupation category being transferred to the 1980 category. In some cases, the amount is very small. In the example above, Table 2 shows that all of 1980 occupation category 003, "legislators," is derived from the 1970 category 222, "officials and administrators; public administration, n.e.c."

The same is true for 1980 category 004, "chief executives and general administrators, public administration." But the full Table 1 shows that only 1.8 percent of 1970 category 222 formed all of 1980 category 003; another 1.6 percent formed all of 1980 category 004. The majority (85 percent) of 1970 category 222 became 1980 category 005, "officials and administrators, public administration" (Table 1) and comprises 85 percent of that same category (Table 2).

EXECUTIVE, ADMINISTRATIVE, AND MANAGERIAL OCCUPATIONS						
003	LEGISLATORS.....	4 735	100.00	4 735	100.00	0 .00
	222 OFFICIALS AND ADMINISTRATORS; PUBLIC ADMINISTRATION, N.E.C.....	4 735	100.00	4 735	100.00	0 .00
004	CHIEF EXECUTIVES AND OFFICIALS, PUBLIC ADMINISTRATION.....	4 059	100.00	4 059	100.00	0 .00
	222 OFFICIALS AND ADMINISTRATORS; PUBLIC ADMINISTRATION, N.E.C.....	4 059	100.00	4 059	100.00	0 .00
005	ADMINISTRATORS AND OFFICIALS, PUBLIC ADMINISTRATION.....	249 478	100.00	196 082	100.00	53 396 100.00
	056 PERSONNEL AND LABOR RELATIONS WORKERS.....	1 407	.56	1 407	.72	0 .00
	201 ASSESSORS, CONTROLLERS, AND TREASURERS; LOCAL PUBLIC ADMINISTRATION.....	27 598	11.06	16 264	8.29	11 334 21.23
	212 HEALTH ADMINISTRATORS.....	1 436	.58	1 436	.73	0 .00
	220 OFFICE MANAGERS, N.E.C.....	485	.19	485	.25	0 .00
	222 OFFICIALS AND ADMINISTRATORS; PUBLIC ADMINISTRATION, N.E.C.....	217 951	87.36	175 889	89.70	42 062 78.77
	245 MANAGERS AND ADMINISTRATORS, N.E.C.....	601	.24	601	.31	0 .00
006	ADMINISTRATORS, PROTECTIVE SERVICES.....	26 269	100.00	26 269	100.00	0 .00
	961 FIRE FIGHTERS.....	11 772	44.81	11 772	44.81	0 .00
	964 POLICE AND DETECTIVES.....	14 497	55.19	14 497	55.19	0 .00
007	FINANCIAL MANAGERS.....	224 944	100.00	180 874	100.00	44 070 100.00

THE CLASSIFICATION SYSTEMS

Appendixes A through D list the 1970 and 1980 census occupational and industrial classification systems:

- Appendix A. 1970 Occupational Classification
- Appendix B. 1980 Occupational Classification
- Appendix C. 1970 Industrial Classification
- Appendix D. 1980 Industrial Classification

Generally, the appendixes present the occupation and industry categories as shown in the detailed tables of this report. However, there are some exceptions.

The detailed tables will not show the special allocation categories devised to tabulate nonresponses in the 1970 census. As discussed above, the published detailed tabulations in 1970 show the nonresponse in special categories as the last line in each major group, for example, "professional, technical, and kindred workers—allocated" or "mining—allocated." However, for 1980 the census computer edit assigned nonresponses to the detailed occupation and industry categories. The result is that the final 1970 experienced civilian labor force data shown in this report for a specific occupation or industry will be slightly higher than the published figures in the 1970 detailed occupation tables cited on page 6 of this text.

We do not show some 1970 occupations in the tables. We combined two groups of 1970 occupation categories because we had no way of estimating the size of the individual categories. (These combinations were used in the 1970 tabulations so data on the individual categories is unavailable.) The tables list only the first occupation code of the code combination. These two 1970 occupation groupings are shown in the tables as:

- (1) Code "333—Messengers, including telegraph, and office helpers," that includes occupation categories 333 and 383.
- (2) Code "571—Craft and kindred workers, n.e.c.," that includes occupation categories 571, 572, and 575.

Some 1980 occupations do not appear in the tables at all. Usually these are occupations that employed few people at the time of the 1970 census, and contained no cases in the 1970 census sample. We did not try to estimate the size of these occupations. An asterisk (*) marks these lines in Appendix B.

SPECIAL NOTES

Users who want to match other detailed data from the 1970 Census of Population to the 1980 classification should also make this additional adjustment. This

adjustment is needed to account for the allocation categories found in the 1970 data. Before applying the adjustment factors shown in Tables 1 and 3, multiply the published employment figure for each 1970 detailed category by the major group factor (C) using the formula below.

$$\text{Adjusted detailed category (A)} = \text{Detailed category (B)} \times \frac{\text{Major group (C)}}{\text{Major group minus Allocation category}}$$

To be consistent with census processing, do not include 1970 occupation code 580, "former members of the Armed Forces" or industry code 398, "not specified manufacturing" in this adjustment. Nonresponse cases were never allocated to these two special purpose categories. For manufacturing, treat "durable goods" and "nondurable goods" as major groups.

The Bureau of the Census, in conjunction with the Social Science Research Council and with additional funding from the National Science Foundation, has imputed 1980 industry and occupation codes to two of the Public Use Samples of microdata records from the 1970 census. The samples selected for these imputed codes were the one-in-a-hundred County Group Public Use Samples, which identified SMSA's over 250,000 population.

The 1980 codes were assigned by a logistic regression methodology, which used each person's 1970 code combined with other demographic and socio-economic characteristics to impute a 1980 equivalent code. Data users who have produced their own tabulations from the 1980 Public Use Files can use the 1980 industry and occupation codes on these modified 1970 Files to produce similar tallies for 1970, thus eliminating the problems of classification non-comparability.

Copies of these modified 1970 files are available for purchase from the Data Users Services Division of the Bureau of the Census. For more information on these files write to the Chief, Labor Force Statistics Branch, Housing and Household Economic Statistics Division, Bureau of the Census.

RELIABILITY OF THE DATA

The sample for this study was selected in two stages. In the first stage, a sample of enumeration districts (ED's) was selected. In the second stage, a sample of persons in the 1970 experienced civilian labor force was selected independently within sample ED's.

The data presented in this report are based on this 127,125 case sample of the 1970 census experienced civilian labor force. These data are estimates of the values that would have been obtained if the study had been made on all persons in the 1970 experienced civilian labor force.

The deviation of a sample estimate from the average of all possible samples is called the sampling error. The standard error of a survey estimate is a measure of the variation among the estimates from all possible samples and thus, is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. A sample estimate and its estimated standard error may be used to construct confidence intervals about the estimate.

These intervals will contain the average value of the estimated characteristic that results over all possible samples, with a known probability. For example, if all possible samples that could result under the sample design were independently selected and data collected under the same conditions, and if the estimate and its estimated standard error were calculated for each of these samples, then:

- (1) approximately 68 percent of the intervals from one estimated standard error below the estimate to one estimated standard error above the estimate would contain the average result from all possible samples; and
- (2) approximately 95 percent of the intervals from two estimated standard errors below the estimate to two estimated standard errors above the estimate would contain the average result from all possible samples.

The intervals are referred to as 68-percent and 95-percent confidence intervals, respectively.

In addition to the variability which arises from the sampling procedures, the results are subject to errors of response, misclassification and other possible systematic biases arising in the processing or estimation steps. These nonsampling errors may affect the data in two ways. Errors that are introduced randomly will increase the variability of the data and should therefore be reflected in the standard error. Error that tends to be consistent in one direction will make results biased in that direction. Such biases are not reflected in the standard error.

The estimated standard errors given in this report do not include all portions of the variability due to nonsampling errors that may be present in the data. Thus, the standard errors calculated represent a lower bound of the total error. As a result, confidence intervals formed

using these estimated standard errors may not meet the stated levels of confidence. Thus, some care must be exercised in the interpretation of the data in this publication based on the estimated standard errors.

CALCULATION OF STANDARD ERRORS

Totals and Percentages —Table A displays the approximate standard errors of the estimate of totals of Tables 1 to 4. Table B displays the approximate standard errors for the percentages listed in the column labeled "Percent of 1970 Category" of Table 1 or 3.

The standard error of an estimated number listed in Tables 1 to 4 (columns entitled "experienced civilian labor force") depends on both the size of the estimate and the size of the 1970 category from which it is derived. Table A presents the standard errors for 1970 estimated totals. Standard errors for estimated numbers or percents not shown in Tables A or B may be approximated by linear interpolation.

Example 1

Table 2 shows 7,496 male "sales managers and department heads, retail trade" as a subgroup of "purchasing managers" (1980 code 009). To determine the standard error of this number, look in Table 1 for the 1970 estimate of "sales managers and department heads, retail trade" (1970 code 231) which is 165,293. This is the 1970 base of the number. Table A shows a standard error of 2,272 for the estimate 7,496 with a base of 165,293 using linear interpolation between the appropriate columns and rows.

To compute standard errors on the resultant 1980 (or 1970) estimate listed in the columns labeled "experienced civilian labor force," in Table 2 (or Table 1), compute the standard error for each 1970 (or 1980) component comprising the 1980 (or 1970) total and compute the square root of the sum of squares of the 1970 (or 1980) standard errors. That is,

$$SE(1980) = \sqrt{\sum [SE(1970)]^2} \text{ or } SE(1970) = \sqrt{\sum [SE(1980)]^2}$$

Where \sum denotes the sum of the 1970 (or 1980) components of the 1980 (or 1970) total. To determine the standard error of each 1970 (or 1980) component of a given 1980 (or 1970) estimate of the size of an occupation, follow the procedure explained in example 1.

Standard errors for the percentages listed in the column labeled "Percent of 1970 Category" in Table 1 are calculated in a similar manner as shown in the example, using the standard errors for percents listed in Table B. Standard errors for the percentages listed in the column labeled "Percent of 1980 Category" of

TABLE A. STANDARD ERRORS OF ESTIMATED 1970 TOTALS

Estimated number in sub-group	Population in 1970 occupation or industry group													
	1,000	2,500	5,000	7,500	10,000	20,000	50,000	75,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000
100	260	269	272	273	273	274	274	274	274	274	274	274	274	274
500	434	549	582	593	598	606	611	612	612	613	613	614	614	614
1,000	-	672	776	808	823	846	859	862	864	866	867	867	868	868
2,500	-	-	970	1,120	1,183	1,284	1,338	1,349	1,355	1,365	1,369	1,371	1,372	1,372
5,000	-	-	-	1,120	1,372	1,681	1,841	1,875	1,892	1,921	1,931	1,936	1,940	1,940
10,000	-	-	-	-	-	1,941	2,455	2,555	2,604	2,689	2,717	2,731	2,742	2,743
20,000	-	-	-	-	-	-	3,007	3,324	3,472	3,723	3,803	3,842	3,874	3,878
25,000	-	-	-	-	-	-	3,069	3,543	3,758	4,117	4,230	4,285	4,329	4,334
50,000	-	-	-	-	-	-	-	3,543	4,340	5,489	5,822	5,982	6,106	6,122
75,000	-	-	-	-	-	-	-	-	3,758	6,289	6,930	7,229	7,460	7,488
100,000	-	-	-	-	-	-	-	-	-	6,723	7,763	8,234	8,592	8,636
250,000	-	-	-	-	-	-	-	-	-	-	9,704	11,985	13,376	13,550
500,000	-	-	-	-	-	-	-	-	-	-	-	13,723	18,411	18,916
1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	24,549	26,036
2,500,000	-	-	-	-	-	-	-	-	-	-	-	-	30,686	37,582
5,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	43,396

TABLE B. STANDARD ERRORS OF ESTIMATED 1970 PERCENTAGES

Estimated percentage of 1970 total	Population in 1970 occupation or industry group													
	1,000	2,500	5,000	7,500	10,000	20,000	50,000	75,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000
1	8.6	5.5	3.9	3.2	2.7	1.9	1.2	1.0	0.9	0.5	0.4	0.3	0.1	0.1
5	18.9	12.0	8.5	6.9	6.0	4.2	2.7	2.2	1.9	1.2	0.8	0.6	0.3	0.2
10	26.0	16.5	11.6	9.5	8.2	5.8	3.7	3.0	2.6	1.6	1.2	0.8	0.4	0.3
20	34.7	22.0	15.5	12.7	11.0	7.8	4.9	4.0	3.5	2.2	1.6	1.1	0.5	0.3
25	37.6	23.8	16.8	13.7	11.9	8.4	5.3	4.3	3.8	2.4	1.7	1.2	0.5	0.4
50	43.4	27.4	19.4	15.8	13.7	9.7	6.1	5.0	4.3	2.7	1.9	1.4	0.6	0.4
75	37.6	23.8	16.8	13.7	11.9	8.4	5.3	4.3	3.8	2.4	1.7	1.2	0.5	0.4
80	34.7	22.0	15.5	12.7	11.0	7.8	4.9	4.0	3.5	2.2	1.6	1.1	0.5	0.3
90	26.0	16.5	11.6	9.5	8.2	5.8	3.7	3.0	2.6	1.6	1.2	0.8	0.4	0.3
95	18.9	12.0	8.5	6.9	6.0	4.2	2.7	2.2	1.9	1.2	0.8	0.6	0.3	0.2

Table 2 are computed using the following formula:

$$SE \left(\frac{x}{y} \right) = \sqrt{\left(\frac{x}{y} \right)^2 \left[\left(\frac{SE(x)}{x} \right)^2 + \left(\frac{SE(y)}{y} \right)^2 \right]}$$

Where:

- x = the 1970 category estimated total
- SE(x) = the standard error of x computed as shown in the example
- y = the 1980 category estimated total
- SE(y) = the standard error of y computed by using the formula given above for SE(1980)

Example 2

Table 2 shows that male "sales managers and department heads, retail trade" (1970 occupation code 231) represent 20.18 percent of male "purchasing managers" (1980 code 009). To determine the standard error of this estimate, use Table A and the two formulas described above. Using Table A and linear interpolation appropriately, the standard error of 20.18 percent is determined, to be 6.7 percent.

First, use formula 1 to determine the standard error of the 1980 estimate occupation code 009 (37,148). The standard error for 14,617 and 15,035 were determined to be 3,056 and 3,302, respectively. From example 1, the standard error of 7,496 is 2,272. Therefore,

$$SE(37,148) = \sqrt{(3,056)^2 + (3,302)^2 + (2,272)^2} = 5,040$$

Then, use formula 2 to determine the standard error of .20178 (where 7,496/37,148 = x/y.)

$$SE(.20178) = \sqrt{\left(\frac{7,496}{37,148} \right)^2 \left[\left(\frac{2,272}{7,496} \right)^2 + \left(\frac{5,040}{37,148} \right)^2 \right]} \quad .06701$$

RELATED REPORTS

The Bureau of the Census has published several reports that contain information on factors that affect comparability and describe differences in the industry and occupation statistics from earlier censuses. These include the following: *1970 Occupation and Industry Classification Systems in Terms of their 1960 Occupation and Industry Elements*, Technical Paper No. 26, 1972; *Changes Between the 1950 and 1960 Occupation and Industry Classifications With Detailed Adjustments of 1950 Data to the 1960 Classifications*, Technical Paper No. 18, 1968; *Occupational Trends in the*

United States, 1900 to 1950, Working Paper No. 5, 1958; and Sixteenth Census Reports, Population, *Comparative Occupation Statistics for the United States, 1870 to 1940*.

The special notes section describes the creation of 1970 census public use files with imputed 1980 industry and occupation codes. The following papers describe that project and the theory used to imput the codes. Schenker, Nathaniel, Donald J. Treiman, and Lynn Weidman. 1988. "Multiple imputation of industry and occupation codes for public-use data files." Paper presented at the annual meeting of the American Statistical Association, New Orleans, August, 1988. Trieman, Donald J., William T. Bielby, and Man-Tsun Cheng. 1988. "Evaluating a multiple-imputation method for recalibrating 1970 U.S. Census detailed industry codes to the 1980 standard." In *Sociological Methodology 1988*, edited by Clifford C. Clogg. Washington, DC: American Sociological Association. Treiman, Donald J., and Donald B. Rubin (eds.). 1989. *Multiple-Imputation Methods for Recalibrating Complex Classifications: the 1970 and 1980 Census Detailed Industry and Occupation Classifications* (working title). Forthcoming.

DEFINITIONS AND EXPLANATIONS

The data shown in this report were collected in the 1970 Census of Population. Therefore, the definitions refer to that census. The labor force definitions did not change between 1970 and 1980.

Census

The Bureau of the Census takes a number of censuses, for example, censuses of population, manufacturers, agriculture, and governments. However the term "Census" in this report refers to the Census of Population.

Reference Week

The data on labor force status relate to the calendar week before the one in which the respondents completed their questionnaires or were interviewed by enumerators. The reference week is not the same for all respondents because not all persons were enumerated during the same week. Since Census Day was April 1, 1970, the reference week for many respondents was the last week of March 1970.

Civilian Labor Force

The civilian labor force consists of persons classified as employed and unemployed according to the following criteria:

Employed—Employed persons include all civilians 16 years and over who were either (a) “at work”—those who did any work at all during the reference week as paid employees or in their own business, profession, or farm, or who worked 15 hours or more as unpaid workers on a family farm or in a family business; or (b) “with a job but not at work”—those who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons. Excluded from the employed are persons whose only activity consisted of work around the house or volunteer work for religious, charitable, and similar organizations.

Unemployed—Persons are classified as unemployed if they are civilians 16 years old and over and (a) were neither “at work” nor “with a job but not at work” during the reference week, (b) were looking for work during the last 4 weeks, and (c) were available to accept a job. Also included as unemployed are persons who did not work at all during the reference week and were waiting to be called back to a job from which they had been laid off.

Experienced Unemployed—Unemployed persons who have worked at any time in the past are classified as the “experienced unemployed.”

Experienced Civilian Labor Force—The “experienced civilian labor force” includes the employed and experienced unemployed.

Industry and Occupation

The 1970 census questionnaires obtained industry and occupation data for the employed, the experienced unemployed, and persons 16 years and over with work experience but not currently in the labor force. For the last two categories, the occupation is the most recent that a person held during the previous 10 years. For persons who worked at two or more jobs, the data refer to the job at which the person worked the greatest number of hours.

Class of Worker

The information on class of worker refers to the same job as the respondent’s industry and occupation. The definitions of the class of worker categories shown in this report are as follows:

Private wage and salary workers—Persons who work for a private employer for wages, salary, commission, tips, pay-in-kind, or at piece rates. This category also includes self-employed persons whose business is incorporated, because they are paid employees of their own companies.

Government workers—Employees of any Federal, state, or local governmental unit, regardless of the activity of the agency.

Self-employed workers—Persons who work for profit or fees in their own unincorporated business, profession, or trade; or who operate a farm.

Unpaid family workers—Persons who work without pay in a business or on a farm operated by a relative.

Salaried/Self-employed—In tabulations that categorize persons as either salaried or self-employed, the salaried category includes private and government wage and salary workers; while the self-employed includes self-employed persons and unpaid family workers.

SYMBOL AND ABBREVIATIONS

The following symbol and abbreviations are used in this report:

-	means zero
ECLF	experienced civilian labor force
n.e.c.	not elsewhere classified
SIC	Standard Industrial Classification
SMSA	Standard Metropolitan Statistical Area
SOC	Standard Occupational Classification

Appendix A. 1970 Census of Population Occupational Classification System

<u>1970 Code</u>		<u>1970 Code</u>	
	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS		PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS—Continued
001	Accountants	053	Physicists and astronomers
002	Architects	054	Life and physical scientists, n.e.c.
	Computer specialists	055	Operations and systems researchers and analysts
003	Computer programmers	056	Personnel and labor relations workers
004	Computer systems analysts		Physicians, dentists, and related practitioners
005	Computer specialists, n.e.c.	061	Chiropractors
	Engineers	062	Dentists
006	Aeronautical and astronautical engineers	063	Optometrists
010	Chemical engineers	064	Pharmacists
011	Civil engineers	065	Physicians, medical and osteopathic
012	Electrical and electronic engineers	071	Podiatrists
013	Industrial engineers	072	Veterinarians
014	Mechanical engineers	073	Health practitioners, n.e.c.
015	Metallurgical and materials engineers		Registered nurses, dietitians, and therapists
020	Mining engineers	074	Dietitians
021	Petroleum engineers	075	Registered nurses
022	Sales engineers	076	Therapists
023	Engineers, n.e.c.		Health technologists and technicians
024	Farm management advisors	080	Clinical laboratory technologists and technicians
025	Foresters and conservationists	081	Dental hygienists
026	Home management advisors	082	Health record technologists and technicians
	Lawyers and judges	083	Radiologic technologists and technicians
030	Judges	084	Therapy assistants
031	Lawyers	085	Health technologists and technicians, n.e.c.
	Librarians, archivists, and curators		Religious workers
032	Librarians	086	Clergy
033	Archivists and curators	090	Religious workers, n.e.c.
	Mathematical specialists		Social scientists
034	Actuaries	091	Economists
035	Mathematicians	092	Political scientists
036	Statisticians	093	Psychologists
	Life and physical scientists	094	Sociologists
042	Agricultural scientists	095	Urban and regional planners
043	Atmospheric and space scientists	096	Social scientists, n.e.c.
044	Biological scientists		Social and recreation workers
045	Chemists	100	Social workers
051	Geologists		
052	Marine scientists		

**1970
Code****PROFESSIONAL, TECHNICAL, AND
KINDRED WORKERS—Continued**

101	Recreation workers
	Teachers, college and university
102	Agriculture teachers
103	Atmospheric, earth, marine, and space teachers
104	Biology teachers
105	Chemistry teachers
110	Physics teachers
111	Engineering teachers
112	Mathematics teachers
113	Health specialties teachers
114	Psychology teachers
115	Business and commerce teachers
116	Economics teachers
120	History teachers
121	Sociology teachers
122	Social science teachers, n.e.c.
123	Art, drama, and music teachers
124	Coaches and physical education teachers
125	Education teachers
126	English teachers
130	Foreign language teachers
131	Home economics teachers
132	Law teachers
133	Theology teachers
134	Trade, industrial, and technical teachers
135	Miscellaneous teachers, college and university
140	Teachers, college and university, subject not specified
	Teachers, except college and university
141	Adult education teachers
142	Elementary school teachers
143	Prekindergarten and kindergarten teachers
144	Secondary school teachers
145	Teachers, except college and university, n.e.c.
	Engineering and science technicians
150	Agriculture and biological technicians, except health
151	Chemical technicians
152	Draftsmen
153	Electrical and electronic engineering technicians
154	Industrial engineering technicians
155	Mechanical engineering technicians
156	Mathematical technicians

**1970
Code****PROFESSIONAL, TECHNICAL, AND
KINDRED WORKERS—Continued**

161	Surveyors
162	Engineering and science technicians, n.e.c.
	Technicians, except health, and engineering and science
163	Airplane pilots
164	Air traffic controllers
165	Embalmers
170	Flight engineers
171	Radio operators
172	Tool programmers, numerical control
173	Technicians, n.e.c.
174	Vocational and educational counselors
	Writers, artists, and entertainers
175	Actors
180	Athletes and kindred workers
181	Authors
182	Dancers
183	Designers
184	Editors and reporters
185	Musicians and composers
190	Painters and sculptors
191	Photographers
192	Public relations specialists and publicity writers
193	Radio and television announcers
194	Writers, artists, and entertainers, n.e.c.
195	Research workers, not specified
196	Professional, technical, and kindred workers—allocated

**MANAGERS AND ADMINISTRATORS,
EXCEPT FARM**

201	Assessors, controllers, and treasurers; local public administration
202	Bank officers and financial managers
203	Buyers and shippers, farm products
205	Buyers, wholesale and retail trade
210	Credit and collection managers
211	Funeral directors
212	Health administrators
213	Construction inspectors; public administration
215	Inspectors, except construction; public administration
216	Managers and superintendents, building
220	Office managers, n.e.c.
221	Officers, pilots, and pursers; ship

<u>1970 Code</u>		<u>1970 Code</u>	
MANAGERS AND ADMINISTRATORS, EXCEPT FARM—Continued		CLERICAL AND KINDRED WORKERS—Continued	
222	Officials and administrators; public administration, n.e.c.	313	Collectors, bill and account
223	Officials of lodges, societies, and unions	314	Counter clerks, except food
224	Postmasters and mail superintendents	315	Dispatchers and starters, vehicle
225	Purchasing agents and buyers, n.e.c.	320	Enumerators and interviewers
226	Railroad conductors	321	Estimators and investigators, n.e.c.
230	Restaurant, cafeteria, and bar managers	323	Expeditors and production controllers
231	Sales managers and department heads, retail trade	325	File clerks
233	Sales managers, except retail trade	326	Insurance adjusters, examiners, and investigators
235	School administrators, college	330	Library attendants and assistants
240	School administrators, elementary and secondary	331	Mail carriers, post office
245	Managers and administrators, n.e.c.	332	Mail handlers, except post office
246	Managers and administrators, except farm— allocated	333	Messengers, including telegraph, and office helpers
SALES WORKERS		334	Meter readers, utilities
260	Advertising agents and sales workers		Office machine operators
261	Auctioneers	341	Bookkeeping and billing machine operators
262	Demonstrators	342	Calculating machine operators
264	Hucksters and peddlers	343	Computer and peripheral equipment operators
265	Insurance agents, brokers, and underwriters	344	Duplicating machine operators
266	Newspaper carriers and vendors	345	Key punch operators
270	Real estate agents and brokers	350	Tabulating machine operators
271	Stock and bond sales agents	355	Office machine operators, n.e.c.
280	Sales workers and sales clerks, n.e.c.	360	Payroll and timekeeping clerks
281	Sales representatives, manufacturing industries	361	Postal clerks
282	Sales representatives, wholesale trade	362	Proofreaders
283	Sales clerks, retail trade	363	Real estate appraisers
284	Sales workers, except clerks, retail trade	364	Receptionists
285	Sales workers, services and construction		Secretaries
296	Sales workers—allocated	370	Secretaries, legal
CLERICAL AND KINDRED WORKERS		371	Secretaries, medical
301	Bank tellers	372	Secretaries, n.e.c.
303	Billing clerks	374	Shipping and receiving clerks
305	Bookkeepers	375	Statistical clerks
310	Cashiers	376	Stenographers
311	Clerical assistants, social welfare	381	Stock clerks and storekeepers
312	Clerical supervisors, n.e.c.	382	Teacher aides, except school monitors
		384	Telegraph operators
		385	Telephone operators
		390	Ticket, station, and express agents
		391	Typists
		392	Weighers
		394	Miscellaneous clerical workers
		395	Not specified clerical workers
		396	Clerical and kindred workers—allocated

<u>1970 Code</u>		<u>1970 Code</u>	
	CRAFT AND KINDRED WORKERS		CRAFT AND KINDRED WORKERS—Continued
401	Automobile accessories installers	471	Aircraft mechanics
402	Bakers	472	Automotive body repairers
403	Blacksmiths	473	Automobile mechanics, except apprentices
404	Boilermakers	474	Automobile mechanic apprentices
405	Bookbinders	475	Data processing machine repairers
410	Brickmasons and stonemasons, except apprentices	480	Farm implement mechanics
411	Brickmason and stonemason apprentices	481	Heavy equipment mechanics, including diesel
412	Bulldozer operators	482	Household appliance and accessory installers and mechanics
413	Cabinetmakers	483	Loom fixers
415	Carpenters, except apprentices	484	Office machine repairers
416	Carpenter apprentices	485	Radio and television repairers
420	Carpet installers	486	Railroad and car shop mechanics
421	Cement and concrete finishers	491	Mechanics, except auto, apprentices
422	Compositors and typesetters, except apprentices	492	Miscellaneous mechanics and repairers
423	Printing trade apprentices, except printing press	495	Not specified mechanics and repairers
424	Crane, derrick, and hoist operators	501	Millers; grain, flour, and feed
425	Decorators and window dressers	502	Millwrights
426	Dental laboratory technicians	503	Molders, metal except apprentices
430	Electricians, except apprentices	504	Molder apprentices
431	Electrician apprentices	505	Motion picture projectionists
433	Electric power line and cable installers and repairers	506	Opticians, and lens grinders and polishers
434	Electrotypers and stereotypers	510	Painters, construction and maintenance, except apprentices
435	Engravers, except photoengravers	511	Painter apprentices
436	Excavating, grading, and road machine operators; except bulldozer	512	Paperhangers
440	Floor layers, except tile setters	514	Pattern and model makers, except paper
441	Blue-collar worker supervisors, n.e.c.	515	Photoengravers and lithographers
442	Forge and hammer operators	516	Piano and organ tuners and repairers
443	Furniture and wood finishers	520	Plasterers, except apprentices
444	Furriers	521	Plasterer apprentices
445	Glaziers	522	Plumbers and pipe fitters, except apprentices
446	Heat treaters, annealers, and temperers	523	Plumber and pipe fitter apprentices
450	Inspectors, scalers, and graders; log and lumber	525	Power station operators
452	Inspectors, n.e.c.	530	Printing press operators, except apprentices
453	Jewelers and watchmakers	531	Printing press apprentices
454	Job and die setters, metal	533	Rollers and finishers, metal
455	Locomotive engineers	534	Roofers and slaters
456	Locomotive firemen	535	Sheetmetal workers and tinsmiths, except apprentices
461	Machinists, except apprentices	536	Sheetmetal apprentices
462	Machinist apprentices	540	Shipfitters
	Mechanics and repairers	542	Shoe repairers
470	Air conditioning, heating, and refrigeration mechanics	543	Sign painters and letterers
		545	Stationary engineers
		546	Stone cutters and stone carvers

1970
Code1970
Code**CRAFT AND KINDRED
WORKERS—Continued**

550 Structural metal workers
551 Tailors
552 Telephone installers and repairers
554 Telephone line installers and repairers
560 Tile setters
561 Tool and die makers, except apprentices
562 Tool and die maker apprentices
563 Upholsterers
571 Craft and kindred workers, n.e.c.
580 Former members of the Armed Forces
586 Craft and kindred workers—allocated

**OPERATIVES, EXCEPT
TRANSPORT**

601 Asbestos and insulation workers
602 Assemblers
603 Blasters
604 Bottling and canning operatives
605 Surveyor helpers
610 Checkers, examiners, and inspectors;
 manufacturing
611 Clothing ironers and pressers
612 Cutting operatives, n.e.c.
613 Dressmakers, except factory
614 Drillers, earth
615 Dry wall installers and lathers
620 Dyers
621 Filers, polishers, sanders, and buffers
622 Furnace tenders, smelters, and pourers, metal
623 Garage workers and gas station attendants
624 Graders and sorters, manufacturing
625 Produce graders and packers, except factory
 and farm
626 Heaters, metal
630 Laundry and dry cleaning operatives, n.e.c.
631 Meat cutters and butchers, except
 manufacturing
633 Meat cutters and butchers, manufacturing
634 Meat wrappers, retail trade
635 Metal platers
636 Milliners
640 Mine operatives, n.e.c.
641 Mixing operatives
642 Oilers and greasers, except auto

**OPERATIVES, EXCEPT
TRANSPORT—Continued**

643 Packers and wrappers, except meat and
 produce
644 Painters, manufactured articles
645 Photographic process workers
Precision machine operatives
 Drill press operatives
651 Grinding machine operatives
652 Lathe and milling machine operatives
653 Precision machine operatives, n.e.c.
656 Punch and stamping press operatives
660 Riveters and fasteners
661 Sailors and deckhands
662 Sawyers
663 Sewers and stitchers
664 Shoemaking machine operatives
665 Solderers
666 Furnace tenders and stokers, except metal
Textile operatives
 Carding, lapping, and combing operatives
671 Knitters, loopers, and toppers
672 Spinners, twistors, and winders
673 Weavers
674 Textile operatives, n.e.c.
680 Welders and flame-cutters
681 Winding operatives, n.e.c.
690 Machine operatives, miscellaneous specified
692 Machine operatives, not specified
694 Miscellaneous operatives
695 Not specified operatives
696 Operatives, except transport—allocated

**TRANSPORT EQUIPMENT
OPERATIVES**

701 Boat operators
703 Bus drivers
704 Conductors and operators, urban rail transit
705 Delivery and route workers
706 Fork lift and tow motor operatives
710 Rail vehicle operators, n.e.c.
711 Parking attendants
712 Railroad brake operators and couplers
713 Railroad switch operators
714 Taxicab drivers and chauffeurs
715 Truck drivers
726 Transport equipment operatives—allocated

**1970
Code****1970
Code****LABORERS, EXCEPT FARM**

740 Animal caretakers, except farm
 750 Carpenters' helpers
 751 Construction laborers, except carpenters'
 helpers
 752 Fishers, hunters, and trappers
 753 Freight and material handlers
 754 Garbage collectors
 755 Gardeners and groundskeepers, except farm
 760 Longshore workers and stevedores
 761 Timber cutting and logging workers
 762 Stock handlers
 763 Teamsters
 764 Vehicle washers and equipment cleaners
 770 Warehouse laborers, n.e.c.
 780 Miscellaneous laborers
 785 Not specified laborers
 796 Laborers, except farm—allocated

FARMERS AND FARM MANAGERS

801 Farmers (owners and tenants)
 802 Farm managers
 806 Farmers and farm managers—allocated

FARM LABORERS AND SUPERVISORS

821 Farm supervisors
 822 Farm laborers, wage workers
 823 Farm laborers, unpaid family workers
 824 Farm service laborers, self-employed
 846 Farm laborers and supervisors—allocated

**SERVICE WORKERS, EXCEPT PRIVATE
HOUSEHOLD**

Cleaning service workers
 901 Lodging quarters cleaners, except private
 household
 902 Building interior cleaners, n.e.c.
 903 Janitors and sextons
 Food service workers
 910 Bartenders
 911 Waiters' assistants
 912 Cooks, except private household
 913 Dishwashers

**SERVICE WORKERS, EXCEPT PRIVATE
HOUSEHOLD—Continued**

914 Food counter and fountain workers
 915 Waiters
 916 Food service workers, n.e.c., except private
 household
 Health service workers
 921 Dental assistants
 922 Health aides, except nursing
 923 Health trainees
 924 Lay midwives
 925 Nursing aides, orderlies, and attendants
 926 Practical nurses
 Personal service workers
 931 Flight attendants
 932 Attendants, recreation and amusement
 933 Attendants, personal service, n.e.c.
 934 Baggage porters and bellhops
 935 Barbers
 940 Boarding and lodging housekeepers
 941 Bootblacks
 942 Child care workers, except private household
 943 Elevator operators
 944 Hairdressers and cosmetologists
 945 Personal service apprentices
 950 Housekeepers, except private household
 952 School monitors
 953 Ushers, recreation and amusement
 954 Welfare service aides
 Protective service workers
 960 Crossing guards and bridge tenders
 961 Fire fighters
 962 Guards
 963 Marshals and constables
 964 Police and detectives
 965 Sheriffs and bailiffs
 976 Service workers, exc. private household—
 allocated

**PRIVATE HOUSEHOLD
WORKERS**

980 Child care workers, private household
 981 Cooks, private household
 982 Housekeepers, private household
 983 Launderers, private household

1970
Code

1970
Code

**PRIVATE HOUSEHOLD
WORKERS—Continued**

984 Private household cleaners and servants
986 Private household workers—allocated

**PRIVATE HOUSEHOLD
WORKERS—Continued
WORKERS NOT CLASSIFIABLE
BY OCCUPATION**

991 Unemployed persons, last worked 1959 or
earlier

Appendix B. 1980 Census of Population Occupational Classification System

(The numbers in parentheses refer to the 1980 Standard Occupational Classification code equivalents. Pt means part. N.e.c. means not elsewhere classified.)

<u>1980 Code</u>		<u>1980 Code</u>	
MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS		MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS—Continued	
Executive, Administrative, and Managerial Occupations		Executive, Administrative, and Managerial Occupations—Continued	
003	Legislators (111)	034	Business and promotion agents (145)
004	Chief executives and general administrators, public administration (112)	035	Construction inspectors (1472)
005	Administrators and officials, public administration (1132-1139)	036	Inspectors and compliance officers, exc. construction (1473)
006	Administrators, protective services (1131)	037	Management related occupations, n.e.c. (149)
007	Financial managers (122)	Professional Specialty Occupations	
008	Personnel and labor relations managers (123)	Engineers, Architects, and Surveyors	
009	Purchasing managers (124)	043	Architects (161)
013	Managers, marketing, advertising, and public relations (125)	Engineers	
014	Administrators, education and related fields (128)	044	Aerospace engineers (1622)
015	Managers, medicine and health (131)	045	Metallurgical and materials engineers (1623)
016	Managers, properties and real estate (1353)	046	Mining engineers (1624)
017	Postmasters and mail superintendents (1344)	047	Petroleum engineers (1625)
018	Funeral directors (pt 1359)	048	Chemical engineers (1626)
019	Managers and administrators, n.e.c. (121, 126, 127, 132-139, exc. 1344, 1353, pt 1359)	049	Nuclear engineers (1627)
Management Related Occupations		053	Civil engineers (1628)
023	Accountants and auditors (1412)	054	Agricultural engineers (1632)
024	Underwriters (1414)	055	Electrical and electronic engineers (1633, 1636)
025	Other financial officers (1415, 1419)	056	Industrial engineers (1634)
026	Management analysts (142)	057	Mechanical engineers (1635)
027	Personnel, training, and labor relations specialists (143)	058	Marine and naval architects engineers (1637)
028	Purchasing agents and buyers, farm products (1443)	059	Engineers, n.e.c. (1639)
029	Buyers, wholesale and retail trade except farm products (1442)	063	Surveyors and mapping scientists (164)
033	Purchasing agents and buyers, n.e.c. (1449)	Mathematical and Computer Scientists	
		064	Computer systems analysts and scientists (171)
		065	Operations and systems researchers and analysts (172)
		066	Actuaries (1732)
		067	Statisticians (1733)

**1980
Code****MANAGERIAL AND
PROFESSIONAL SPECIALTY
OCCUPATIONS—Continued****Professional Specialty
Occupations—Continued**

068	Mathematical scientists, n.e.c. (1739)
	Natural Scientists
069	Physicists and astronomers (1842, 1843)
073	Chemists, except biochemists (1845)
074	Atmospheric and space scientists (1846)
075	Geologists and geodesists (1847)
076	Physical scientists, n.e.c. (1849)
077	Agricultural and food scientists (1853)
078	Biological and life scientists (1854)
079	Forestry and conservation scientists (1852)
083	Medical scientists (1855)
	Health Diagnosing Occupations
084	Physicians (261)
085	Dentists (262)
086	Veterinarians (27)
087	Optometrists (281)
088	Podiatrists (283)
089	Health diagnosing practitioners, n.e.c. (289)
	Health Assessment and Treating Occupations
095	Registered nurses (29)
096	Pharmacists (301)
097	Dietitians (302)
	Therapists
098	Inhalation therapists (3031)
099	Occupational therapists (3032)
103	Physical therapists (3033)
104	Speech therapists (3034)
105	Therapists, n.e.c. (3039)
106	Physicians' assistants (304)
	Teachers, Postsecondary
113	Earth, environmental, and marine science teachers (2212)
114	Biological science teachers (2213)
115	Chemistry teachers (2214)
116	Physics teachers (2215)
117	Natural science teachers, n.e.c. (2216)
118	Psychology teachers (2217)
119	Economics teachers (2218)
123	History teachers (2222)
124	Political science teachers (2223)

**1980
Code****MANAGERIAL AND
PROFESSIONAL SPECIALTY
OCCUPATIONS—Continued****Professional Specialty
Occupations—Continued**

125	Sociology teachers (2224)
126	Social science teachers, n.e.c. (2225)
127	Engineering teachers (2226)
128	Mathematical science teachers (2227)
129	Computer science teachers (2228)
133	Medical science teachers (2231)
134	Health specialties teachers (2232)
135	Business, commerce, and marketing teachers (2233)
136	Agriculture and forestry teachers (2234)
137	Art, drama, and music teachers (2235)
138	Physical education teachers (2236)
139	Education teachers (2237)
143	English teachers (2238)
144	Foreign language teachers (2242)
145	Law teachers (2243)
146	Social work teachers (2244)
147	Theology teachers (2245)
148	Trade and industrial teachers (2246)
149	Home economics teachers (2247)
153	Teachers, postsecondary, n.e.c. (2249)
154	Postsecondary teachers, subject not specified
	Teachers, Except Postsecondary
155	Teachers, prekindergarten and kindergarten (231)
156	Teachers, elementary school (232)
157	Teachers, secondary school (233)
158	Teachers, special education (235)
159	Teachers, n.e.c. (236, 239)
163	Counselors, educational and vocational (24)
	Librarians, Archivists, and Curators
164	Librarians (251)
165	Archivists and curators (252)
	Social Scientists and Urban Planners
166	Economists (1912)
167	Psychologists (1915)
168	Sociologists (1916)
169	Social scientists, n.e.c. (1913, 1914, 1919)
173	Urban planners (192)

<u>1980 Code</u>	MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS—Continued	<u>1980 Code</u>	TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS—Continued
	Professional Specialty Occupations—Continued		Technicians and Related Support Occupations—Continued
	Social, Recreation, and Religious Workers		Technologists and Technicians, Except Health
174	Social workers (2032)		Engineering and Related Technologists and Technicians
175	Recreation workers (2033)		Electrical and electronic technicians (3711)
176	Clergy (2042)	213	Industrial engineering technicians (3712)
177	Religious workers, n.e.c. (2049)	214	Mechanical engineering technicians (3713)
	Lawyers and Judges	215	Engineering technicians, n.e.c. (3719)
178	Lawyers (211)	216	Drafting occupations (372)
179	Judges (212)	217	Surveying and mapping technicians (373)
	Writers, Artists, Entertainers, and Athletes	218	Science Technicians
183	Authors (321)		Biological technicians (382)
184	Technical writers (398)	223	Chemical technicians (3831)
185	Designers (322)	224	Science technicians, n.e.c. (3832, 3833, 384, 389)
186	Musicians and composers (323)	225	Technicians; Except Health, Engineering, and Science
187	Actors and directors (324)		Airplane pilots and navigators (825)
188	Painters, sculptors, craft-artists, and artist printmakers (325)		Air traffic controllers (392)
189	Photographers (326)	226	Broadcast equipment operators (393)
193	Dancers (327)	227	Computer programmers (3971, 3972)
194	Artists, performers, and related workers, n.e.c. (328, 329)	228	Tool programmers, numerical control (3974)
195	Editors and reporters (331)	229	Legal assistants (396)
197	Public relations specialists (332)	233	Technicians, n.e.c. (399)
198	Announcers (333)	234	
199	Athletes (34)	235	
	TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS		Sales Occupations
	Technicians and Related Support Occupations		Supervisors and proprietors, sales occupations (40)
	Health Technologists and Technicians	243	Sales Representatives, Finance and Business Services
203	Clinical laboratory technologists and techni- cians (362)	253	Insurance sales occupations (4122)
204	Dental hygienists (363)	254	Real estate sales occupations (4123)
205	Health record technologists and technicians (364)	255	Securities and financial services sales occupations (4124)
206	Radiologic technicians (365)	256	Advertising and related sales occupations (4153)
207	Licensed practical nurses (366)	257	Sales occupations, other business services (4152)
208	Health technologists and technicians, n.e.c. (369)		Sales Representatives, Commodities Except Retail
		258	Sales engineers (421)

**1980
Code****TECHNICAL, SALES, AND
ADMINISTRATIVE SUPPORT
OCCUPATIONS—Continued****Sales Occupations—Continued**

259	Sales representatives, mining, manufacturing, and wholesale (423, 424)	308
	Sales Workers, Retail and Personal Services	309
263	Sales workers, motor vehicles and boats (4342, 4344)	313
264	Sales workers, apparel (4346)	314
265	Sales workers, shoes (4351)	315
266	Sales workers, furniture and home furnishings (4348)	316
267	Sales workers; radio, TV, hi-fi, and appliances (4343, 4352)	317
268	Sales workers, hardware and building supplies (4353)	318
269	Sales workers, parts (4367)	319
274	Sales workers, other commodities (4345, 4347, 4354, 4356, 4359, 4362, 4369)	323
275	Sales counter clerks (4363)	325
276	Cashiers (4364)	326
277	Street and door-to-door sales workers (4366)	327
278	News vendors (4365)	328
	Sales Related Occupations	329
283	Demonstrators, promoters and models, sales (445)	335
284	Auctioneers (447)	336
285	Sales support occupations, n.e.c. (444, 446, 449)	337
	Administrative Support Occupations, Including Clerical	338
		339
		343
		344
	Supervisors, Administrative Support Occupations	
303	Supervisors, general office (4511, 4513, 4514, 4516, 4519, 4529)	345
304	Supervisors, computer equipment operators (4512)	346
305	Supervisors, financial records processing (4521)	347
306	Chief communications operators (4523)	
307	Supervisors; distribution, scheduling, and adjusting clerks (4522, 4524-4528)	348
		349

**1980
Code****TECHNICAL, SALES, AND
ADMINISTRATIVE SUPPORT
OCCUPATIONS—Continued****Administrative Support Occupations,
Including Clerical—Continued**

Computer Equipment Operators	
Computer operators (4612)	
Peripheral equipment operators (4613)	
Secretaries, Stenographers, and Typists	
Secretaries (4622)	
Stenographers (4623)	
Typists (4624)	
Information Clerks	
Interviewers (4642)	
Hotel clerks (4643)	
Transportation ticket and reservation agents (4644)	
Receptionists (4645)	
Information clerks, n.e.c. (4649)	
Records Processing Occupations, Except Financial	
Classified-ad clerks (4662)	
Correspondence clerks (4663)	
Order clerks (4664)	
Personnel clerks, except payroll and timekeeping (4692)	
Library clerks (4694)	
File clerks (4696)	
Records clerks (4699)	
Financial Records Processing Occupations	
Bookkeepers, accounting, and auditing clerks (4712)	
Payroll and timekeeping clerks (4713)	
Billing clerks (4715)	
Cost and rate clerks (4716)	
Billing, posting, and calculating machine operators (4718)	
Duplicating, Mail and Other Office Machine Operators	
Duplicating machine operators (4722)	
Mail preparing and paper handling machine operators (4723)	
Office machine operators, n.e.c. (4729)	
Communications Equipment Operators	
Telephone operators (4732)	
Telegraphers (4733)	

<u>1980 Code</u>		<u>1980 Code</u>	
	TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS—Continued		SERVICE OCCUPATIONS
	Administrative Support Occupations, Including Clerical—Continued		Private Household Occupations
353	Communications equipment operators, n.e.c. (4739)	403	Launderers and ironers (503)
		404	Cooks, private household (504)
		405	Housekeepers and butlers (505)
		406	Child care workers, private household (506)
		407	Private household cleaners and servants (502, 507, 509)
	Mail and Message Distributing Occupations		Protective Service Occupations
354	Postal clerks, exc. mail carriers (4742)		Supervisors, Protective Service Occupations
355	Mail carriers, postal service (4743)	413	Supervisors, firefighting and fire prevention occupations (5111)
356	Mail clerks, exc. postal service (4744)	414	Supervisors, police and detectives (5112)
357	Messengers (4745)	415	Supervisors, guards (5113)
	Material Recording, Scheduling, and Distributing Clerks		Firefighting and Fire Prevention Occupations
359	Dispatchers (4751)	416	Fire inspection and fire prevention occupations (5122)
363	Production coordinators (4752)	417	Firefighting occupations (5123)
364	Traffic, shipping, and receiving clerks (4753)	418	Police and Detectives
365	Stock and inventory clerks (4754)	419	Police and detectives, public service (5132)
366	Meter readers (4755)	420	Sheriffs bailiffs, and other law enforcement officers (5134)
368	Weighers, measurers, and checkers (4756)	421	Correctional institution officers (5133)
369	Samplers (4757)	422	Guards
373	Expeditors (4758)	423	Crossing guards (5142)
374	Material recording, scheduling, and distributing clerks, n.e.c. (4759)	424	Guards and police, exc. public service (5144)
		425	Protective service occupations, n.e.c. (5149)
	Adjusters and Investigators		Service Occupations, Except Protective and Household
375	Insurance adjusters, examiners, and investigators (4782)	426	Food Preparation and Service Occupations
376	Investigators and adjusters, except insurance (4783)	427	Supervisors, food preparation and service occupations (5211)
377	Eligibility clerks, social welfare (4784)		Bartenders (5212)
378	Bill and account collectors (4786)		Waiters and waitresses (5213)
			Cooks, except short order (5214)
			Short-order cooks (5215)
			Food counter, fountain and related occupations (5216)
			Kitchen workers, food preparation (5217)
			Waiters'/waitresses' assistants (5218)
			Miscellaneous food preparation occupations (5219)
	Miscellaneous Administrative Support Occupations	433	
379	General office clerks (463)	434	
383	Bank tellers (4791)	435	
384	Proofreaders (4792)	436	
385	Data-entry keyers (4793)	437	
386	Statistical clerks (4794)	438	
387	Teachers' aides (4795)	439	
389	Administrative support occupations, n.e.c. (4787, 4799)	440	
		441	
		442	
		443	
		444	

<u>1980 Code</u>		<u>1980 Code</u>	
	SERVICE OCCUPATIONS —Continued		FARMING, FORESTRY, AND FISHING OCCUPATIONS—Continued
	Service Occupations, Except Protective and Household—Continued	483	Marine life cultivation workers (5618)
		484	Nursery workers (5619)
	Health Service Occupations	485	Related Agricultural Occupations
445	Dental assistants (5232)		Supervisors, related agricultural occupations (5621)
446	Health aides, except nursing (5233)	486	Groundskeepers and gardeners, except farm (5622)
447	Nursing aides, orderlies, and attendants (5236)	487	Animal caretakers, except farm (5624)
	Cleaning and Building Service Occupations, except Household	488	Graders and sorters, agricultural products (5625)
448	Supervisors, cleaning and building service workers (5241)	489	Inspectors, agricultural products (5627)
449	Maids and housemen (5242, 5249)		Forestry and Logging Occupations
453	Janitors and cleaners (5244)	494	Supervisors, forestry, and logging workers (571)
454	Elevator operators (5245)	495	Forestry workers, except logging (572)
455	Pest control occupations (5246)	496	Timber cutting and logging occupations (573, 579)
	Personal Service Occupations		Fishers, Hunters, and Trappers
456	Supervisors, personal service occupations (5251)	497	Captains and other officers, fishing vessels (pt 8241)
457	Barbers (5252)	498	Fishers (583)
458	Hairdressers and cosmetologists (5253)	499	Hunters and trappers (584)
459	Attendants, amusement and recreation facilities (5254)		PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS
463	Guides (5255)		
464	Ushers (5256)		Mechanics and Repairers
465	Public transportation attendants (5257)		Supervisors, mechanics and repairers (60)
466	Baggage porters and bellhops (5262)		Mechanics and Repairers, Except Supervisors
467	Welfare service aides (5263)	503	Vehicle and Mobile Equipment Mechanics and Repairers
468	Child care workers, except private household (5264)		Automobile mechanics (pt 6111)
469	Personal service occupations, n.e.c. (5258, 5269)	505	Automobile mechanic apprentices (pt 6111)
	FARMING, FORESTRY, AND FISHING OCCUPATIONS	506	
		507	Bus, truck, and stationary engine mechanics (6112)
	Farm Operators and Managers	508	Aircraft engine mechanics (6113)
473	Farmers, except horticultural (5512-5514)	509	Small engine repairers (6114)
474	Horticultural specialty farmers (5515)	514	Automobile body and related repairers (6115)
475	Managers, farms, except horticultural (5522- 5524)	515	Aircraft mechanics, exc. engine (6116)
476	Managers, horticultural specialty farms (5525)	516	Heavy equipment mechanics (6117)
	Other Agricultural and Related Occupations	517	Farm equipment mechanics (6118)
	Farm Occupations, Except Managerial	518	Industrial machinery, repairers (613)
477	Supervisors, farm workers (5611)	519	Machinery maintenance occupations (614)
479	Farm workers (5612-5617)		

1980
Code1980
Code**PRECISION PRODUCTION, CRAFT,
AND REPAIR OCCUPATIONS—Continued****PRECISION PRODUCTION, CRAFT,
AND REPAIR OCCUPATIONS—Continued**

	Electrical and Electronic Equipment Repairers	566
523	Electronic repairers, communications and industrial equipment (6151, 6153, 6155)	567
525	Data processing equipment repairers (6154)	569
526	Household appliance and power tool repairers (6156)	573
527	Telephone line installers and repairers (6157)	575
529	Telephone installers and repairers (6158)	576
533	Miscellaneous electrical and electronic equipment repairers (6152, 6159)	577
534	Heating, air conditioning, and refrigeration mechanics (616)	579
	Miscellaneous Mechanics and Repairers	583
535	Camera, watch, and musical instrument repairers (6171, 6172)	584
536	Locksmiths and safe repairers (6173)	585
538	Office machine repairers (6174)	587
539	Mechanical controls and valve repairers (6175)	588
543	Elevator installers and repairers (6176)	589
544	Millwrights (6178)	593
547	Specified mechanics and repairers, n.e.c. (6177, 6179)	594
549	Not specified mechanics and repairers	595
	Construction Trades	596
	Supervisors, construction occupations	597
553	Supervisors; brickmasons, stonemasons, and tile setters (6312)	598
554	Supervisors, carpenters and related workers (6313)	599
555	Supervisors, electricians and power transmission installers (6314)	613
556	Supervisors; painters, paperhangers, and plasterers (6315)	614
557	Supervisors; plumbers, pipefitters, and steamfitters (6316)	615
558	Supervisors, n.e.c. (6311, 6318)	616
	Construction Trades, Except Supervisors	617
563	Brickmasons and stonemasons (pt 6412, pt 6413)	633
564	Brickmason and stonemason apprentices (pt 6412, pt 6413)	634
565	Title setters, hard and soft (6414, pt 6462)	635

566	Carpet installers (pt 6462)
567	Carpenters (pt 6422)
569	Carpenter apprentices (pt 6422)
573	Drywall installers (6424)
575	Electricians (pt 6432)
576	Electrician apprentices (pt 6432)
577	Electrical power installers and repairers (6433)
579	Painters, construction and maintenance (6442)
583	Paperhangers (6443)
584	Plasterers (6444)
585	Plumbers, pipefitters, and steamfitters (pt 645)
587	Plumber, pipefitter, and steamfitter apprentices (pt 645)
588	Concrete and terrazzo finishers (6463)
589	Glaziers (6464)
593	Insulation workers (6465)
594	Paving, surfacing, and tamping equipment operators (6466)
595	Roofers (6468)
596	Sheetmetal duct installers (6472)
597	Structural metal workers (6473)
598	Drillers, earth (6474)
599	Construction trades, n.e.c. (6467, 6475, 6476, 6479)

Extractive Occupations

Supervisors, extractive occupations (632)
Drillers, oil well (652)
Explosives workers (653)
Mining machine operators (654)
Mining occupations, n.e.c. (656)

Precision Production Occupations

Supervisors, production occupations (67,71)
--

Precision Metal Working Occupations

Tool and die makers (pt 6811)
Tool and die maker apprentices (pt 6811)
Precision assemblers, metal (6812)
Machinists (pt 6813)
Machinist apprentices (pt 6813)
Boilermakers (6814)

**1980
Code****1980
Code****PRECISION PRODUCTION, CRAFT,
AND REPAIR OCCUPATIONS—Continued**

644	Precision grinders, filers, and tool sharpeners (6816)	
645	Patternmakers and model makers, metal (6817)	689
646	Lay-out workers (6821)	693
647	Precious stones and metals workers (jewelers) (6822, 6866)	694
649	Engravers, metal (6823)	695
653	Sheet metal workers (pt 6824)	696
654	Sheet metal worker apprentices (pt 6824)	699
655	Miscellaneous precision metal workers (6829)	
	Precision Woodworking Occupations	
656	Patternmakers and model makers, wood (6831)	
657	Cabinet makers and bench carpenters (6832)	
658	Furniture and wood finishers (6835)	
659	Miscellaneous precision woodworkers (6839)	
	Precision Textile, Apparel, and Furnishings Machine Workers	
666	Dressmakers (pt 6852, pt 7752)	703
667	Tailors (pt 6852)	704
668	Upholsterers (6853)	
669	Shoe repairers (6854)	705
673	Apparel and fabric patternmakers (6856)	
674	Miscellaneous precision apparel and fabric workers (6859, pt 7752)	706
	Precision Workers, Assorted Materials	707
675	Hand molders and shapers, except jewelers (6861)	708
676	Patternmakers, lay-out workers, and cutters (6862)	709
677	Optical goods workers (6864, pt 7477, pt 7677)	713
678	Dental laboratory and medical appliance technicians (6865)	714
679	Bookbinders (6844)	715
683	Electrical and electronic equipment assemblers (6867)	
684	Miscellaneous precision workers, n.e.c. (6869)	717
	Precision Food Production Occupations	
686	Butchers and meat cutters (6871)	719
687	Bakers (6872)	
688	Food batchmakers (6873, 6879)	

**PRECISION PRODUCTION, CRAFT,
AND REPAIR OCCUPATIONS—Continued**

	Precision Inspectors, Testers, and Related Workers	
	Inspectors, testers, and graders (6881, 828)	
	Adjusters and calibrators (6882)	
	Plant and System Operators	
	Water and sewage treatment plant operators (691)	
	Power plant operators (pt 693)	
	Stationary engineers (pt 693, 7668)	
	Miscellaneous plant and system operators (692, 694, 695, 696)	
	OPERATORS, FABRICATORS, AND LABORERS	
	Machine Operators, Assemblers, and Inspectors	
	Machine operators and tenders, except precision	
	Metalworking and Plastic Working Machine Operators	
	Lathe and turning machine set-up operators (7312)	
	Lathe and turning machine operators (7512)	
	Milling and planing machine operators (7313, 7513)	
	Punching and stamping press machine operators (7314, 7317, 7514, 7517)	
	Rolling machine operators (7316, 7516)	
	Drilling and boring machine operators (7318, 7518)	
	Grinding, abrading, buffing, and polishing machine operators (7322, 7324, 7522)	
	Forging machine operators (7319, 7519)	
	Numerical control machine operators (7326)	
	Miscellaneous metal, plastic, stone, and glass working machine operators (7329, 7529)	
	Fabricating machine operators, n.e.c. (7339, 7539)	
	Metal and Plastic Processing Machine Operators	
	Molding and casting machine operators (7315, 7342, 7515, 7542)	

1980
Code1980
Code**OPERATORS, FABRICATORS, AND
LABORERS—Continued****Machine Operators, Assemblers,
and Inspectors—Continued**

723	Metal plating machine operators (7343, 7543)
724	Heat treating equipment operators (7344, 7544)
725	Miscellaneous metal and plastic processing machine operators (7349, 7549)
	Woodworking Machine Operators
726	Wood lathe, routing, and planing machine operators (7431, 7432, 7631, 7632)
727	Sawing machine operators (7433, 7633)
728	Shaping and joining machine operators (7435, 7635)
729	Nailing and tacking machine operators (7636)
733	Miscellaneous woodworking machine operators (7434, 7439, 7634, 7639)
	Printing Machine Operators
734	Printing machine operators (7443, 7643)
735	Photoengravers and lithographers (6842, 7444, 7644)
736	Typesetters and compositors (6841, 7642)
737	Miscellaneous printing machine operators (6849, 7449, 7649)
	Textile, Apparel, and Furnishings Machine Operators
738	Winding and twisting machine operators (7451, 7651)
739	Knitting, looping, taping, and weaving machine operators (7452, 7652)
743	Textile cutting machine operators (7654)
744	Textile sewing machine operators (7655)
745	Shoe machine operators (7656)
747	Pressing machine operators (7657)
748	Laundering and dry cleaning machine operators (6855, 7658)
749	Miscellaneous textile machine operators (7459, 7659)
	Machine Operators, Assorted Materials
753	Cementing and gluing machine operators (7661)
754	Packaging and filling machine operators (7462, 7662)
755	Extruding and forming machine operators (7463, 7663)
756	Mixing and blending machine operators (7664)

**OPERATORS, FABRICATORS, AND
LABORERS—Continued****Machine Operators, Assemblers,
and Inspectors—Continued**

757	Separating, filtering, and clarifying machine operators (7476, 7666, 7676)
758	Compressing and compacting machine operators (7467, 7667)
759	Painting and paint spraying machine operators (7669)
763	Roasting and baking machine operators, food (7472, 7672)
764	Washing, cleaning, and pickling machine operators (7673)
765	Folding machine operators (7474, 7674)
766	Furnace, kiln, and oven operators, exc. food (7675)
768	Crushing and grinding machine operators (pt 7477, pt 7677)
769	Slicing and cutting machine operators (7478, 7678)
773	Motion picture projectionists (pt 7479)
774	Photographic process machine operators (6863, 6868, 7671)
777	Miscellaneous machine operators, n.e.c. (pt 7479, 7665, 7679)
779	Machine operators, not specified
	Fabricators, Assemblers, and Hand Working Occupations
783	Welders and cutters (7332, 7532, 7714)
784	Solderers and brazers (7333, 7533, 7717)
785	Assemblers (772, 774)
786	Hand cutting and trimming occupations (7753)
787	Hand molding, casting, and forming occupations (7754, 7755)
789	Hand painting, coating, and decorating occupations (7756)
793	Hand engraving and printing occupations (7757)
794	Hand grinding and polishing occupations (7758)
795	Miscellaneous hand working occupations (7759)
	Production Inspectors, Testers, Samplers, and Weighers
796	Production inspectors, checkers, and examiners (782, 787)
797	Production testers (783)
798	Production samplers and weighers (784)
799	Graders and sorters, exc. agricultural (785)

**1980
Code****OPERATORS, FABRICATORS, AND
LABORERS—Continued****Transportation and Material Moving
Occupations**

	Motor Vehicle Operators
803	Supervisors, motor vehicle operators (8111)
804	Truck drivers, heavy (8212, 8213)
805	Truck drivers, light (8214)
806	Driver-sales workers (8218)
808	Bus drivers (8215)
809	Taxicab drivers and chauffeurs (8216)
813	Parking lot attendants (874)
814	Motor transportation occupations, n.e.c. (8219)
	Transportation Occupations, Except Motor Vehicles
	Rail Transportation Occupations
823	Railroad conductors and yardmasters (8113)
824	Locomotive operating occupations (8232)
825	Railroad brake, signal, and switch operators (8233)
826	Rail vehicle operators, n.e.c. (8239)
	Water Transportation Occupations
828	Ship captains and mates, except fishing boats (pt 8241, 8242)
829	Sailors and deckhands (8243)
833	Marine engineers (8244)
834	Bridge, lock, and lighthouse tenders (8245)
	Material Moving Equipment Operators
843	Supervisors, material moving equipment operators (812)
844	Operating engineers (8312)
845	Longshore equipment operators (8313)
848	Hoist and winch operators (8314)
849	Crane and tower operators (8315)
853	Excavating and loading machine operators (8316)

**1980
Code****OPERATORS, FABRICATORS, AND
LABORERS—Continued****Transportation and Material Moving
Occupations—Continued**

855	Grader, dozer, and scraper operators (8317)
856	Industrial truck and tractor equipment operators (8318)
859	Miscellaneous material moving equipment operators (8319)
	Handlers, Equipment Cleaners, Helpers, and Laborers
863	Supervisors; handlers, equipment cleaners, and laborers, n.e.c. (85)
864	Helpers, mechanics and repairers (863) Helpers, Construction and Extractive Occupations
865	Helpers, construction trades (8641-8645, 8648)
866	Helpers, surveyor (8646)
867	Helpers, extractive occupations (865)
869	Construction laborers (871)
873	Production helpers (861, 862) Freight, Stock, and Material Handlers
875	Garbage collectors (8722)
876	Stevedores (8723)
877	Stock handlers and baggers (8724)
878	Machine feeders and offbearers (8725)
883	Freight, stock, and material handlers, n.e.c. (8726)
885	Garage and service station related occupations (873)
887	Vehicle washers and equipment cleaners (875)
888	Hand packers and packagers (8761)
889	Laborers, except construction (8769)
	EXPERIENCED UNEMPLOYED NOT CLASSIFIED BY OCCUPATION
905	Last job Armed Forces
909	Last worked 1974 or earlier

Appendix C. 1970 Census of Population Industrial Classification System

(The numbers in parenthesis refer to the 1967 standard industrial classification code equivalents, n.e.c. means not elsewhere classified.)

<u>1970 Code</u>		<u>1970 Code</u>	
AGRICULTURE, FORESTRY, AND FISHERIES		MANUFACTURING—Continued	
017	Agricultural production (01)		Durable goods—Continued
018	Agricultural services, except horticultural (07 except 0713 and 073)	137	Pottery and related products (326)
019	Horticultural services (073)	138	Miscellaneous nonmetallic mineral and stone products (328, 329)
027	Forestry (08)	139	Blast furnaces, steelworks, rolling and finishing mills (3312, 3313)
028	Fisheries (09)	147	Other primary iron and steel industries (3315-3317, 332, 3391, part 3399)
029	Agriculture, forestry, and fisheries—allocated	148	Primary aluminum industries (3334, part 334, 3352, 3361, part 3392, part 3399)
	MINING	149	Other primary nonferrous industries (3331-3333, 3339, part 334, 3351, 3356, 3357, 3362, 3369, (part 3392, part 3399)
047	Metal mining (10)	157	Cutlery, hand tools, and other hardware (342)
048	Coal mining (11, 12)	158	Fabricated structural metal products (344)
049	Crude petroleum and natural gas extraction (13)	159	Screw machine products (345)
057	Nonmetallic mining and quarrying, except fuel (14)	167	Metal stamping (346)
058	Mining—allocated	168	Miscellaneous fabricated metal products (341, 343, 347, 348, 349)
	CONSTRUCTION	169	Not specified metal industries
067	General building contractors (15)	177	Machinery, except electrical
068	General contractors, except building (16)	178	Engines and turbines (351)
069	Special trade contractors (17)	179	Farm machinery and equipment (352)
077	Not specified construction	187	Construction and material handling machines (353)
078	Construction—allocated	188	Metalworking machinery (354)
	MANUFACTURING	189	Office and accounting machines (357 except 3573)
	Durable goods	197	Electronic computing equipment (3573)
	Lumber and wood products, except furniture	198	Machinery, except electrical, n.e.c. (355, 356, 358, 359)
107	Logging (241)	199	Not specified machinery
108	Sawmills, planing mills, and millwork (242, 243)	207	Electrical machinery, equipment, and supplies
109	Miscellaneous wood products (244, 249)	208	Household appliances (363)
118	Furniture and fixtures (25)		Radio, tv, and communication equipment (365, 366)
	Stone, clay, and glass products		Electrical machinery, equipment, and supplies, n.e.c. (361, 362, 364, 367, 369)
119	Glass and glass products (321-323)		
127	Cement, concrete, gypsum, and plaster products (324-327)		
128	Structural clay products (325)		

**1970
Code****MANUFACTURING—Continued****Durable goods—Continued**

209	Not specified electrical machinery, equipment, and supplies
	Transportation equipment
219	Motor vehicles and motor vehicle equipment (371)
227	Aircraft and parts (372)
228	Ship and boat building and repairing (373)
229	Railroad locomotives and equipment (374)
237	Mobile dwellings and campers (3791)
238	Cycles and miscellaneous transportation equipment (375, 3799)
	Professional and photographic equipment, and watches
239	Scientific and controlling instruments (381, 382)
247	Optical and health services supplies (383, 384, 385)
248	Photographic equipment and supplies (386)
249	Watches, clocks, and clockwork operated devices (387)
257	Not specified professional equipment
258	Ordnance (19)
259	Miscellaneous manufacturing industries (39)
267	Manufacturing, durable goods—allocated

Nondurable goods

	Food and kindred products
268	Meat products (201)
269	Dairy products (202)
278	Canning and preserving fruits, vegetables, and seafoods (203)
279	Grain-mill products (204, 0713)
287	Bakery products (205)
288	Confectionery and related products (207)
289	Beverage industries (208)
297	Miscellaneous food preparation and kindred products (206, 209)
298	Not specified food industries
299	Tobacco manufactures (21)
	Textile mill products
307	Knitting mills (225)
308	Dyeing and finishing textiles, except wool and knit goods (226)

**1970
Code****MANUFACTURING—Continued****Nondurable goods—Continued**

309	Floor coverings, except hard surface (227)
317	Yarn, thread, and fabric mills (221-224, 228)
318	Miscellaneous textile mill products (229)
	Apparel and other fabricated textile products
319	Apparel and accessories (231-238)
327	Miscellaneous fabricated textile products (239)
	Paper and allied products
328	Pulp, paper, and paperboard mills (261-263, 266)
329	Miscellaneous paper and pulp products (264)
337	Paperboard containers and boxes (265)
	Printing, publishing, and allied industries
338	Newspaper publishing and printing (271)
339	Printing, publishing, and allied industries, except newspapers (272-279)
	Chemicals and allied products
347	Industrial chemicals (281)
348	Plastics, synthetics, and resins, except fibers (282, except 2823 and 2824)
349	Synthetic fibers (2823, 2824)
357	Drugs and medicines (283)
358	Soaps and cosmetics (284)
359	Paints, varnishes, and related products (285)
367	Agricultural chemicals (287)
368	Miscellaneous chemicals (286, 289)
369	Not specified chemicals and allied products
	Petroleum and coal products
377	Petroleum refining (291)
378	Miscellaneous petroleum and coal products (295, 299)
	Rubber and miscellaneous plastic products
379	Rubber products (301-303, 306)
387	Miscellaneous plastics products (307)
	Leather and leather products
388	Tanned, curried, and finished leather (311)
389	Footwear, except rubber (313, 314)
397	Leather products, except footwear (312, 315-317, 319)
399	Manufacturing, nondurable goods—allocated
398	Not specified manufacturing industries

**1970
Code****TRANSPORTATION, COMMUNICATIONS,
AND OTHER PUBLIC
UTILITIES****Transportation**

407	Railroads and railway express service (40)
408	Street railways and bus lines (411, 413-415, 417)
409	Taxicab service (412)
417	Trucking service (421, 423)
418	Warehousing and storage (422)
419	Water transportation (44)
427	Air transportation (45)
428	Pipe lines, except natural gas (46)
429	Services incidental to transportation (47)

Communications

447	Radio broadcasting and television (483)
448	Telephone (wire and radio) (481)
449	Telegraph and miscellaneous communication services (482, 489)

Utilities and Sanitary Services

467	Electric light and power (491)
468	Electric-gas utilities (493)
469	Gas and steam supply systems (492, 496)
477	Water supply (494)
478	Sanitary services (495)
479	Other and not specified utilities (497)
499	Transportation, communications, and other public utilities—allocated

WHOLESALE TRADE

507	Motor vehicles and equipment (501)
508	Drugs, chemicals, and allied products (502)
509	Dry goods and apparel (503)
527	Food and related products (504)
528	Farm products—raw materials (505)
529	Electrical goods (506)
537	Hardware, plumbing, and heating supplies (507)
538	Not specified electrical and hardware products
539	Machinery, equipment, and supplies (508)
557	Metals and minerals, n.e.c. (5091)
558	Petroleum products (5092)
559	Scrap and waste materials (5093)
567	Alcoholic beverages (5095)

**1970
Code****WHOLESALE TRADE—Continued**

568	Paper and its products (5096)
569	Lumber and construction materials (5098)
587	Wholesalers, n.e.c. (5094, 5097, 5099)
588	Not specified wholesale trade
599	wholesale trade—allocated

RETAIL TRADE

607	Lumber and building material retailing (521-524)
608	Hardware and farm equipment stores (525)
609	Department and mail order establishments (531, 532)
617	Limited price variety stores (533)
618	Vending machine operators (534)
619	Direct selling establishments (535)
627	Miscellaneous general merchandise stores (539)
628	Grocery stores (541)
629	Dairy products stores (545)
637	Retail bakeries (546)
638	Food stores, n.e.c. (542-544, 549)
639	Motor vehicle dealers (551, 552)
647	Tire, battery, and accessory dealers (553)
648	Gasoline service stations (554)
649	Miscellaneous vehicle dealers (559)
657	Apparel and accessory stores, except shoe stores (56 except 566)
658	Shoe stores (566)
667	Furniture and home furnishings stores (571)
668	Household appliances, tv, and radio stores (572, 573)
669	Eating and drinking places (58)
677	Drug stores (591)
678	Liquor stores (592)
679	Farm and garden supply stores (596)
687	Jewelry stores (597)
688	Fuel and ice dealers (598)
689	Retail florists (5992)
697	Miscellaneous retail stores (593-595, 599 ex. 5992)
698	Not specified retail trade
699	Retail trade—allocated

**FINANCE, INSURANCE, AND REAL
ESTATE**

707	Banking (60)
708	Credit agencies (61)

**1970
Code****1970
Code****FINANCE, INSURANCE, AND REAL
ESTATE—Continued**

709 Security, commodity brokerage, and investment
companies (62, 67)
717 Insurance (63, 64)
718 Real estate, including real estate-insurance-law
offices (65, 66)
719 Finance, insurance, and real estate—allocated

BUSINESS AND REPAIR SERVICES

727 Advertising (731)
728 Services to dwellings and other buildings (734)
729 Commercial research, development, and testing
labs (7391, 7397)
737 Employment and temporary help agencies (736,
7398)
738 Business management and consulting services
(part 7392)
739 Computer programming services (part 7392)
747 Detective and protective services (7393)
748 Business services, n.e.c. (732, 733, 735, 7394,
7395, 7396, 7399)
749 Automobile services, except repair (751, 752,
754)
757 Automobile repair and related services (753)
758 Electrical repair shops (762, 7694)
759 Miscellaneous repair services (763, 764, 769,
except 7694)
767 Business and repair services—allocated

PERSONAL SERVICES

769 Private households (88)
777 Hotels and motels (701)
778 Lodging places, except hotels and motels (702,
703, 704)
779 Laundering, cleaning, and other garment ser-
vices (721, 727)
787 Beauty shops (723)
788 Barber shops (724)
789 Shoe repair shops (725)
797 Dressmaking shops (part 729)
798 Miscellaneous personal services (722, 726, part
729)
799 Personal services—allocated

**ENTERTAINMENT AND RECREATION
SERVICES**

807 Theaters and motion pictures (78, 792)
808 Bowling alleys, billiard and pool parlors (793)
809 Miscellaneous entertainment and recreation
services (791, 794)
817 Entertainment and recreation services—
allocated

PROFESSIONAL AND RELATED SERVICES

828 Offices of physicians (801, 803)
829 Offices of dentists (802)
837 Offices of chiropractors (804)
838 Hospitals (806)
839 Convalescent institutions (8092)
847 Offices of health practitioners, n.e.c. (part 8099)
848 Health services, n.e.c. (807, part 8099)
849 Legal services (81)
857 Elementary and secondary schools (821)
858 Colleges and universities (822)
859 Libraries (823)
867 Educational services, n.e.c. (824, 829)
868 Not specified educational services
869 Museums, art galleries, and zoos (84)
877 Religious organizations (866)
878 Welfare services (part 867)
879 Residential welfare facilities (part 867)
887 Nonprofit membership organizations (861-865,
869)
888 Engineering and architectural services (891)
889 Accounting, auditing, and bookkeeping services
(893)
897 Miscellaneous professional and related services
(892, 899)
899 Professional and related services—allocated

PUBLIC ADMINISTRATION

907 Postal service (part 9190)
917 Federal public administration (part 9190, 9490)
927 State public administration (9290)
937 Local public administration (9390)
947 Public administration—allocated

WORKERS NOT CLASSIFIED BY INDUSTRY

997 Unemployed persons, last worked 1959 or
earlier

Appendix D. 1980 Census of Population Industrial Classification System

(The numbers in parentheses are the 1972 Standard Industrial Classification code equivalents. N.e.c. means not elsewhere classified.)

<u>1980 Code</u>		<u>1980 Code</u>	
	AGRICULTURE, FORESTRY, AND FISHERIES		MANUFACTURING—Continued
010	Agricultural production, crops (01)		Nondurable Goods—Continued
011	Agricultural production, livestock (02)		
020	Agricultural services, except horticultural (07, except 078)	150	Miscellaneous textile mill products (229)
021	Horticultural services (078)		
030	Forestry (08)		Apparel and other finished textile products
031	Fishing, hunting, and trapping (09)	151	Apparel and accessories, except knit (231-238)
	MINING	152	Miscellaneous fabricated textile products (239)
040	Metal mining (10)		Paper and allied products
041	Coal mining (11, 12)		Pulp, paper, and paperboard mills (261-263, 266)
042	Crude petroleum and natural gas extraction (13)	160	Miscellaneous paper and pulp products (264)
050	Nonmetallic mining and quarrying, except fuel (14)	161	Paperboard containers and boxes (265)
060	CONSTRUCTION (15, 16, 17)	162	Printing, publishing, and allied industries
	MANUFACTURING	171	Newspaper publishing and printing (271)
	Nondurable Goods	172	Printing, publishing, and allied industries, except newspapers (272-279)
	Food and kindred products		
100	Meat products (201)		Chemicals and allied products
101	Dairy products (202)		Plastics, synthetics, and resins (282)
102	Canned and preserved fruits and vegetables (203)	180	Drugs (283)
110	Grain mill products (204)	181	Soaps and cosmetics (284)
111	Bakery products (205)	182	Paints, varnishes, and related products (285)
112	Sugar and confectionery products (206)	190	Agricultural chemicals (287)
120	Beverage industries (208)	191	Industrial and miscellaneous chemicals (281, 286, 289)
121	Miscellaneous food preparations and kindred products (207, 209)	192	Petroleum and coal products
122	Not specified food industries		Petroleum refining (291)
130	Tobacco manufactures (21)	200	Miscellaneous petroleum and coal products (295, 299)
	Textile mill products	201	
132	Knitting mills (225)		Rubber and miscellaneous plastics products
140	Dyeing and finishing textiles, except wool and knit goods (226)		Tires and inner tubes (301)
141	Floor coverings, except hard surface (227)	210	Other rubber products, and plastics footwear and belting (302-304, 306)
142	Yarn, thread, and fabric mills (221-224, 228)	211	Miscellaneous plastics products (307)
		212	

**1980
Code****MANUFACTURING—Continued****Nondurable Goods—Continued****Leather and leather products**

- 220 Leather tanning and finishing (311)
221 Footwear, except rubber and plastic
(313, 314)
222 Leather products, except footwear
(315-317, 319)

Durable Goods**Lumber and wood products, except
furniture**

- 230 Logging (241)
231 Sawmills, planing mills, and millwork
(242, 243)
232 Wood buildings and mobile homes (245)
241 Miscellaneous wood products (244, 249)
242 Furniture and fixtures (25)
Stone, clay, glass, and concrete products
250 Glass and glass products (321-323)
251 Cement, concrete, gypsum, and plaster
products (324, 327)
252 Structural clay products (325)
261 Pottery and related products (326)
262 Miscellaneous nonmetallic mineral and
stone products (328, 329).

Metal industries

- 270 Blast furnaces, steelworks, rolling and
finishing mills (331)
271 Iron and steel foundries (332)
272 Primary aluminum industries (3334, pt.
334, 3353-3355, 3361)
280 Other primary metal industries (3331-
3333, 3339, pt. 334, 3351,
3356, 3357, 3362, 3369, 339)
281 Cutlery, hand tools, and other hardware
(342)
282 Fabricated structural metal products
(344)
290 Screw machine products (345)
291 Metal forgings and stampings (346)
292 Ordnance (348)
300 Miscellaneous fabricated metal products
(341, 343, 347, 349)
301 Not specified metal industries
Machinery, except electrical
310 Engines and turbines (351)
311 Farm machinery and equipment (352)

**1980
Code****MANUFACTURING—Continued****Durable Goods—Continued**

- 312 Construction and material handling
machines (353)
320 Metalworking machinery (354)
321 Office and accounting machines (357,
except 3573)
322 Electronic computing equipment (3573)
331 Machinery, except electrical, n.e.c. (355, 356,
358, 359)
332 Not specified machinery
Electrical machinery, equipment, and supplies
340 Household appliances (363)
341 Radio, TV, and communication equipment
(365, 366)
342 Electrical machinery, equipment, and
supplies, n.e.c. (361, 362, 364, 367,
369)
350 Not specified electrical machinery,
equipment, and supplies
Transportation equipment
351 Motor vehicles and motor vehicle equipment
(371)
352 Aircraft and parts (372)
360 Ship and boat building and repairing
(373)
361 Railroad locomotives and equipment
(374)
362 Guided missiles, space vehicles, and
parts (376)
370 Cycles and miscellaneous transportation
equipment (375, 379)
Professional and photographic equipment, and
watches
371 Scientific and controlling instruments
(381, 382)
372 Optical and health services supplies
(383, 384, 385)
380 Photographic equipment and supplies
(386)
381 Watches, clocks, and clockwork operated
devices (387)
382 Not specified professional equipment
390 Toys, amusement, and sporting goods
(394)
391 Miscellaneous manufacturing industries (39
except 394)
392 **Not specified manufacturing industries**

**1980
Code****TRANSPORTATION,
COMMUNICATIONS, AND OTHER
PUBLIC UTILITIES****1980
Code****WHOLESALE TRADE—Continued****Transportation**

400	Railroads (40)
401	Bus service and urban transit (41, except 412)
402	Taxicab service (412)
410	Trucking service (421, 423)
411	Warehousing and storage (422)
412	U.S. Postal Service (43)
420	Water transportation (44)
421	Air transportation (45)
422	Pipe lines, except natural gas (46)
432	Services incidental to transportation (47)

Communications

440	Radio and television broadcasting (483)
441	Telephone (wire and radio) (481)
442	Telegraph and miscellaneous communication services (482, 489)

Utilities and sanitary services

460	Electric light and power (491)
461	Gas and steam supply systems (492, 496)
462	Electric and gas, and other combinations (493)
470	Water supply and irrigation (494, 497)
471	Sanitary services (495)
472	Not specified utilities

WHOLESALE TRADE**Durable Goods**

500	Motor vehicles and equipment (501)
501	Furniture and home furnishings (502)
502	Lumber and construction materials (503)
510	Sporting goods, toys, and hobby goods (504)
511	Metals and minerals, except petroleum (505)
512	Electrical goods (506)
521	Hardware, plumbing and heating supplies (507)
522	Not specified electrical and hardware products
530	Machinery, equipment, and supplies (508)
531	Scrap and waste materials (5093)
532	Miscellaneous wholesale, durable goods (5094, 5099)

Nondurable Goods

540	Paper and paper products (511)
541	Drugs, chemicals, and allied products (512, 516)
542	Apparel, fabrics, and notions (513)
550	Groceries and related products (514)
551	Farm products - raw materials (515)
552	Petroleum products (517)
560	Alcoholic beverages (518)
561	Farm supplies (5191)
562	Miscellaneous wholesale, nondurable goods (5194, 5198, 5199)
571	Not specified wholesale trade

RETAIL TRADE

580	Lumber and building material retailing (521, 523)
581	Hardware stores (525)
582	Retail nurseries and garden stores (526)
590	Mobile home dealers (527)
591	Department stores (531)
592	Variety stores (533)
600	Miscellaneous general merchandise stores (539)
601	Grocery stores (541)
602	Dairy products stores (545)
610	Retail bakeries (546)
611	Food stores, n.e.c. (542, 543, 544, 549)
612	Motor vehicle dealers (551, 552)
620	Auto and home supply stores (553)
621	Gasoline service stations (554)
622	Miscellaneous vehicle dealers (555, 556, 557, 559)
630	Apparel and accessory stores, except shoe (56, except 566)
631	Shoe stores (566)
632	Furniture and home furnishings stores (571)
640	Household appliances, TV, and radio stores (572, 573)
641	Eating and drinking places (58)
642	Drug stores (591)
650	Liquor stores (592)
651	Sporting goods, bicycles, and hobby stores (5941, 5945, 5946)
652	Book and stationery stores (5942, 5943)
660	Jewelry stores (5944)
661	Sewing, needlework, and piece goods stores (5949)

<u>1980 Code</u>	RETAIL TRADE—Continued	<u>1980 Code</u>	PERSONAL SERVICES—Continued
662	Mail order houses (5961)	790	Dressmaking shops (pt. 729)
670	Vending machine operators (5962)	791	Miscellaneous personal services (722, pt. 729)
671	Direct selling establishments (5963)		
672	Fuel and ice dealers (598)		
681	Retail florists (5992)		
682	Miscellaneous retail stores (593, 5947, 5948, 5993, 5994, 5999)		
691	Not specified retail trade		
	FINANCE, INSURANCE, AND REAL ESTATE		ENTERTAINMENT AND RECREATION SERVICES
700	Banking (60)	800	Theaters and motion pictures (78, 792)
701	Savings and loan associations (612)	801	Bowling alleys, billiard and pool parlors (793)
702	Credit agencies, n.e.c. (61, except 612)	802	Miscellaneous entertainment and recreation services (791, 794, 799)
710	Security, commodity brokerage, and investment companies (62, 67)		
711	Insurance (63, 64)		
712	Real estate, including real estate-insurance-law offices (65, 66)		
	BUSINESS AND REPAIR SERVICES		PROFESSIONAL AND RELATED SERVICES
721	Advertising (731)	812	Offices of physicians (801, 803)
722	Services to dwellings and other buildings (734)	820	Offices of dentists (802)
730	Commercial research, development, and testing labs (7391, 7397)	821	Offices of chiropractors (8041)
731	Personnel supply services (736)	822	Offices of optometrists (8042)
732	Business management and consulting services (7392)	830	Offices of health practitioners, n.e.c. (8049)
740	Computer and data processing services (737)	831	Hospitals (806)
741	Detective and protective services (7393)	832	Nursing and personal care facilities (805)
742	Business services, n.e.c. (732, 733, 735, 7394, 7395, 7396, 7399)	840	Health services, n.e.c. (807, 808, 809)
750	Automotive services, except repair (751, 752, 754)	841	Legal services (81)
751	Automotive repair shops (753)	842	Elementary and secondary schools (821)
752	Electrical repair shops (762, 7694)	850	Colleges and universities (822)
760	Miscellaneous repair services (763, 764, 7692, 7699)	851	Business, trade, and vocational schools (824)
	PERSONAL SERVICES	852	Libraries (823)
761	Private households (88)	860	Educational services, n.e.c. (829)
762	Hotels and motels (701)	861	Job training and vocational rehabilitation services (833)
770	Lodging places, except hotels and motels (702, 703, 704)	862	Child day care services (835)
771	Laundry, cleaning, and garment services (721)	870	Residential care facilities, without nursing (836)
772	Beauty shops (723)	871	Social services, n.e.c. (832, 839)
780	Barber shops (724)	872	Museums, art galleries, and zoos (84)
781	Funeral service and crematories (726)	880	Religious organizations (866)
782	Shoe repair shops (725)	881	Membership organizations (861-865, 869)
		882	Engineering, architectural, and surveying services (891)
		890	Accounting, auditing, and bookkeeping services (893)
		891	Noncommercial educational and scientific research (892)
		892	Miscellaneous professional and related services (899)
			PUBLIC ADMINISTRATION
		900	Executive and legislative offices (911-913)
		901	General government, n.e.c. (919)

**1980
Code****PUBLIC ADMINISTRATION—Continued**

910 Justice, public order, and safety (92)
921 Public finance, taxation, and monetary policy
(93)
922 Administration of human resources programs
(94)
930 Administration of environmental quality and
housing programs (95)

**1980
Code****PUBLIC ADMINISTRATION—Continued**

931 Administration of economic programs (96)
932 National security and international affairs (97)

**EXPERIENCED UNEMPLOYED NOT
CLASSIFIED BY INDUSTRY**

991 Last job Armed Forces
992 Last worked 1974 or earlier