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Abstract

In this paper, we propose a method for constructing an occupation-based socioeconomic index that can easily incorporate occupational structure changes. The resulting index is the education percentile rank of an occupation for a given cohort, based on contemporaneous information pertaining to education composition and the number of workers at the occupation level. An occupation may experience an increase or decrease in its ranking when either education or size of relevant occupations change. The method is flexible in dealing with changes in occupation and education measurements over time. Applying the method to U.S. history from the mid-nineteenth century to the present day, we derive the index using the IPUMS U.S. Census microdata from 1850 to 2000 and the American Community Surveys (ACS) from 2001 to 2018. Compared to previous occupational measures, this new measure takes into account occupational status evolution caused by long-term secular changes in occupational distributions and education composition. The resulting percentile rank measure can be easily merged with social surveys and administrative data that include occupational measures based on the U.S. Census occupation codes and crosswalks.

Keywords

occupation, socioeconomic status, percentile rank, continuous measure

Disciplines

Demography, Population, and Ecology | Family, Life Course, and Society | Inequality and Stratification | Social and Behavioral Sciences | Sociology | Work, Economy and Organizations

Occupation-Based Socioeconomic Index with Percentile Ranks

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ABSTRACT

In this paper, we propose a method for constructing an occupation-based socioeconomic index that can easily incorporate occupational structure changes. The resulting index is the education-percentile rank of an occupation for a given cohort, based on contemporaneous information pertaining to education composition and the number of workers at the occupation level. An occupation may experience an increase or decrease in its ranking when either education or size of relevant occupations change. The method is flexible in dealing with changes in occupation and education measurements over time. Applying the method to U.S. history from the mid-nineteenth century to the present day, we derive the index using the IPUMS U.S. Census microdata from 1850 to 2000 and the American Community Surveys (ACS) from 2001 to 2018. Compared to previous occupational measures, this new measure takes into account occupational status evolution caused by long-term secular changes in occupational distributions and education composition. The resulting percentile rank measure can be easily merged with social surveys and administrative data that include occupational measures based on the U.S. Census occupation codes and crosswalks.

Occupation-Based Socioeconomic Index with Percentile Ranks

1. Introduction

One of the key features of human society is the vast variability in social attributes. Not only is any social attribute highly heterogeneous at the individual level, but an individual's social attributes are also multidimensional in nature, manifested in education, occupation, income, wealth, personal reputation, community status, and family background, among many other characteristics. Hence, developing quantitative measurements of an individual's social position is very difficult, as it is impractical to incorporate all these detailed measures. Many early studies in search of socioeconomic indicators have suggested occupation as a simple—yet arguably the single most important—indicator of socioeconomic status (Blau and Duncan 1967; Caplow 1954; Featherman and Hauser 1978; Warner, Meeker, and Eells 1949), a measure that is highly associated with one's ability, characteristics, and training, from which one can infer social prestige (Gross 1959; Kahl 1957; Reiss 1961). Compared to income and wealth, occupation is publicly known to others (Goldberger 1989; Hauser et al. 2000) and often the only item consistently collected in historical registration and records and widely available in social surveys.

For more than a century, occupational measures have been widely used in both government statistics and social science research. Yet, making good use of occupation data in sociological studies is fraught with methodological challenges. One difficulty is the assurance of measurement comparability across studies, populations, and time. Broadly speaking, the development of occupational measures has evolved along two major lines: (1) one that groups occupations into categories (e.g., Glass 1954; Lipset and Bendix 1959; Sorokin [1927] 1959; Erikson, Goldthorpe, Portocarero 1979; Jonsson et al. 2009; Weeden and Grusky 2005; Hauser

1980; Edwards 1938; Wright 1997); and (2) another that represents occupations with a unidimensional, continuous scale based on occupational prestige or socioeconomic scores (e.g., Davis 1927; Svalastoga 1959; Duncan 1961; Hauser and Warren 1997; Treiman 1977; Ganzeboom, Luijkx, and Treiman 1989; Nakao and Treas 1994; Hodge, Siegel, and Rossi 1964; Hauser and Featherman 1977; Nam and Powers 1983). Both the class and gradational approaches are widely accepted, tested, and debated for their strengths and limitations (see a review in, e.g., Jonsson et al. 2009).

Yet, most research thus far has focused almost exclusively on modern, industrialized societies. Very few researchers have developed occupational measures for past populations or transitional societies before or during industrialization. One exception is Treiman (1976), who matched an incomplete list of occupations observed in the U.K., U.S., Italy, and Nepal from the fifteenth to nineteenth centuries to 1968 Standard Occupational Scale Categories. More recently, van Leeuwen, Maas, and their collaborators devised the Historical International Standard Classification of Occupations (HISCO)¹ and the Historical International Standard Class Scheme (HISCLASS) for occupations in preindustrial, agrarian societies in Western Europe from the eighteenth to the twentieth centuries (van Leeuwen and Maas 2011; van Leeuwen, Maas, and Miles 2002). Despite their theoretical and conceptual significance, these two measures are not widely used in empirical work for at least three main reasons.

First, the HISCO taxonomy contains 1,675 occupational groups, many of which are specific to a particular population, period, or region. Empirical data, especially those from small

¹ These structural changes lead to significant differences between occupational classifications in historical and contemporary societies. Van Leeuwen, Maas, and Miles (2002) created the Historical International Standard Classification of Occupations (HISCO), which provides a systematic basis of occupational titles and definitions for a variety of countries in the nineteenth and twentieth centuries. Specifically, they rely on the 1,506 occupational categories in the 1968 version of the International Standard Classification of Occupations scheme to derive the 1,000 most frequent occupational titles from eight countries from the seventeenth to the twentieth centuries.

samples, contain insufficient information to support statistical analysis at its full classification. To simplify the measure, van Leeuwen, Maas, and their collaborators further developed the HISCLASS scheme with 12 social classes ranging from different tiers of professionals and managers to lower and unskilled workers and farmers.² Although HISCLASS is more manageable than HISCO, the division of skill levels into high, medium, and low for workers is not easy to implement. In particular, some occupations, once considered high-skill jobs, such as typists and railroad conductors, were “deskilled” later due to the introduction and mass adoption of new technologies.

Second, the HISCO taxonomy offers a comprehensive list of occupational titles, similar to the U.S. Dictionary of Occupational Titles (DOT), but characteristics of workers within each occupation are unknown. HISCO defines occupations as groups of jobs with similar descriptions of job content, demands, and functions to capture nuanced differences between jobs. However, due to the lack of micro-level data on workers’ sociodemographic characteristics, researchers cannot derive a quantitative measure of occupational status.

Third, there is no easy way to compare these historical occupational measures to similar measures for contemporary industrialized societies. Many occupations that were once popular no longer exist, and new occupations arise as business and technology evolve. Even for occupations that have survived over time, their defining tasks and responsibilities may have significantly changed. As a result, these historical measures cannot be used in combination with modern occupational classifications to document occupational changes and mobility over time. This

² These social classes include (1) higher managers, (2) higher professionals, (3) lower managers, (4) lower professionals and clerical and sales personnel, (5) lower clerical and sales personnel, (6) foremen, (7) medium-skilled workers, (8) farmers and fishermen, (9) lower-skilled workers, (10) lower-skilled farm workers, (11) unskilled workers, and (12) unskilled farm workers.

incomparability problem is intrinsic to all categorical measures of occupations, as the meanings of occupational categories are context-specific and time-variant.

This paper proposes a new occupation-based measure of socioeconomic status. We align occupations on one dimension and summarize their detailed distinction with a single parameter based on percentile ranks. Each occupation's rank varies by birth cohort, depending on the number of occupational incumbents and educational composition. This measure is closely related to Hauser and Warren's (1997) occupational education score, but it is cohort-specific, with changing scores affected by the relative sizes and educational standings of occupations.

The rest of the paper proceeds as follows. Section 2 provides a historical overview of qualitative and quantitative occupational measures developed in the sociological literature. Section 3 focuses on distinctions among several widely used socioeconomic status indexes based on continuous measures. Section 4 discusses the limitations of previous occupation-based socioeconomic indexes. We then introduce our new measure of occupational statuses based on percentile ranks in Section 5. Section 6 describes historical changes in occupational percentile ranks using U.S. Census data from 1850 to 2000 and American Community Surveys from 2001 to 2018. Section 7 discusses our conclusions.

2. Occupational Measures: Historical Perspective

While commonly used, occupation is among the most challenging and least agreed-upon measures in surveys and population registers. An "occupation" refers to the aggregation of inherently different jobs that are sufficiently similar to each other with respect to requirements, duties, and responsibilities so as to be categorized together for statistical purposes. In the U.S., occupation was first enumerated in the 1820 full-count Census on the basis of families, rather than individuals, into three broad classes: agriculture, commerce, and manufactures. This item

was dropped in the 1830 Census but was added back in 1840 and extended to seven classes: mining, agriculture, commerce, manufactures and trades, navigation of the ocean, navigation of canals, lakes, and rivers, and learned professions and engineers. A major change occurred in 1850, when the Bureau of Census decided to shift from family to individual enumeration, differentiating between free inhabitants and slaves and collecting 323 specific occupations for free men over age 15. In 1860, free women were also subject to occupational enumeration, and the number of detailed occupations was expanded to 584 (Conk 1978; Rossiter 1909).³ We summarize changes in the U.S. Census Bureau's occupational classification in Appendix Table A1.

The classification of occupation became exceedingly difficult over time, as the evolution of the American economy required further division of the labor force. The *Dictionary of Occupational Titles* (DOT) listed 13,000-30,000 different job titles from the 1930s to the 1990s and provided linkages from these job titles to occupations (U.S. Department of Labor 1939, 1943, 1965, 1977, 1991). The DOT was created and updated by professional job analysts who visited U.S. workplaces and recorded job requirements. It has been widely used as a reference manual for employment services (such as matching job applicants with jobs and guiding job training, vocational education, and career counseling) and for converting occupational coding obtained from surveys to detailed Census categories (Cain and Treiman 1981; Featherman,

³ The U.S. Census first collected occupation information in 1820 at the fourth decennial Census of the U.S., and individuals were classified into agriculture, commerce, and manufactures. In 1840, the Census Bureau extended the occupational categories to seven classes, including mining agriculture, commerce, manufactures and trades, navigation of the ocean, navigation of canals, lakes, and rivers, and learned professions and engineers. In 1850, the occupational list in the decennial Census was expanded to 323 occupations, but the information was limited to free males over 15 years of age. In 1860, the occupational list included 584 categories, and both males and females ages 15 and above were asked to fill out a questionnaire (see a review in Hunt 1897). In 1870, 1880, and 1890, the number of occupations in the Census list was reduced to 338, 265, and 218, respectively. Appendix Table A1 includes a timeline that shows changes in the Census Bureau's occupational classifications.

Sobel, and Dickens 1977).⁴ The DOT was later replaced by an online system called the Occupational Information Network (O*NET), based on input from job incumbents and occupational experts who have direct experience working in different occupations.

The U.S. government later decided to reconcile the O*NET with a system of Standard Occupational Classification (SOC), which is updated every year and required to be adopted in all federal programs and demographic surveys since the 1980s.⁵ The SOC has a four-tier hierarchical structure, grouping occupations with similar job duties, and in some cases, skills, education, and/or training, and generating 23 major occupation groups, 978 minor occupation groups, 459 broad occupations, and 867 detailed occupational titles. The SOC coding system uses a 6-digit code, with the first two digits indicating the major occupation group, the third digit indicating the minor occupation group, the fourth and fifth digits indicating the broad occupation, and the sixth digit indicating the detailed occupation. As a result, the number of occupational titles in O*NET was reduced from over 13,000 to around 1,000 categories, known as the O*NET-SOC taxonomy. The U.S. Census Bureau has developed its detailed occupational classification scheme based on detailed SOC occupations or aggregations of SOC occupations.⁶ In most empirical studies, Census classification categories are the building blocks of occupation-based measures.⁷

⁴ DOT provides detailed descriptions of occupations with respect to the complexity of work functions, education and training time, aptitudes, temperaments, interests appropriate for the occupation, physical demands, and working conditions (Cain and Treiman 1981; Shu et al. 1996).

⁵ For example, the SOC scheme is used in the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook (OOH), which provides details on hundreds of occupations and is used by career counselors, students, parents, teachers, jobseekers, career changers, education and training officials, and researchers. The OOH is available online (www.bls.gov/ooh).

⁶ Information about the SOC classification can be found on the U.S. Bureau of Labor Statistics website (<https://www.bls.gov/soc/home.htm>). Information about the Census occupation codes and crosswalk files can be found on the U.S. Census Bureau website (<http://www.census.gov/topics/employment/industry-occupation/guidance/indexes.html>).

⁷ In the UK, the Office for National Statistics, formerly the Office of Population Censuses and Surveys, has developed a similar occupational classification for official statistics and academic research, such as the Registrar

The international version of SOC is known as the International Standard Classification of Occupations (ISCO), developed by the International Labor Organization (ILO). ISCO has been widely used for international comparisons of occupational data, particularly for countries that have not developed their own national classifications (Ganzeboom and Treiman 1996, 2003; Treiman 1975, 1977). The first version of ISCO, later known as ISCO-58, was proposed in 1957 by the Ninth International Conference of Labor Statisticians (ICLS). This version was later superseded by ISCO-68, ISCO-88, and ISCO-08. ISCO-08 includes ten major groups, 43 sub-major groups, 130 minor groups, and 436 4-digit unit groups in total.

Detailed occupational groups are typically not directly used in empirical studies because some occupations may contain few or no cases. Often the data are aggregated into a small number of broad categories or classes. For example, Edwards (1917, 1933) proposed an occupational classification system based on six main and 12 social-economic subgroups, which later influenced the Census Bureau's development of occupational schemes. He first divided occupations into "hand" and "head" groups and then ranked the "hand" workers by the degree of skills and the "head" workers based on the degree of training required for the job and the level of prestige (U.S. Census Bureau 1938).⁸ Blau and Duncan (1967, Table 2.1) developed 17 occupational groups based on major occupational groups used in the 1950 U.S. Census: professionals (self-employed), professionals (salaried), managers, salesmen (not in retail), proprietors, clerical workers, salesmen (in retail), craftsmen (in manufacturing), craftsmen (in

General's Social Class (SC), Social-Economic Groups (SEG), and more recently, the National Statistics Socio-Economic Classification (NS-SEC) and the Standard Occupational Classification (SOC). Haug (1977) provides an overview of occupational schemes in Britain, Canada, the Soviet Union, Poland, and Czechoslovakia.

⁸ The occupational groups include professionals; proprietors, managers, and officials (farmers (owners and tenants), wholesale and retail dealers, and other proprietors, managers, and officials); clerks and kindred workers; skilled workers and foremen; semi-skilled workers (semi-skilled workers in manufacturing, and other semi-skilled workers); and unskilled workers (farm laborers, factor and building construction laborers, other laborers, and servant classes).

construction), craftsmen (in others), operatives (in manufacturing), operatives (in other industries), laborers (in manufacturing), laborers (in other industries), farmers, and farm laborers. Hauser (1980) adopted a five-category occupational scheme, which includes upper nonmanual, lower nonmanual, upper manual, lower manual, and farming. In the UK, Hall and Jones (1950) proposed a seven-category standard classification.⁹ Erikson, Goldthorpe, and Portocarero (1979) developed the well-known two versions of the EGP class scheme. One issue with these categorical approaches is their high degree of aggregation—workers within a large category are all assumed to be relatively homogeneous, or at least interchangeable. To modify this strong homogeneity assumption, Grusky, Weeden, and their collaborators developed a microclass occupational scheme to differentiate workers and applied it to the study of occupational segregation, social mobility, and inequality (Jonsson et al. 2009; Weeden and Grusky 2005, 2012).

Microclass occupational measures, however, pose challenges for statistical analyses because they introduce too many categories. For simplification, most researchers today still adopt occupational measures based on broadly defined big classes, leaving out potential variations within classes. Alternatively, some researchers converted original occupational categories into a scalar measure of occupational status, e.g., a weighted average of occupational education and occupational income developed by Duncan (1961). We are not positioned to evaluate the relative merits of any of the approaches, as there are advantages and disadvantages associated with each. Judicious choices should be made within a concrete research context to meet particular theoretical, methodological, and practical needs. Instead, we propose a relative

⁹ These classifications include (1) professional and high administrative, (2) managerial and executive, (3) inspectional, supervisory and other nonmanual higher grade, (4) inspectional, supervisory and other non-manual lower grade, (5) skilled manual and routine grades of nonmanual, (6) semi-skilled manual, and (7) unskilled manual.

occupational measure, a version of the scalar approach, and show that our measure has several advantages over other existing alternatives, especially in its ease of use and interpretability in comparing occupations temporally or cross-nationally.

3. Socioeconomic Status Indexes and Scales: An Overview

Scalar measures of socioeconomic status rest on the assumption that the status hierarchy of different occupations can be characterized by a single, latent, continuous scale. It is important to recognize that, being latent, a scalar measure always needs to be normalized with two constraints: location and scale. Location normalization involves setting zero; scale normalization defines the magnitude of the measure, say to be 100 at the maximum. This approach emphasizes gradational and quantitative differences across individuals, a view deeply rooted in the structuralist perspective of societies as hierarchical stratification systems (Davis and Moore 1945).¹⁰ In working with continuous measures of occupations, researchers take a data-driven approach to estimating the status grading of the occupational structure, rather than imposing an *a priori* occupational hierarchy. Previous continuous occupational measures fall into three categories: occupational prestige, socioeconomic index, and percentile scores. We highlight significant developments in each of these categories below and summarize major occupational measures in the literature in Appendix Table A2.

3.1 Occupational Prestige

Occupational prestige, the extent of social deference or derogation conferred to incumbents of an occupation, is one of the earliest and most widely used indicators of social standing.

¹⁰ Ganzeboom, Graaf, and Treiman (1992) and Jonsson et al. (2009) have provided detailed discussions on the history of the categorical versus continuous approach to socioeconomic status measures.

Measurements of occupational prestige typically rely on subjective evaluations of occupations by either population-representative or well-informed respondents. In one of the earliest studies on occupational prestige, Davis (1927) asked students aged 12 to 17 to rank 45 occupations in the U.S. and Russia.¹¹ Most notably, the National Opinion Research Center (NORC) at the University of Chicago collected information on occupational prestige in four major national surveys: the NORC 1947 and 1963 Occupational Prestige Surveys and the 1989 and 2012 General Social Surveys (GSS) (North and Hatt 1947; Smith and Son 2014). Because it is not practical to ask a respondent to evaluate the prestige of all occupations, typically only a subsample is given the task of evaluating a subset of occupations. Integrating information through statistical modeling across different subsamples enables researchers to derive occupational prestige for all occupations. For example, assume that each respondent was asked to rank nine occupations from the lowest to the highest. If we assume equal distances between two adjacently rated categories, the value of the j^{th} occupation can be calculated as follows (Wegener 1992):

$$P_j = \sum_{i=1}^9 12.5(i-1)X_{ji}$$

where X_{ji} is the proportion of rankings received by the j^{th} occupation with ranking i , with $\sum_{i=1}^9 X_{ji} = 1$. The prestige estimate P_j is a weighted score normalized in the range of 0–100.

Using survey data, Siegel (1971) developed the first set of prestige scores for all 1960 U.S. Census occupations. Hauser and Featherman (1977) and Davis and Smith (1991) updated the prestige scores of occupations in the 1970 U.S. Census. These scores were subsequently

¹¹ A few follow-up studies published between 1927 and 1942 have adopted this approach by asking high-school or college students and workers to rate different sets of occupations (Anderson 1927, 1928, 1934; Cattell 1942; Coutu 1936; Lehman and Witty 1931; Osgood and Stagner 1941; Smith 1943).

updated for the 1980, 1990, and 2010 Census occupations (Stevens and Hoisington 1987; Treas and Nakao 1994; Hout, Smith, and Marsden 2015). In addition to these prestige ratings for the U.S., Treiman (1975, 1977) developed the Standard International Occupational Prestige Scale using the International Standard Classification of Occupations.

One remarkable finding emerging from previous research is that occupational prestige, measured by averaging across individual survey responses, is highly stable across populations and time (Cattell 1942; Clark 1948; Welch 1950). Svalastoga (1959) showed that subgroups by sex, age, place of residence, and occupation tended to give highly consistent prestige ratings of different occupations. Hodge, Siegel, and Rossi (1964) found a correlation of 0.99 for occupational prestige estimated from the 1947 and 1963 NORC surveys. Hauser (1982) showed that prestige ratings for occupations in a few historical studies of mid-nineteenth century American cities (Philadelphia, Pennsylvania; Hamilton, Ontario; Kingston, New York; Buffalo, New York; and Poughkeepsie, New York) are highly correlated with those in the 1964–65 NORC surveys. Inkeles and Rossi (1956) revealed a pairwise correlation in occupational prestige in the range of 0.74–0.97 between six industrialized countries. Hodge, Treiman, and Rossi (1966) and Treiman (1975) further showed an average correlation of 0.81 among occupations across 55 countries in the 1970s. Attributing this finding to Treiman’s dissertation-based book (1977), Hout and DiPrete (2006) called this property of prestige scores the “Treiman Constant.”¹²

As a highly visible and stable social attribute, prestige is one of many features in an occupation. As Krau, Schild, and Hodge (1978) argued, “people living at different times, persons living in different societies, and members of different groups in the same society may evince

¹² Some studies also argued that the similarity in prestige scores between societies might be overestimated, as only a small and biased sample of occupational titles is translatable across societies (Haller and Lewis 1966).

remarkably similar evaluations of occupations” when they are asked to grade, score, or rank occupations using a single ordered dimension. The simple implementation of this measure also reflects its weakness. Individuals may vary substantially in the criteria they adopt when assigning prestige ratings for occupations (Davies 1952; Hatt 1950). Prestige scores are thus not always highly correlated with other occupation-level variables such as political behavior, social participation, health, and other wellbeing outcomes. Hauser and Warren (1997) called this problem “the low criterion validity.”

3.2 Socioeconomic Index

In 1961, Otis Dudley Duncan published his work on the socioeconomic index (SEI), which quickly became the most popular continuous occupational status measure. The main difference between prestige scores and SEI is that the latter is a composite based on objective indicators at the occupation level and thus does not require data on personal evaluations of occupations. Specifically, the Duncan SEI is a weighted sum of the average education and average income of incumbents within an occupation.¹³ Duncan (1961) derived the weights using public opinion data for a small set of occupations from the 1947 NORC Occupational Prestige Survey and occupation data from the 1950 U.S. Census (NORC1947, 1948). He first regressed the occupation prestige of 45 occupational titles in the 1947 survey on the age-specific average education and income of matched occupations in the 1950 Census and obtained the following equation¹⁴

¹³ Hollingshead (1957) also proposed the idea of measuring occupational status using a composite index. The Hollingshead Index of Social Position (ISP) ranks occupations and education from 1 (high) to 7 (low) and creates a composite by weighting occupational scores by a factor of 7 and educational scores by a factor of 4. The resulting index in the range of 11 to 77 is then divided into five classes, with the highest class scored from 11 to 17, and the lowest class scored from 61 to 77.

¹⁴ Duncan (1961) matched the occupational titles in the NORC occupational prestige survey with occupational titles in the 1950 Census classification. Many of the NORC titles were too specific, and only 45 out of the 90 NORC titles

$$\hat{Y}_{1j} = 0.59 * Y_{2j} + 0.55 * Y_{3j} - 6.0.$$

In the original NORC survey questionnaire, respondents were asked to choose one rating for each occupation from the choices of “excellent,” “good,” “average,” “somewhat below average,” and “poor.” Y_1 refers to the percentage of “excellent” or “good” ratings.¹⁵ Y_2 refers to the percentage of male occupational incumbents who earned incomes of \$3,500 or more in 1949, excluding those who did not answer the income question or reported no income. Y_3 refers to the percentage of male incumbents in the 1950 U.S. Census who were high school graduates.¹⁶ Duncan further adjusted the socioeconomic index for age differences among occupations using the indirect standardization method. Specifically, he treated the age-specific distribution for the entire male experienced civilian labor force aged 14 and above as the standard and used it to adjust the actual age distribution of a particular occupation to yield an overall expected proportion of high-school graduates or of incomes of \$3,500 or more for incumbents of that occupation. Duncan devised the method to predict the prestige levels of occupations in the 1950 Census for which direct prestige ratings were unavailable. The predicted value of \hat{Y}_1 obtained from the age-adjusted education and income values for a given occupation in the Census is known as the “socioeconomic index (SEI).”

The originally SEI was based on the 1950 Census, but Duncan later updated the SEI scores using the 1960 Census occupations and used these resulting scores to analyze data from the “Occupational Changes in a Generation” (OCG I) study (Blau and Duncan 1967). Hauser and

were reasonably equivalent to Census titles. Duncan also picked 16 occupations that are poorly matched to NORC titles and compared the NORC prestige ratings for these 16 titles with their predicted socioeconomic indexes. The results show a high correlation between these two measures with and without these additional occupations, suggesting good predictive power of the method using the original 45 occupations.

¹⁵ As Duncan (1961) argued, given that the original NORC prestige score was created by “an arbitrary weighted summation procedure,” he decided to explore an alternative measure that relies only on the raw data.

¹⁶ These respondents include those who reported in the Census as “high school 4,” “college 1 to 3,” and “college 4 or more.”

Featherman (1977) and Stevens and Featherman (1981) updated the Duncan SEI for the 1970 Census occupations. Stevens and Cho (1985) updated the SEI for the 1980 Census Occupations. Hauser and Warren (1997) further re-estimated the SEI using the occupational prestige ratings from the 1989 NORC General Social Survey (GSS) and occupational education and income data from the 1990 Census.

Duncan's SEI is attractive because it generalizes survey-based prestige ratings for a small set of occupations to a wider range of occupations based on occupation-level objective attributes.¹⁷ Yet, as Duncan noted (1961), the two objective characteristics, i.e., occupational income and occupational education, are not the only social determinants of prestige rating. Factors other than knowledge of incumbents' income and education, or even the lack of knowledge about certain occupations, also influence individuals' judgment of prestige values. Featherman and Hauser (1976), Hodge (1981), and Treas and Tyree (1979) provided extensive discussions about the strengths and limitations of prestige versus SEI measures.¹⁸ Hauser and Warren (1997) demonstrated that occupational education and occupational income scores represent two correlated, but not always aligned, aspects of occupational status and should be better analyzed separately rather than being combined into a composite as in the Duncan SEI.

As discussed earlier, Duncan's SEI was built upon the 1947 NORC occupational prestige scores. Yet, another strand of research has also developed "prestige-free" measures of socioeconomic status. Blishen (1958) and Blishen and McRoberts (1976) created the standard

¹⁷ Fox (2016: 287) shows that Duncan's original SEI estimates are likely to be sensitive to the presence of just two outlier observations, railroad conductors and ministers, in the 45 occupations included in the prestige regression analysis. Had these outliers been deleted, the coefficient of occupational income would become much larger than that of occupational education in Duncan's original SEI regression model.

¹⁸ Occupational prestige is derived from subjective evaluations of the social standing of occupations, whereas occupational socioeconomic status reflects the objective socioeconomic compositions of workers in a particular occupation.

scores of occupational statuses based on income and years of schooling in the Canadian Census. Hollingshead (1949, 1957, 1975) and Hollingshead and Redlich (1958) developed the Index of Social Position based on two or more social factors related to educational attainment, occupations, quality of the neighborhood, marital status, and sex, sometimes also known as the Two-Factor, Three-Factor, and Four-Factor indexes.¹⁹ The IPUMS project recently added these measures to harmonized data from the U.S. Censuses and American Community Surveys using 1950, 1990, and 2010 occupation coding systems.²⁰

3.3 Percentile Scores

In a series of papers, Nam and Powers (1968, 1983) and Nam and Boyd (2004) developed an occupational percentile score measure to capture substantial changes in occupational statuses based on Census occupational categories. The rationale behind this measure is that high-status occupations have grown, in both number and size, over time, whereas low-status occupations have shrunk. Nam and Powers rated occupations using the average percentile of their incumbents in the cumulative distribution of workers across occupations after the occupations are ranked by median education and median income, respectively.

¹⁹ The Hollingshead two-factor index is a weighted sum of two ordinal scales from years of education (codes 1–7) and occupational status (codes 1–7) of household heads. The three-factor index further includes the quality of the neighborhood (codes 1–6). The four-factor index includes occupation, education, sex, and marital status based on information from both spouses in a household. The total score is either the individual score for unmarried persons or the average sum for both spouses.

²⁰ The IPUMS occupational education scores rely on the percentage of employed civilian workers aged 16 and above in each occupation with one or more years of college education. The score is calculated using the 1950 and 1990 Census occupations, separately. Because detailed education questions were not included in the Federal Population Census until 1940, IPUMS assigns scores calculated from the 1950 data for years before 1950. In calculating the occupational earnings score, the median income was first standardized—namely, by subtracting the mean earnings of all occupations and dividing the difference by the standard deviation of occupational earnings (i.e., z score)—and then converted into a percentile rank. In the calculation of the occupational income score, the unstandardized median total income of workers within each occupation measured in hundreds of dollars was used instead. The income variable includes workers' wages, business income, and farm income. A given occupation receives the same score in each Census before 1950 due to the lack of income information, but the score is based on updated income information across Census years after 1950.

Nam and Powers (1983: 127-142) first sorted occupations according to the educational level of men over 14 years old in the civilian labor force for the 1970 Census data. They then derived the education-based distribution by accumulating the proportion of workers employed in each occupation from the lowest-educated occupation to the highest-educated occupation. They used the same procedure to create a cumulative distribution by occupational income. They averaged the midpoints of the two cumulative distributions of workers in a given occupation and converted the raw score to a percentile status score for the occupation, which necessarily lies between 0 and 100. Each score indicates the approximate cumulative percentage of workers who are in “occupations having combined average levels of education and income below that for the given occupation.”

Featherman and Hauser (1976) adopted a similar approach when they compared Duncan’s SEI, Siegel’s NORC prestige score, and Treiman’s international prestige index. Specifically, they ranked occupations by these raw scores for the 1962 OCG data and then calculated and compared the percentile scores for all occupations in the 1970 Census based on the three different ranking criteria. However, their goal is not to create a new occupational measure but to use the percentile scores as a normalization method to compare these three SES scales.

The percentile score of Nam, Powers, and Boyd differs from the Duncan SEI in several respects. First, Nam and Powers used median education and income rather than the percentages of workers whose education and income are above certain arbitrary breaking points. Second, they did not indirectly standardize the scores by age, as Duncan did. Third, Duncan used prestige scores from the 1947 NORC survey to derive weights that can be generalized to all other occupations in the Census data, whereas the original Nam and Powers method is not anchored by

any prestige measures but gives equal weights to percentiles based on occupational income and occupational education. As a result, the Nam-Powers-Boyd score is a purely relative measure of occupational standing without drawing on any information from the actual levels of schooling or income in occupations.

The Nam-Powers-Boyd score encompasses several desirable properties. First, the score changes over time to reflect the relative standings of occupations. Duncan (1968) postulated that occupational changes occur with glacial speed, and thus a constant score can be reasonably assigned to each occupation. This view may be correct for an observation period spanning several cohorts or decades, but not from a long-term perspective.²¹ Second, the score is scale-free, naturally scaled between 0 and 100 as percentiles, representing the position of male workers in an occupation relative to all other male civilian workers in the entire labor market. Third, the score necessarily changes in response to changes in the occupational distribution, even in the absence of changes in workers' characteristics within an occupation. As the score reflects a relative status measure, the social standing of a group of workers depends on their own characteristics as well as those of workers in other occupations (see Haug 1977 and Powers 1982 for discussions on the advantage of Nam-Powers-Boyd scores). However, Hauser and Warren (1997: 193–194) pointed out that this index has the same problem as the Duncan index by averaging occupational income and occupational education percentiles for a given occupation.

²¹ Nam and Powers (1968) compared percentile scores of occupations in 1950 and 1960 Censuses and found a high correlation coefficient of 0.96. They concluded that changing proportions of different occupations only leads to a slight decline in percentile scores. Yet they have never examined the long time change of the percentile score.

3.4 Other Measures

A potential limitation of previous occupational measures is that they do not reflect the perceived desirability of jobs. Relying on a survey on job characteristics, Jencks, Perman, and Rainwater (1988) developed an index of job desirability (IJD), which combines 13 nonmonetary job characteristics with occupational earnings and weighs the relative importance of these characteristics in a score that varies between 41 and 689. These nonmonetary job characteristics include work hours per week,²² vacation weeks, on-the-job training, risk of job loss, educational requirements, the proportion of repetitive work, dirty work conditions, controls of own hours, frequent supervision, union contract, federal employee, state or local employee, and whether having a boss.²³

To derive the index, the authors asked survey respondents to rate their own jobs and a number of hypothetical jobs relative to an average job, such as telephone operator, carpenter, and payroll clerk, assuming the rating of an average job is 100.²⁴ The authors then ran a regression using individuals' averaged ratings for the j th job, namely, R_j , on job characteristics, $C_{1j} \dots C_{nj}$.

$$\log R_j = \beta_0 + \beta_1 C_{1j} + \beta_2 C_{2j} + \dots + \beta_n C_{nj} + e_j.$$

The coefficients $\beta_1 \dots \beta_n$ can be interpreted as weights for different job characteristics in predicting job desirability. The intercept β_0 is the average rating of a job if values of all job characteristics are equal to 0. Compared to the prestige score or the socioeconomic index, the job desirability index does not have the same external validity as prestige and socioeconomic indexes. Specifically, the desirability index is derived from 14 closed-ended questions being

²² This variable is centered at 35 and bottom coded at 0.

²³ In terms of the Weberian views of social stratification, the IJD measure incorporates all three dimensions of class, status, and power.

²⁴ For example, if an individual thinks her job is twice as good as an average job, then she is supposed to give a rating of 200.

asked in a survey with only 621 respondents. Occupations of these respondents only covered a subsample of all occupations in the occupational structure.²⁵ The authors did not validate, as did Duncan (1961), whether the job desirability equation can be generalized for other occupations not included in the equation. Neither is this index normalized with location and scale constraints, so the range of this index score would change if more or fewer occupations were considered.

4. LIMITATIONS OF PREVIOUS OCCUPATIONAL INDEXES

From the very beginning of social stratification research, scholars are concerned with the comparability of occupations across time or generation. Occupations evolve in ways, big or small, in response to economic changes, with the emergence of new occupations and obsolescence of old ones. In recent decades, many of these changes were driven by the influx of new technologies, educational upgrading, occupational licensing, and the restructuring of the local labor market due to globalization and international offshoring. As a result, the socioeconomic standing of the same occupation may vary over time as the overall occupational system evolves. For example, if parents and offspring stay in the same occupation, but the relative status of the occupation itself changes, should we consider such a scenario as intergenerational mobility or immobility?

Social stratification researchers have long noticed this problem and considered whether or not separate occupational standing schemes should be applied to individuals born into different birth cohorts. Duncan (1968) argued that the same occupational score scheme could be used for intercohort analyses as long as the occupational structure changes at a slow pace. Duncan's own calculation suggests that correlations in occupational prestige scores or

²⁵ In the same vein, Goldthorpe and Hope (1974) developed a measure called the general desirability of occupations.

occupational mean income between two consecutive survey years in 1925, 1940, 1947, and 1963 were between 0.95 and 0.99. The correlation between prestige scores measured 38 years apart was as high as 0.934. Follow-up evidence also shows that the interannual correlation in occupational prestige (Hodge, Siegel, and Rossi 1964) and occupational education score (Hodge 1961) can be as high as 0.97. Thus, Duncan (1968) concluded that “Hence the structure, if it continued to evolve under these conditions, would gradually drift away from its initial configuration to one which bore no resemblance thereto... Yet, on the estimates now available, this would take quite a long time.”

Duncan’s conclusion is limited to the comparison of birth cohorts only a few decades apart. However, we do not know if commonly used occupational scales are stable for long-term historical changes over many decades or centuries. It is time to revisit the comparability of occupations in terms of classifications and scales in light of the growing availability of historical and contemporary administrative and survey data (Ruggles 2014; Song and Campbell 2017).

Building on previous work, we develop an occupational measure for relative occupational status over long periods of time or even across multiple generations. Substantial changes in occupational status occur not only because of the increasing diversity of labor or changing activities under the same occupational titles but also because of historical changes in proportions of workers employed in different occupations. As Nam and Powers (1968) observed, “the relative status levels of an exceedingly high percentage of occupations were lower in 1960 than in 1950, owing to a general depression of the status structure brought about by decreasing relative numbers of persons in low-status occupations and corresponding increasing relative numbers in high-status occupations.” In recent decades, the expansion of the technology sector and manufacturing job losses further placed relatively more persons at the top and fewer at the

bottom. As a result, many previously high-status jobs have become less privileged, and low-status jobs have become even more disadvantaged in status rankings. To account for occupational restructuring over time, we construct an occupational percentile measure for each birth cohort, assigning possibly different status scores to workers who worked in the same occupation but entered it at varying times.

5. METHODOLOGY

5.1 Data and Variables

We constructed occupational percentile ranks using the IPUMS U.S. Population Censuses from 1850 to 2000 and American Community Survey (ACS) from 2001 to 2018 (hereafter, IPUMS Population sample).²⁶ Appendix Table A3 summarizes these data sources. When full-count Census data were available (e.g., 1850–1940), we used full-count data over Census samples, except for 1890, for which the original data were damaged. When both 1% and 5% samples were available (e.g., 2000), we chose the larger sample.²⁷

Our analysis pooled individuals who were born in the same year but were observed in different Census years. We first restricted the sample to men and women ages 25 to 64 and then generated cohort-specific occupational percentile ranks based on the literacy rate or educational distribution within an occupation. Birth cohorts are defined by a 10-year interval based on the midpoint year. For example, the birth cohort of 1790 refers to workers who were born between 1786 and 1795. Appendix Table A4 shows the availability of data by birth cohort. The education variable was not included in the U.S. Census until 1940. Workers were only asked to report

²⁶ The year 1890 was missing because the original Census records were destroyed.

²⁷ For the year 1970, six 1% samples were drawn independently from the population data and the two 1% samples included in our analysis are known as Form 1 and Form 2.

literacy—whether they could write or read before 1940. Therefore, we used the literacy variable to generate the percentile ranks of occupations for birth cohorts born between 1790 and 1880 and derived a detailed educational score for each occupation based on years of schooling weighted by the proportion of workers at each educational level for birth cohorts born after 1880. The next section describes our procedures for developing occupational percentile ranks.

5.2 The Construction of Percentile Ranks

The construction of occupational percentile ranks takes four steps:

(1) Defining a Consistent Occupational Grouping over Time

This is an optional step, as the rest of the methodology can be applied to different occupational classifications for different cohorts. For ease of interpretation and consistency in measurement over Census years for the same cohorts, however, the researcher may wish to have the same occupational classification over time. Ideally, we classify workers into a parsimonious number of occupational categories distinct from each other while also maintaining relative homogeneity within each category. The DOT scheme that we discussed earlier provides the most detailed categorization of occupations currently available, but there has been no administrative effort to collect information pertaining to occupants under each occupational title. The detailed occupational list in modern federal censuses provides a more tractable set of occupations, which retain more than 300 occupational groups with a fair degree of within-group similarity. It is worth noting that the generation of occupational percentile ranks depends on the coding of occupations. More detailed occupation classification would capture more nuanced differences between occupational groups.

We decided to map historical occupations measured from different Census years to occupational groups defined in the 1950 Census Bureau's occupational classification because the

1950 occupation codes already exist in all years of IPUMS Census and ACS data.²⁸ The original 1950 occupational classification consists of 269 valid occupational categories.²⁹ However, not all occupations in the 1950 Census scheme are consistently measured across the period of 1850–2018. For occupations with zero observations during some years, their percentile ranks are undefined and inconsequential to our task of measuring workers’ social status, as no workers would be found in these occupations.

(2) Rating and Ranking Occupations

The previous step results in a dataset that contains 5,380 observations (269 occupations * 20 cohorts), each of which refers to a 1950 Census occupation for a certain birth cohort born between 1790 and 1980. Other variables in the dataset include the number of workers within each occupation and the number of persons with varying levels of education. The detailed education variable was not available until the 1940 Census. For Census years prior to 1940, we generate occupations’ literacy scores from a dichotomous variable (0 = illiterate; 1 = literate, can both read and write). Although educational measures are different before and after 1940, we have verified that literacy versus detailed levels of education yield very similar percentile ranks for cohorts measured by both variables in different Census years (i.e., cohorts born between 1880 and 1910). The differences in percentile ranks measured by these two education variables are minimal for most occupations.³⁰

²⁸ The documentation of the 1950 classification can be found in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS” (<https://usa.ipums.org/usa/chapter4/chapter4.shtml>) and the “Alphabetic Index of Occupations and Industries: 1950” (<https://usa.ipums.org/usa/resources/volii/Occupations1950.pdf>).

²⁹ Occupations with codes above 970 are excluded from our analysis. These occupations include 979 not yet classified; 980 keeps house/housekeeping at home/housewife; 981 imputed keeping house (1850–1900); 982 helping at home/helps parents/housework; 983 at school/student; 984 retired; 985 unemployed/without occupation; 986 invalid/disabled with no occupation reported; 987 inmate; 990 new worker; 991 gentleman/lady/at leisure; 995 other nonoccupational; 997 occupation missing/unknown; and 999 N/A (blank).

³⁰ Readers who are interested in potential measurement errors caused by the switch from literacy to educational attainment measures can find the sensitivity analysis shown in the supplementary materials Figure S6 in Song et al.

Next, we measure occupational statuses based on the educational distribution within each occupation. For occupation i , its status score is the weighted average of the education percentile:

$$S_{it} = \sum_x p(x|i, t) \cdot Q_t(r^x), \quad (1)$$

where $p(x|i, t)$ is the proportion of educational level x in occupation i and birth cohort t ; $Q_t(r^x)$ is the percentile rank of educational level x in birth cohort t . For example, assume we have four educational groups ranked from 1 (low) to 4 (high) and vary in size from 40, 30, 20, to 10 in a general population that contains 100 individuals in total. The percentile rank of group 4 is 95—the midpoint of the 90th percentile and the 100th percentile. Likewise, the percentile ranks of groups 1, 2, and 3 would be 20, 55, and 80. Assume that for a specific occupation i , the proportions of educational groups from 1 to 4 are 0.1, 0.35, 0.3, and 0.25, respectively. Thus, this occupation's status score is 69 ($= 0.1 \cdot 20 + 0.35 \cdot 55 + 0.3 \cdot 80 + 0.25 \cdot 95$). Note that the term $Q_t(r^x)$ is designed to reflect the relative status change by educational attainment. Obviously, an occupation with more college-educated workers would have a higher status than an occupation with fewer college-educated workers, all other things being equal. However, due to the expansion of higher education over time, the relative status of the college-educated group per se has declined. An occupation with 20 percent of college-educated workers in 1940 would have a higher status than an occupation with the same proportion of college-educated workers in 2000 because there is a larger proportion of workers with college education in 2000 than in 1940.

Following the recommendation of Hauser and Warren (1997), we derive occupational statuses on the basis of occupational education alone. We do not use occupational income because income information is either absent or very crude in historical data. Hauser et al. (2000) showed that socioeconomic status scores based on occupational education and occupational

(2020). For all the analyses in this paper, we prefer estimates of occupational percentile ranks from educational attainment to those from literacy when both are available.

income are not always consistent with each other. For example, women's occupational education has exceeded or trailed that of men for recent birth cohorts, but their occupational income falls largely behind men's (e.g., Buchmann, DiPrete, and McDaniel 2008). Thus, education- or prestige-based occupational measures typically yield higher socioeconomic standings for women than do income or wage-based measures (Bose and Rossi 1983; Warren, Sheridan, and Hauser 1998).

Gender has long been a concern in critiques of SEI-based studies. The original NORC surveys excluded female-dominated occupations from prestige ratings (Reiss 1961:5), and these data were further restricted to male workers in Duncan's prestige regression for the construction of SEI. Fox and Suschnigg (1989) showed that the exclusion of female workers or female-dominant occupations in prestige surveys had little impact on the estimation of occupational prestige ratings. However, Boyd (1986) compared socioeconomic indexes using only men (Blishen and McRoberts 1976), only women (Blishen and Carroll 1978), and all members of the labor force, for Canadian Census data, and found that a socioeconomic index based on both sexes is preferable for studying occupational attainment.³¹ Hauser and Warren (1997) also recommended a socioeconomic index with workers of both sexes (also see Warren et al. 1998). For these reasons, we include both men and women in the calculation of the occupational status scores.³²

With resulting status scores for all occupations for a given cohort, S_{it} from equation (1), we rank the occupations from the lowest to the highest in the 1950 classification. At the occupational level, Treiman (1977) showed relative stability of occupational prestige ranks over

³¹ Boyd (1986) showed that SEI derived from both men and women provides better results than those derived from male workers alone as the former better captures female disadvantages in the labor force.

³² Nam and Powers (1983) derived their occupational status scores for only civilian male workers 14 years of age and older, as comparable data for females were not available in published data tabulations.

time and across societies. We thus refer to the ranking at the occupation level as “Treiman’s rank.”

(3) Converting Occupational Ranks to Percentile Ranks

We further convert occupational ranks into percentile ranks at the workers’ level by aggregating the number of workers engaged in each occupation into a cumulative distribution from the lowest- to the highest-ranked occupations within each cohort. Compared to Treiman’s ranks, the percentile ranks are less stable over time because the latter responds to changes in occupational sizes. For example, if a high-status occupation expands dramatically in size without changing its educational composition, the relative status of this occupation and occupations below it would decline. Overall, this step of normalization yields occupational percentile ranks at the workers’ level, from 0 to 100, with a higher value indicating a higher occupational status.

(4) Percentile Rank Smoothing

Because we only have a 1% or 5% sample for years after 1950, the number of observations within some occupations varies wildly across years. To smooth out fluctuation caused by small samples, we use the moving average method. The adjusted percentile for the birth cohort t is

$$\text{pkrank}_t^{\text{adj}} = 0.25 * \text{pkrank}_{t-1} + 0.5 * \text{pkrank}_t + 0.25 * \text{pkrank}_{t+1}$$

For birth cohorts at the two ends, when pkrank_{t-1} or pkrank_{t+1} is missing, we use

$$\text{pkrank}_t^{\text{adj}} = 0.25 * \text{pkrank}_{t-1} + 0.75 * \text{pkrank}_t$$

$$\text{pkrank}_t^{\text{adj}} = 0.75 * \text{pkrank}_t + 0.25 * \text{pkrank}_{t+1}$$

This step is also optional. The smoothing adjustment is unnecessary when each occupation contains a sufficiently large number of workers for each birth cohort.

6. RESULTS

In Table 1, we present correlations across birth cohorts in both Treiman's ranks, shown in the lower triangle, and percentile ranks, shown in the upper triangle. The shaded region refers to higher correlations in Treiman's ranks than corresponding ones in percentile ranks. Note that to be conservative, we report correlations in unsmoothed percentile ranks across cohorts, as correlations in smoothed percentile ranks would be larger.

Overall, the majority of cells below the diagonal are highlighted, suggesting that occupational statuses measured by Treiman's ranks are more stable over time than percentile ranks. For example, the correlation between Treiman's ranks of occupations for the birth cohorts 1790 and 1850 is 0.69, and the corresponding correlation in percentile ranks is 0.68. As we discussed earlier, this pattern is due to the fact that Treiman's ranks reflect only changes in the relative order of occupations, whereas percentile ranks are a function of both the relative order of occupations and sizes of occupations. However, we also notice that most cells at the top left corner and the bottom right corner are not highlighted, deviating from the general pattern.

TABLE 1 ABOUT HERE

For illustration, we provide a graphic summary of occupational percentile changes for some major occupations in Figures 1–4. Figure 1 shows a select group of 1950 Census occupations in the broad category of professional, technical, and managerial occupations. Most top-level professional occupations (codes 000–095), such as accountants, architects, lawyers, dentists, and scientists, have remained constant in their occupational percentile ranks. For example, dentists have been among one of the most prestigious occupations, with the percentile ranks in the range of 97.4–99.9 for birth cohorts between 1800 and 1980 (see Table 2). By contrast, the percentile ranks of low-skilled technological occupations (codes 200–290), such as

postmasters, purchasing agents, pilots and pursers, and railroad conductors, have generally declined. For example, the percentile ranks of railroad conductors used to be higher than 95 for cohorts born before 1880 but dropped to 68.5 for the 1890 birth cohort and further to 36.8 for the most recent 1980 cohort. A possible explanation is rising automation, with much work that used to be performed by humans being replaced by machines, programs, software, and robots (Autor 2019; Jarvis and Song 2017) and a massive increase in professional and technical occupations with technology-introduced job requirements (see SI Appendix Figures S4 and S5 in Song et al. 2020).

FIGURE 1 ABOUT HERE

Figure 2 shows that percentile ranks of most occupations in the clerical, sales, and service occupations trended down, and this secular change has in some instances reordered the relative rankings of many occupations, i.e., the Treiman rank. For example, the percentile ranks of bill and account collectors (code 321) used to be close to 99 for those born around the 1800s but dropped to the level of 38 for the recent birth cohort. In contrast, the percentile rank of policemen and detective (code 773) was 97 for the 1800 birth cohort, lower than that of bill and account collectors, but experienced less decline and stabilized around the 73rd percentile for recent cohorts. Several occupations stand out as outliers: the status of housekeepers and stewards (code 764) increased from the 31st percentile for the 1800 cohort to the 86th percentile for the 1860 cohort, declined for 1870–1920 cohorts, and increased again for recent 1930–1980 cohorts. Waiters and waitresses (code 784) show a similar N-shaped trend, with their occupational status first increasing from the 11th percentile to the 65.5th percentile for cohorts between 1800–1870, then declining to the 14th percentile for the 1940 cohorts, and rising to the 34th percentile for the most recent cohort. Cooks (code 754) used to be one of the lowest-status occupations, ranked

below the 1st percentile for the 1800 cohort, but its status grew dramatically in subsequent cohorts and peaked at the 49th percentile for the 1890 cohort. Even though its occupational status dropped for cohorts born after 1900, its rank for the 1980 cohort, the 15th percentile, is still higher than that for the 1800 cohort.

FIGURE 2 ABOUT HERE

Figure 3 reveals more substantial long-term declines in occupational percentile ranks among craftsmen and operative occupations. The occupational statuses of bookbinders (code 502), boilermakers (code 503), compositors and typesetters (code 512), machinists (code 544), and painters and maintenance (code 564) all declined from higher than the 90th to lower than the 37th percentile for the 1800–1980 birth cohorts. This trend may result from the negative consequences of technological innovations (Braverman 1974). The introduction of sophisticated machinery, accompanied by the decline in industrial profit margins, routinized job tasks and deskilled many blue-collar craftsmen. Using compositors and typesetters in the printing industry as an example, Wallace and Kalleberg (1982) argued that “deskilling” meant that many traditional skills, such as the judgment of operators in setting linotype machines, became antiquated in the modern composing room, and the advent of teletypesetting technology also significantly diminished the training time for apprentice jobs. As a result, skill levels for many craftsmen and operative occupations declined, leading to the erosion of social statuses of craftsmen occupations.

FIGURE 3 ABOUT HERE

Figure 4 shows the trends for agricultural occupations. The social statuses of farmers and farm laborers have been consistently low. The occupational percentiles of farmers (code 100) dropped from the 43rd percentile for the 1810 cohort to the 36th percentile for the 1980 cohort.

The percentiles of farm laborers (code 820) changed from the 6th to the 1st percentile over the same period. Part of this decline was driven by the changing size of the agricultural sector: the farming population accounted for 51 percent of the total labor force population in the 1810 birth cohort but only 1 percent in the 1980 cohort (SI Appendix Tables S4 and S5 in Song et al. 2020). The statuses of farm managers (code 123) and farm foremen (code 810) first increased and then decreased over time, suggesting a possible skill upgrading and then downgrading in the course of industrialization and technological improvement.

FIGURE 4 ABOUT HERE

Overall, these figures illustrate a general trend in the declines of occupational percentile ranks among routine and manual occupations and relative stability for occupations at either the top or the bottom of social hierarchy. Over time, relative occupational statuses could decline for two potential reasons. First, differential educational upgrading across occupations could lead to falling statuses of some occupations relative to others. We can observe this change using the Treiman rank shown in Appendix Table A7. For example, the educational ranking of sports instructors and officials (code 91) used to be very low, only ranked 17 out of the total 222 occupations for the 1800 cohort, but the rank improved steadily over time and reached 134 for the 1980 cohort. By contrast, the educational rank of surveyors (code 92) was higher than that of sports instructors for the 1800–1880 cohorts but fell behind afterward. The educational rank of its incumbents finally dropped to 117 for the 1980 cohort. Second, the relative status of an occupation declines as higher-status occupations expand. Appendix Table A8 shows the relative sizes of occupations by birth cohort. The proportion of professional, technical, and managerial occupations (codes 0–290 excepting 100 farmers and 123 farm managers) accounts for 9.1% of the whole labor force for the 1800 birth cohort and increases to 18.1% for the 1900 birth cohort

and further to around 40% for birth cohorts after 1950 (see Appendix Table A8). The increasing share of workers in these top-ranked occupations would lead to a fall in ranks of middle- and lower-status occupations, such as service and manufacturing, and a widening in status distances between occupations ranked at different levels.

In Table 2, we present the full list of percentile ranks by occupation and birth cohort. Empty cells indicate zero observations of an occupation for a particular cohort. We reproduce them here so that researchers may merge them into their own data. Appendix Tables A5 and A6 provide percentile ranks by occupation and birth cohort using 1990 and 2010 Census occupational classification schemes. Because historical data are not coded in 1990 and 2010 occupations, the time coverage of these occupational percentile ranks is shorter than that using the 1950 Census classification shown in Table 2.

TABLE 2 ABOUT HERE

How do the newly constructed occupational percentile ranks compare to other standard occupational measures over the long term? In Table 3, we present estimated correlations of the percentile ranks with Duncan SEI, Hauser-Warren SEI, Siegel prestige scores, Nakao-Treas prestige scores, and Nam-Powers-Boyd occupational scores, respectively.³³ Note that our percentile ranks are occupation and cohort-specific, whereas the other indexes except for the Nam-Powers-Boyd scores are assumed to be constant over time within occupations. Overall, our percentile ranks reveal a stronger correlation with SEI than with prestige scores. This result is not surprising, as we created the percentile ranks based on occupational education, which is also a

³³ The Duncan SEI is constructed by assigning the original Duncan Socioeconomic Index scores to each occupation using the IPUMS OCC1950 variable. The Siegel prestige scores are constructed by assigning the original Siegel prestige scores to each occupation using the IPUMS OCC1950 variable. More information on the construction of OCC1950 and occupational standing measures can be found in the IPUMS “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS” (<https://usa.ipums.org/usa/chapter4/chapter4.shtml>).

core component of the SEI measures. Our percentile ranks are also strongly correlated with Nam-Powers-Boyd occupational scores derived from the average occupational income percentiles and occupational education percentiles for years after 1950.

TABLE 3 ABOUT HERE

We are particularly interested in changes in the correlations over time. The strongest correlations between Duncan SEI and percentile rank scores are observed for birth cohorts 1910 and 1920 ($\rho = 0.92$). This is because Duncan SEI was developed using the 1950 Census data, in which most prime-age workers were born around the 1910s and 1920s. While generally lower than those between percentile ranks and the Duncan SEI, the highest correlations between percentile ranks and Siegel scores are observed for the 1910 and 1920 birth cohorts ($\rho = 0.84$), the same cohorts for whom we observe the highest correlations between percentile ranks and the Duncan SEI.³⁴ The IPUMS Nakao-Treas prestige scores and the Hauser-Warren SEI were both developed using the 1990 Census occupational scheme as the basis.³⁵ The strongest correlations between these indexes and the percentile ranks emerge for the 1950 and 1960 birth cohorts, who were in their 30s and 40s in the Census year 1990 ($\rho = 0.91$ for Hauser-Warren SEI and 0.82 for

³⁴ The original Siegel prestige scores were based on the 1960 Census occupations, which contained more occupational categories than those in the 1950 Census. The IPUMS project team aggregated the 1960 Census scheme to harmonize them with the 1950 Census scheme. When a 1960 occupation corresponds to several occupations in the 1950 classification scheme, the IPUMS data assigned the same 1960 prestige scores to its corresponding 1950 occupational categories. Conversely, when a 1950 occupation corresponds to several occupations in the 1960 classification scheme, the IPUMS data calculated the 1950 prestige score using the weighted average of the 1960 occupational categories based on the prestige score and number of observations within each 1960 category.

³⁵ Hauser-Warren SEI is constructed by assigning the original Hauser-Warren Socioeconomic Index scores to each occupation using the IPUMS OCC1990 variable. The Nakao-Treas prestige scores are constructed by assigning the original Nakao-Treas prestige scores to each occupation using the IPUMS OCC1990 variable. The original Nakao-Treas scores were based on the 1980 Census occupations, similar to the 1990 Census occupations. The IPUMS project team aggregated several 1990 occupational categories to harmonize them with the 1980 Census scheme. When the 1990 scheme is more detailed than the 1980 scheme used by Nakao and Treas (1994), the IPUMS data assigned the same 1980 prestige scores to all of the 1990 occupational categories. Conversely, when the 1980 scheme is more detailed than the 1990 scheme, the IPUMS data calculated the 1990 score using the weighted average of the 1980 occupational categories based on the prestige score and number of observations within each 1980 category.

Nakao-Treas prestige score). The correlations between the percentile ranks and occupational status measures are the smallest for early birth cohorts. For example, the correlation between percentile ranks and Hauser-Warren SEI is 0.37 for the 1790 birth cohort, only 40% as large as the correlation for the 1950 birth cohort. These results reaffirm our research motivation that relative occupational statuses have changed substantially over a long-time span.

As we discussed earlier, the Nam-Powers-Boyd occupational score is a percentile rank measure, indicating the percentage of workers in occupations that are lower in status measured by education and earnings. The IPUMS Nam-Powers-Boyd score was constructed by combining median education and median earnings for each occupation in the OCC1950 weighted by the size of each occupation. Due to data limitations, the 1950 scores were assigned to data in pre-1950 Censuses, and trend data are only calculated for 1950 onward.³⁶ The results show an increase in the association between Nam-Powers-Boyd percentile scores and our occupational percentile ranks by birth cohort.

7. CONCLUSION

This paper consists of three major components. First, we reviewed qualitative and quantitative occupational measures developed in the sociological literature for historical data from preindustrial or early-industrial times. We note that most of them were developed for a specific population, period, or research setting. Thus, it is difficult to compare historical measures across studies or use the same measures to study trends over time or across societies. Changes in occupational structure present major challenges for constructing occupation-based measures that

³⁶ The IPUMS Nam-Powers-Boyd occupational status score was constructed by combining median education and median earnings for each occupation in the OCC1950 weighted by the size of each occupation. The score was calculated using year-specific earnings and education data after the 1950 Census. Years before 1950 were assigned the 1950 values.

would maintain comparability over a long historical period. The arrival of new technologies created many occupations while making some others obsolete along the way. Even for occupations that endured through time, the population size and composition of workers as well as their skills may have changed substantially. A quantitative measure of occupations, based on a unidimensional scale of socioeconomic indexes, may well capture the evolution of occupational social standing and facilitate statistical analyses with a tractable number of parameters.

Second, we provided a systematic review of the best-known occupational indexes in the literature. These measures consist of four broad groups: occupational prestige indexes, socioeconomic indexes, percentile scores, and job desirability indexes. Most of these measures were either developed for a single Census year or showed high stability in status scores over time. These indexes, however, do not work well when long-term changes occur over many decades or even more than a century, in the relative ordering of occupational statuses due to differential educational upgrading and occupational expansion in size. It is time to reevaluate the comparability of occupations and their measures across time, given the rapid growth of harmonized or linked historic and modern administrative and survey data.

Third, this paper introduced a new percentile rank-based socioeconomic status scale constructed from Census and ACS microdata from 1850 to 2018. With this new measure, researchers can measure and compare occupational statuses for workers born in different birth cohorts. It has been long accepted in sociology, either explicitly or implicitly, that there is a universal occupational status system cross-nationally and cross-time. Although the occupational hierarchy is remarkably stable, as suggested by the “Treiman constant,” whether a worker’s occupation-based social status is invariant depends on a researcher’s perspective. In our view, social status should best be viewed in relative terms when research attention is focused on social

inequality, hierarchy, or status differentiation among individuals in a given population. In social status, one person's gain is another person's loss. For this reason, even when an occupation's absolute status does not change, the relative status of workers in the occupation may change as a result of such structural changes as occupational expansion or contraction. Our analysis of the past 150 years in the United States suggests that the statuses of most occupations have declined despite the stability of the relative ordering of occupations. The distances between occupations evolve as the numbers of incumbents in different occupations rise and fall over time. Our new occupation-based socioeconomic index can capture such temporal changes in occupational statuses due to changes in occupational sizes and compositions. Moreover, occupational percentile ranks based on Census 1950, 1990, and 2010 occupational schemes developed in this paper can be easily merged with social surveys and administrative data that include occupational measures based on Census occupation codes or crosswalks.

We would caution the reader that our occupational percentile index is meant to supplement, rather than replace, traditional socioeconomic indexes, such as the Duncan SEI (1961), the Stevens-Featherman SEI (1981), the Stevens-Cho SEI (1985), the Hauser-Warren SEI (1997), Siegel prestige scores (1971), Nakao-Treas prestige scores (1994), and Nam-Powers-Boyd occupational percentile scores (1968, 1983, 2004). These prestige scores or occupational indexes are still useful in research settings when a single year of Census data is used, or the survey data do not span long stretches of time. Warren et al. (1998) compared 15 different occupational status measures and showed that analyses of occupational stratification might be sensitive to the choice of measures. Our measure introduces an additional tool with which social science researchers can analyze occupational change and status mobility. Yet, no one occupational measure satisfies all research purposes in view of the complexity of the social

world. It is ultimately the task of researchers, given substantive research objectives, to select occupational constructs and ensure that important sociological findings do not reflect artifacts of metrics being chosen.

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TABLES AND FIGURES

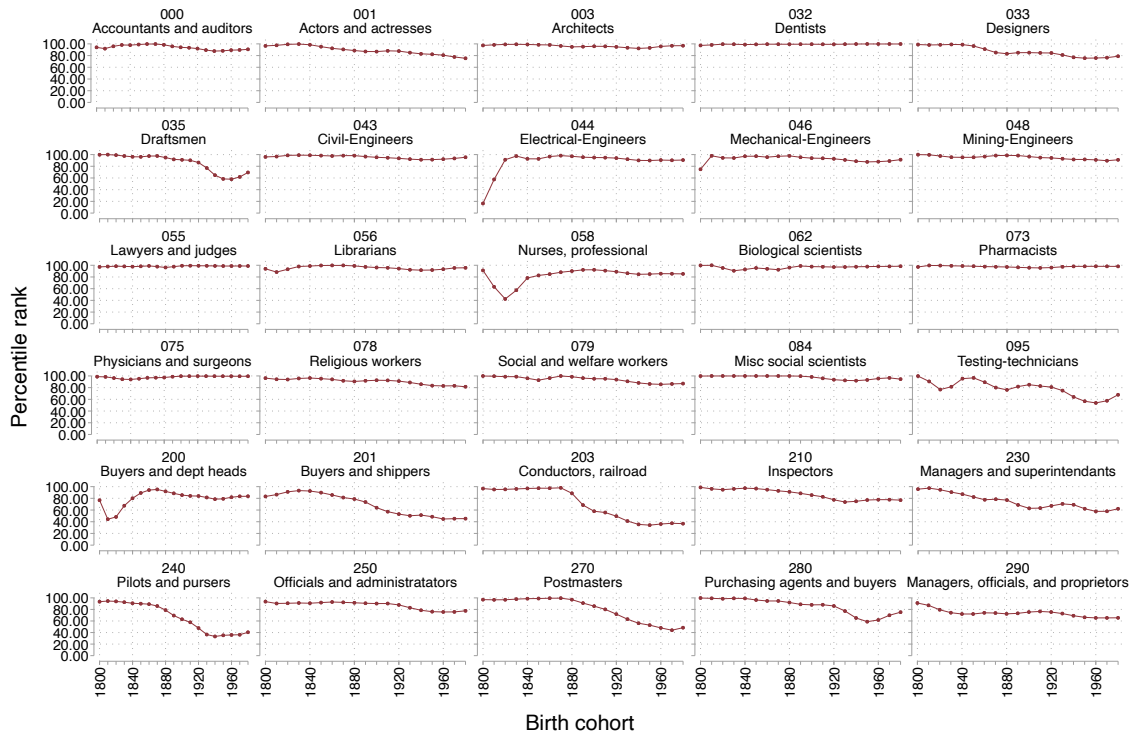


Figure 1 Trends in Occupational Percentile Ranks across Birth Cohorts for a Select Group of Professional, Technical, and Managerial Occupations

Data sources: IPUMS United States Population Censuses full count 1850, 1860, 1870, 1880, 1900, 1910, 1920, 1930, 1940; 1% sample, 1950; 5% samples, 1960, 1980, 1990, 2000; 6% sample, 1970; ACS 2001-2018.

Notes: The numbers in the subtitles refer to 1950 U.S. Census occupational codes. See Table 2 for the descriptions of the occupations.

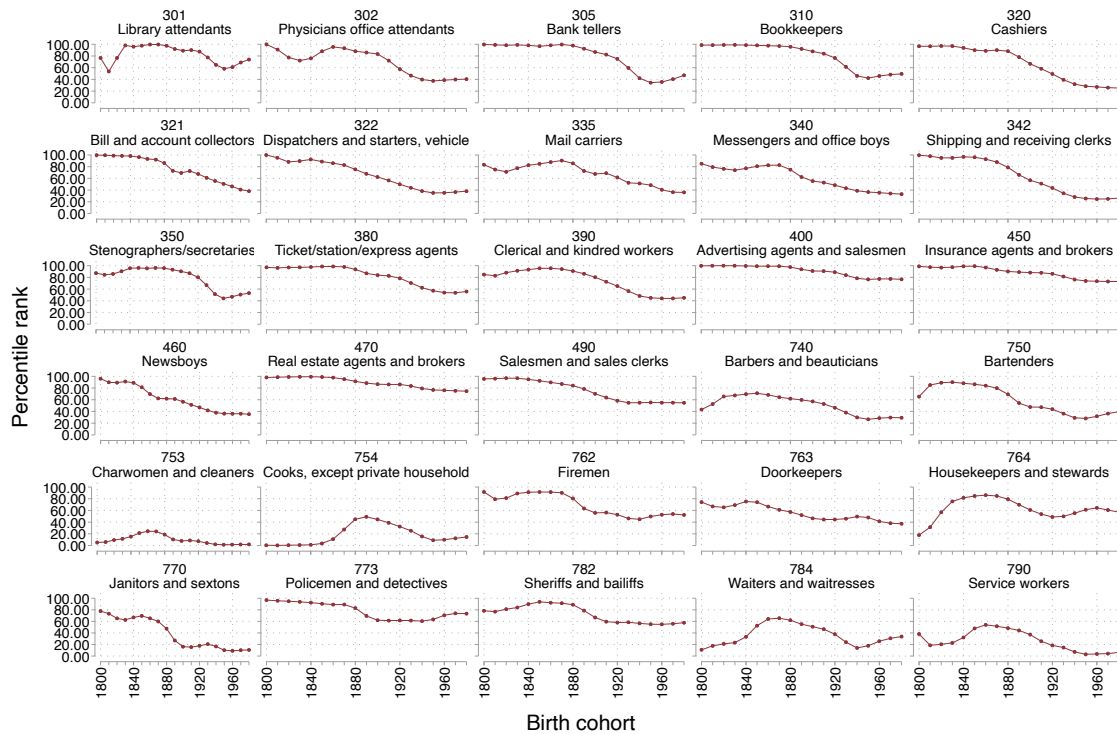


Figure 2 Trends in Occupational Percentile Ranks across Birth Cohorts for a Select Group of Clerical, Sales, and Service Occupations

Data sources: IPUMS United States Population Censuses full count 1850, 1860, 1870, 1880, 1900, 1910, 1920, 1930, 1940; 1% sample, 1950; 5% samples, 1960, 1980, 1990, 2000; 6% sample, 1970; ACS 2001-2018.

Notes: The numbers in the subtitles refer to 1950 U.S. Census occupational codes. See Table 2 for the descriptions of the occupations.

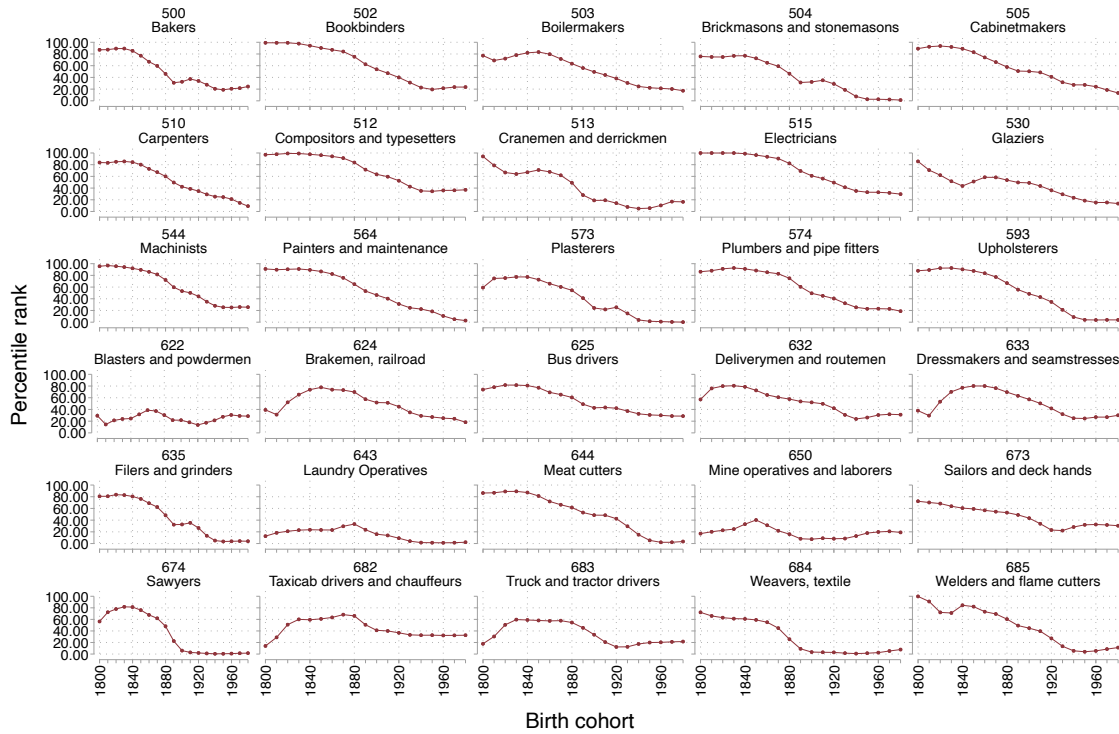


Figure 3 Trends in Occupational Percentile Ranks across Birth Cohorts for a Select Group of Craftsmen and Operative Occupations

Data sources: IPUMS United States Population Censuses full count 1850, 1860, 1870, 1880, 1900, 1910, 1920, 1930, 1940; 1% sample, 1950; 5% samples, 1960, 1980, 1990, 2000; 6% sample, 1970; ACS 2001-2018.

Notes: The numbers in the subtitles refer to 1950 U.S. Census occupational codes. See Table 2 for the descriptions of the occupations.

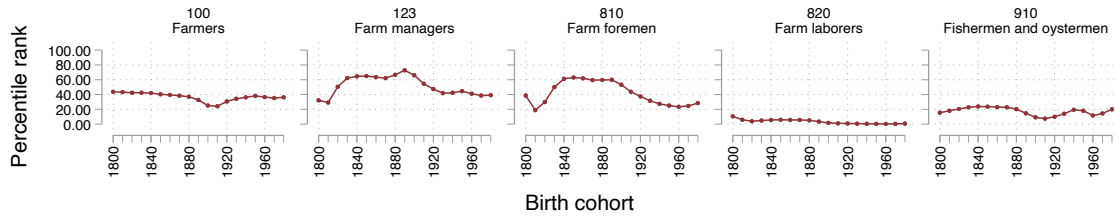


Figure 4 Trends in Occupational Percentile Ranks across Birth Cohorts for a Select Group of Farming Occupations

Data sources: IPUMS United States Population Censuses full count 1850, 1860, 1870, 1880, 1900, 1910, 1920, 1930, 1940; 1% sample, 1950; 5% samples, 1960, 1980, 1990, 2000; 6% sample, 1970; ACS 2001-2018.

Notes: The numbers in the subtitles refer to 1950 U.S. Census occupational codes. See Table 2 for the descriptions of the occupations.

Table 1. Treiman's Rank and Percentile Rank Correlation Matrices

	Birth Cohort																			
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
1790		0.89	0.86	0.82	0.77	0.73	0.68	0.63	0.59	0.55	0.52	0.50	0.47	0.45	0.44	0.41	0.39	0.37	0.37	0.34
1800	0.86		0.88	0.85	0.80	0.76	0.71	0.66	0.61	0.56	0.52	0.50	0.48	0.46	0.44	0.43	0.40	0.38	0.37	0.35
1810	0.83	0.85		0.87	0.84	0.79	0.73	0.69	0.63	0.58	0.54	0.50	0.49	0.47	0.45	0.44	0.42	0.39	0.38	0.36
1820	0.79	0.82	0.85		0.86	0.82	0.77	0.71	0.66	0.60	0.55	0.51	0.49	0.47	0.46	0.46	0.43	0.41	0.39	0.37
1830	0.76	0.78	0.82	0.84		0.84	0.81	0.75	0.69	0.63	0.57	0.52	0.49	0.47	0.46	0.46	0.45	0.43	0.41	0.38
1840	0.72	0.75	0.78	0.81	0.83		0.83	0.79	0.73	0.66	0.61	0.54	0.51	0.48	0.46	0.47	0.47	0.45	0.44	0.41
1850	0.69	0.72	0.75	0.77	0.80	0.83		0.81	0.78	0.71	0.64	0.58	0.54	0.51	0.48	0.47	0.48	0.47	0.48	0.45
1860	0.65	0.68	0.72	0.75	0.77	0.80	0.82		0.80	0.76	0.69	0.61	0.58	0.54	0.50	0.50	0.47	0.48	0.50	0.49
1870	0.62	0.65	0.68	0.72	0.74	0.76	0.79	0.81		0.78	0.74	0.67	0.61	0.57	0.53	0.51	0.50	0.47	0.49	0.49
1880	0.59	0.61	0.64	0.68	0.71	0.73	0.75	0.77	0.79		0.76	0.72	0.66	0.61	0.56	0.53	0.50	0.49	0.47	0.48
1890	0.55	0.58	0.61	0.64	0.67	0.70	0.72	0.73	0.76	0.78		0.75	0.72	0.66	0.60	0.58	0.55	0.49	0.51	0.45
1900	0.53	0.55	0.58	0.62	0.64	0.67	0.70	0.71	0.72	0.75	0.78		0.76	0.74	0.68	0.66	0.64	0.61	0.59	0.56
1910	0.50	0.53	0.55	0.58	0.61	0.64	0.66	0.68	0.70	0.71	0.75	0.78		0.75	0.73	0.68	0.66	0.64	0.62	0.61
1920	0.47	0.49	0.52	0.55	0.57	0.61	0.63	0.65	0.67	0.68	0.70	0.75	0.76		0.73	0.73	0.68	0.65	0.65	0.61
1930	0.45	0.46	0.49	0.53	0.54	0.58	0.60	0.61	0.63	0.65	0.67	0.70	0.72	0.74		0.73	0.72	0.67	0.64	0.65
1940	0.42	0.44	0.45	0.50	0.52	0.55	0.57	0.58	0.59	0.61	0.63	0.67	0.68	0.71	0.73		0.71	0.70	0.65	0.62
1950	0.43	0.41	0.43	0.45	0.49	0.54	0.54	0.55	0.57	0.58	0.61	0.64	0.66	0.67	0.69	0.71		0.71	0.67	0.61
1960	0.41	0.41	0.39	0.43	0.44	0.50	0.52	0.52	0.54	0.55	0.56	0.61	0.63	0.66	0.66	0.68	0.70		0.70	0.66
1970	0.44	0.41	0.42	0.41	0.44	0.48	0.51	0.52	0.51	0.52	0.55	0.57	0.60	0.62	0.65	0.64	0.63	0.68		0.67
1980	0.41	0.43	0.41	0.44	0.40	0.47	0.50	0.51	0.53	0.51	0.52	0.57	0.59	0.60	0.63	0.62	0.56	0.60	0.64	

Data sources: IPUMS United States Population Censuses 1850–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: The lower triangular part of the correlation matrix refers to a series of correlations between Treiman's ranks at times t and $t+n$. The upper triangular part of the correlation matrix refers to correlations between unsmoothed percentile ranks at times t and $t+n$. The shaded region refers to higher correlations between years in Treiman's ranks than in percentile ranks.

Table 2. Occupational Percentile Ranks Based on 1950 Census Occupations for Birth Cohorts 1790–1980

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
0	Accountants and auditors	98.2	94.1	91.9	95.9	98.2	97.9	98.9	99.8	99.8	98.5	95.8	94.1	93.4	92.0	89.5	87.7	88.2	89.4	89.7	90.7
1	Actors and actresses	98.1	96.6	97.6	99.3	99.7	98.6	95.3	92.4	90.6	88.7	87.0	86.9	88.2	87.7	85.1	83.1	82.2	80.7	77.7	75.4
2	Airplane pilots and navigators			100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.6	93.7	89.7	90.7	89.9	86.7	86.6	88.9	89.9	88.7	86.6
3	Architects	98.2	97.4	98.4	99.1	99.3	99.0	98.5	98.3	96.5	94.9	95.3	95.9	95.8	95.0	93.5	92.3	93.2	95.7	96.8	97.0
4	Artists and art teachers	95.8	98.1	98.8	98.8	99.4	99.4	98.4	96.7	94.1	91.1	90.9	92.5	92.0	88.9	84.6	80.5	78.4	77.5	76.5	76.1
5	Athletes	99.4	95.7	87.0	78.1	73.9	72.2	67.0	69.0	80.3	84.5	83.4	79.3	75.1	72.2	59.4					
6	Authors	99.4	96.2	91.0	92.8	98.1	99.6	99.2	99.1	98.1	96.9	96.5	96.0	95.0	93.9	92.7	91.8	91.8	92.2	91.8	90.4
7	Chemists	87.5	90.4	96.7	99.9	99.7	98.1	94.6	91.7	89.8	90.5	94.2	95.9	95.5	94.9	93.6	92.4	93.4	95.8	97.0	97.2
8	Chiropractors				100.0	100.0	100.0	100.0	99.9	98.3	96.1	95.9	96.3	96.0	96.2	95.7	94.6	95.7	97.3	97.4	96.2
9	Clergymen	96.0	96.7	95.8	93.7	92.2	91.2	91.0	90.9	89.5	90.0	93.3	94.8	94.5	94.2	92.7	90.8	89.9	88.9	88.0	87.9
10	College presidents and deans	99.4	99.1	98.6	99.3	99.5	99.0	99.5	99.9	98.1	96.4	97.9	99.1	98.0	95.8	93.6	92.1				
12	Agricultural sciences-Professors and instructors			100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	99.4	99.1	98.6	97.9	96.0	94.8	96.5		
13	Biological sciences-Professors and instructors				100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	99.8	99.1	98.0	97.3		
14	Chemistry-Professors and instructors	99.4	99.8	97.2	90.0	88.2	95.4	100.0	92.3	84.6	92.3	100.0	100.0	100.0	99.8	99.3	98.5	98.0	97.9		
15	Economics-Professors and instructors					100.0	99.9					0.0	99.9	99.9	99.7	99.2	98.6	97.8	97.8		
16	Engineering-Professors and instructors		80.4		60.9	80.4	100.0	100.0	100.0	100.0		100.0	99.7	99.5	99.4	98.8	96.6	93.2	91.4	91.5	
17	Geology and geophysics-Professors and instructors	99.4	99.8		100.0	100.0	100.0	100.0				0.0	98.9	97.8	98.3	98.3					
18	Mathematics-Professors and instructors	99.4	96.2	90.6	89.3	89.3	90.7	96.6	100.0	100.0		100.0	100.0	99.9	99.5	98.8	98.0	96.1	93.7		
19	Medical Sciences-Professors and instructors		99.9	100.0	80.8	36.8	31.2	55.9	61.4	80.7	100.0	0.0	98.3	96.7	96.3	95.8	94.6	95.6	96.8		
23	Physics-Professors and instructors		99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	97.1	98.8	99.2	99.0	98.6	97.8	97.7		
24	Psychology-Professors and instructors					100.0		100.0		100.0	100.0	100.0	100.0	99.7	99.5	99.5	98.9	97.6	97.1		
25	Statistics-Professors and instructors													98.8	97.7	98.8					
26	Natural science (nec)-Professors and instructors	99.4	99.8	100.0	97.5	95.1	97.5	100.0	100.0	100.0			100.0	100.0	99.5	98.6	96.7	95.1	96.5		
27	Social sciences (nec)-Professors and instructors	99.4	99.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.2	98.5	97.8	97.2		
28	Non-scientific subjects-Professors and instructors	98.1	97.1	98.5	99.9	99.5	97.5	88.5	77.5	81.8	94.8	99.9	99.9	99.7	99.2	98.4	97.5	97.0	97.0		
29	Subject not specified-Professors and instructors	96.2	92.5	93.7	94.9	95.3	98.1	99.8	99.9	99.8	99.6	99.3	99.1	99.0	98.8	98.3	97.8	97.5	97.5	97.4	97.3
31	Dancers and dancing teachers	99.4	96.2	92.8	94.7	94.2	89.8	90.2	96.0	97.8	93.4	88.5	85.1	82.7	73.1	57.7	52.0	52.8	48.3	39.7	34.8
32	Dentists	98.4	97.4	98.3	99.6	99.4	98.9	99.2	99.6	99.5	99.4	99.5	99.5	99.3	99.3	99.6	99.8	99.9	99.9	99.8	99.9
33	Designers	99.4	98.9	98.2	98.5	99.1	98.8	96.4	91.1	85.2	83.2	85.0	85.1	84.6	84.5	81.1	77.1	75.7	75.8	76.6	78.9
34	Dietitians and nutritionists			10.8	37.5	80.3	100.0	100.0	100.0	100.0	98.5	93.5	87.3	83.4	81.5	79.8	79.5	81.4	83.0	84.1	86.0
35	Draftsmen	99.4	99.8	100.0	99.1	97.5	96.2	96.2	97.5	97.6	94.9	91.8	91.1	90.2	86.4	77.1	64.7	58.4	57.9	61.8	69.5
36	Editors and reporters	99.4	99.6	99.6	99.4	99.1	98.7	98.8	98.9	97.3	95.2	94.9	95.3	94.5	93.0	90.9	89.4	89.8	90.6	91.0	92.0
41	Aeronautical-Engineers		99.9								96.8	92.5	93.2	95.2	94.7	93.2	91.7	91.6	93.3	95.6	96.9
42	Chemical-Engineers					100.0	100.0	100.0	100.0	100.0	98.9	97.6	97.4	96.6	96.3	95.7	93.4	93.2	95.6	96.8	97.0
43	Civil-Engineers	98.0	96.0	96.7	98.7	99.1	98.8	98.3	97.6	98.2	98.3	96.6	95.4	94.6	93.5	92.2	91.3	91.4	92.1	93.4	95.4
44	Electrical-Engineers		16.5	57.5	91.2	97.5	92.8	92.7	96.6	98.2	97.1	95.6	95.0	94.8	94.0	92.1	90.1	89.9	90.6	90.2	90.7
45	Industrial-Engineers				100.0				100.0	100.0	98.8	96.0	93.9	92.9	91.8	90.4	89.5	89.1	88.6	88.4	88.5
46	Mechanical-Engineers	25.0	74.9	97.9	94.4	94.2	97.1	97.2	95.6	97.2	97.8	95.4	93.9	93.7	92.8	90.9	88.6	87.5	88.0	89.0	91.3
47	Metallurgical, metallurgists-Engineers				85.9	92.3	88.8	86.6	85.8	81.9	90.1	97.0	95.4	94.9	94.2	91.3	86.4	84.4	86.4	88.6	89.3
48	Mining-Engineers		99.9	99.6	97.6	95.5	95.3	95.3	96.7	98.4	98.6	98.3	96.6	94.9	94.3	93.0	91.7	91.7	91.0	89.6	91.1
49	Engineers (nec)	77.5	51.8	68.8	90.6	90.8	93.0	97.8	99.4	96.5	93.3	94.0	94.7	94.1	93.5	92.0	90.8	90.8	91.3	91.4	92.6

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
764	Housekeepers and stewards, except private households	14.7	17.8	31.4	56.9	75.5	81.6	84.7	86.1	84.8	79.3	69.8	60.8	53.8	48.8	49.9	55.4	61.3	64.4	60.7	57.0
770	Janitors and sextons	75.4	77.9	73.4	65.2	62.7	66.9	69.5	65.3	59.9	47.5	27.0	16.3	15.5	17.8	20.6	16.6	10.2	9.0	10.2	10.6
771	Marshals and constables	97.7	98.2	98.4	97.5	94.7	91.5	90.6	90.5	91.5	84.6	67.6	59.3	56.5	54.4	56.4	55.5				
772	Midwives		2.0	6.0	12.1	17.0	14.8	10.6	12.8	19.2	22.5	0.0	17.5	23.5	23.9	30.2	33.7				
773	Policemen and detectives	98.4	96.8	95.8	94.9	93.9	92.5	90.6	89.2	89.2	82.9	69.4	62.0	61.4	61.6	61.5	60.5	63.4	70.5	73.9	73.5
780	Porters	4.6	12.7	28.6	50.4	52.3	43.0	49.7	57.5	57.9	47.4	25.6	13.2	10.3	7.0	12.8	26.4	33.8	35.2	36.5	38.0
781	Practical nurses	91.7	64.0	31.8	21.5	32.8	50.5	59.7	62.0	66.4	70.4	68.0	62.6	57.9	52.9	50.6	51.9	52.4	50.7	46.6	41.2
782	Sheriffs and bailiffs	89.6	78.4	76.9	81.2	84.0	89.9	93.9	92.4	91.4	89.0	78.8	66.8	59.6	58.0	58.4	56.6	55.1	54.9	56.0	57.7
783	Ushers, recreation and amusement			100.0	100.0	100.0	89.7	70.2	66.3	76.1	64.2	39.5	41.3	50.8	48.4	48.2	51.3	48.2	39.4	34.8	36.0
784	Waiters and waitresses	3.6	10.9	17.6	21.1	23.2	33.3	52.7	64.2	65.5	62.0	55.2	50.9	46.5	37.9	24.0	14.1	17.9	25.7	30.7	33.7
785	Watchmen (crossing) and bridge tenders	89.1	86.3	82.7	81.6	81.1	80.1	75.9	68.5	63.6	58.3	49.5	43.7	43.6	41.9	32.7	19.4	13.8	19.9		
790	Service workers, except private household (nec)	78.9	38.2	18.5	20.4	22.8	32.2	47.8	54.1	51.6	48.3	44.4	37.2	25.6	18.4	14.8	7.3	2.9	3.7	4.2	6.5
810	Farm foremen	79.1	38.7	18.9	29.8	50.1	61.2	63.0	62.0	59.5	59.7	60.0	53.2	43.8	37.5	31.6	27.4	25.1	23.4	24.6	28.4
820	Farm laborers, wage workers	12.1	10.6	5.9	3.9	4.9	5.7	5.9	5.7	5.7	5.2	3.4	1.7	1.1	0.9	0.6	0.5	0.4	0.3	0.4	0.7
830	Farm laborers, unpaid family workers						75.3	25.8	0.8	1.0	4.5	10.9	13.8	12.2	10.3	8.5	5.3				
840	Farm service laborers, self-employed	71.8	48.5	55.7	68.7	71.0	72.7	66.8	58.2	54.5	54.7	54.8	41.0	21.5	21.3	20.7	7.6				
910	Fishermen and oystermen	13.2	15.5	18.1	20.5	22.7	23.8	23.6	23.0	22.8	20.2	14.7	9.2	7.5	10.0	14.1	19.4	18.1	11.7	14.4	20.0
920	Garage laborers and car washers and greasers				0.8	25.5	65.2	70.7	60.8	58.7	45.4	22.6	9.2	5.1	2.9	1.8					
930	Gardeners, except farm and groundskeepers	73.0	71.0	66.2	62.3	60.7	59.9	58.5	55.7	51.9	41.2	25.3	16.6	15.1	16.7	19.1	18.9	13.9	6.4	3.3	3.6
940	Longshoremen and stevedores	5.4	14.3	19.0	20.6	22.6	23.8	24.4	23.6	21.1	18.1	12.4	5.6	3.0	4.2	5.1	7.9	16.2	23.5		
950	Lumbermen, raftsmen, and woodchoppers	15.1	18.5	21.1	22.2	23.3	24.2	24.5	24.5	23.5	20.1	12.4	5.0	1.9	0.9	0.8	1.3	1.5	1.2	1.6	2.7
960	Teamsters	78.9	35.5	30.2	51.8	39.6	32.7	49.9	56.2	54.2	40.6	16.4	7.4	6.7	2.0	0.0	0.0				
970	Laborers (nec)	5.8	7.4	11.4	14.8	17.0	17.4	16.0	14.8	14.4	12.7	9.3	6.7	5.9	5.8	7.3	11.3	12.1	8.6	6.6	7.0

Data sources: IPUMS United States Population Censuses 1850–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: Details of the variable OCC1950 are described in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS”

(<https://usa.ipums.org/usa/chapter4/chapter4.shtml>). The original description of the 1950 occupation categories by the U.S. Bureau of the Census can be found in the file “Alphabetic Index of Occupations and Industries: 1950 (Washington D.C., 1950)” (<https://usa.ipums.org/usa/resources/volii/Occupations1950.pdf>). [The IPUMS project has crosswalked all Census occupations from 1850–2010 to 1950 Census occupational codes. Note that the OCC1950 variable in IPUMS data contains fewer occupational categories than the original 1950 occupational scheme. Occupations with empty percentile ranks indicate no workers found in those occupations for a specific birth cohort. This table can be downloaded from our project website.](#)

Table 3. Correlations (ρ) Between Different Socioeconomic Status Measures with Occupational Percentile Ranks by Birth Cohort

Birth Cohort	Correlations Between Percentile Ranks and				
	Duncan SEI	Hauser-Warren SEI	Siegel Prestige Score	Nakao-Treas Prestige Score	Nam-Powers-Boyd Status Score
1790	0.483	0.368	0.407	0.356	0.431
1800	0.506	0.438	0.462	0.375	0.531
1810	0.528	0.403	0.461	0.359	0.535
1820	0.616	0.492	0.531	0.439	0.594
1830	0.584	0.459	0.495	0.403	0.575
1840	0.606	0.501	0.540	0.446	0.612
1850	0.702	0.588	0.641	0.547	0.695
1860	0.737	0.613	0.639	0.566	0.717
1870	0.772	0.648	0.668	0.595	0.724
1880	0.818	0.716	0.715	0.658	0.753
1890	0.842	0.752	0.746	0.709	0.721
1900	0.902	0.815	0.824	0.783	0.803
1910	0.924	0.846	0.839	0.798	0.829
1920	0.923	0.853	0.839	0.805	0.853
1930	0.908	0.874	0.823	0.809	0.836
1940	0.871	0.883	0.795	0.804	0.834
1950	0.878	0.916	0.811	0.819	0.870
1960	0.883	0.912	0.810	0.821	0.876
1970	0.875	0.900	0.802	0.800	0.879
1980	0.875	0.894	0.806	0.796	0.883

Data sources: IPUMS United States Population Censuses 1850–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: The five socioeconomic indexes and prestige scores are downloaded from the IPUMS USA project. The Duncan SEI was developed using the 1947 North-Hatt prestige scores and the 1950 Census data; the Hauser-Warren SEI was developed using 1990 Census data; the Siegel prestige scores were developed using 1963, 1964, and 1965 NORC prestige scores and 1960 Census data; the Nakao-Treas prestige scores were developed using the 1989 NORC General Social Survey prestige scores and 1980 Census data; and the IPUMS Nam-Powers-Boyd status scores were estimated using the 1950 Census data. Detailed descriptions of these indexes can be found in the section on Socioeconomic Status Indexes and Scales: An Overview and Appendix Table A2.

ONLINE APPENDIX TABLES

Appendix Table A1. A Brief History of Occupational Measures in U.S. Censuses

Year	Major Changes	#Occupations specified
1790	Occupations of household heads were collected in Southwark and Philadelphia within Pennsylvania in the first Census.	51
1820	Occupation became part of the first official enumeration on a family, rather than individual, basis. Enumerations were recorded as agriculture, commerce, or manufacture.	3
1830	No occupational information was gathered.	-
1840	Occupation questions were resumed.	7
1850	Occupation was changed to individual enumeration and recorded for free males over 15 years of age.	323
1860	Occupation was recorded for both free males and females over 15 years of age.	584
1870	Occupation was recorded for persons over 10 years of age.	338
1880		265
1890		218
1900	Occupation and industry were asked separately afterward.	303
1910		428
1920		572
1930		534
1940	Occupation was recorded for persons over 14 years of age. Years of schooling was also added to the enumeration.	451
1950		269
1960		297
1970		441
1980		503
1990		511
2000		509
2010		535

Sources: The U.S. Census Bureau

Appendix Table A2. A Summary of Major Occupational Measures

Year	Author	Metric	Occupational Measures
Occupational Prestige			
1925	Counts	Rank 45 occupations	
1927, 1928	Anderson	Rank 24 occupations	
1929	Wilkinson		Bogardus Social Distance Scale
1931	Lehman and Witty	Rank 200 occupations	
1934	Hartman	Rank 25 occupations	Occupational Insight
1935	Smith	Rank 600 occupations on a 100-point scale	
1935	Nietz	Rank 40 occupations	
1936	Coutu	Rank 20 occupations	The Relative Social Prestige of Twenty Professions
1941	Osgood and Stagner	Rank 15 occupations from a list of 249 occupations using numbers from 1-15	
1942	Cattell	Rank 26 occupations	
1947	Deeg and Patterson	Rank 25 occupations	based on Counts' (1925) list
1947	North and Hatt (NORC)	Rank 90 occupations ranged [33,96]	NORC Prestige Score; the North-Hatt Scale
1950	Hall and Jones	Group 30 occupations into 7 prestige classes	
1964	Hodge, Siegel, and Rossi	203 occupations	
1968	Treiman	Scale [0,100]	International Standard Prestige Score
1971	Siegel	Scale [0,100]	

	Year	Author	Metric	Occupational Measures
Socioeconomic Index (Prestige-Based)	1961	Duncan	Scale [0,96]	Socioeconomic Index (SEI): A weighted combination of occupational income and occupational education.
	1977	Hauser and Featherman		Duncan SEI for 1970 Census
	1981, 1982	Stevens and Featherman		Duncan SEI for 1970 Census
	1985	Stevens and Cho		Duncan SEI for 1980 cCnsus
Socioeconomic Index (Prestige-Free)	1949	Warner, Meeker, and Eells		An Index of Status Characteristics (ISC): A weighted combination of occupation, source of income, housing type, and dwelling
	1975	Hollingshead	Scale [8,66]	Index of Social Position (ISP): Four-Factor Index based on years of education, occupation, sex, and marital status.
	1949, 1957, 1958	Hollingshead	Scale [11,77]	Index of Social Position (ISP): Two-Factor and Three-Factor Indexes based on years of education, occupation, and quality of neighborhood
	1962	Bogue		Socioeconomic Score: A weighted index of educational and income quartiles for each occupation
	1969	Bogue		Index of Socioeconomic Achievement (SEA): A combined index of actual occupational income and expected income predicted by education alone
	1974	Goldthorpe and Hope		General Desirability of Occupations

	Year	Author	Metric	Occupational Measures
Occupational Schemes	1997	Hauser and Warren		Occupational Educational Score; Occupational Income Score
	-	IPUMS		Occupational Income Score and Occupational Earnings Score
	1939, 1943, 1949, 1955, 1965, 1966, 1977, 1991	U.S. Department of Labor	13,000-30,000 categories	Dictionary of Occupational Titles
	1943	Edwards	6 main groups and 12 subgroups	Edwards occupational scheme
	1998-2020	U.S. Department of Labor / Employment and Training Administration and the North Carolina Employment Security Commission	950-1100 categories	Occupational Network–Occupational Unit (O*Net-OU) and Occupational Network-SOC (O*Net-SOC)
	1980	U.S. Department of Commerce; Federal statistical system	4-digit coding	Standardized Occupational Classification (SOC)
	1790-2010	U.S. Bureau of Census	3–500+ categories	Census Occupational Classification
	1950	Hall and Jones	7 categories	Hall-Jones Standard Classification of Occupations
	1979	Erikson, Goldthorpe and Portocarero	6 and 10 categories	EGP Class Scheme
1997	Wright	12 categories	Neo-Maxist Class Categories	

Notes: The Office of Population Censuses and Surveys (OPCS) and later the Office for National Statistics in U.K. have published the U.K. versions of the Classification of Occupations (1980, 1991), the Classification of Occupations and Dictionary of Occupational Titles (CODOT), and the Standard Occupational Classification (SOC) (2000, 2010).

Appendix Table A3. Data Sources for Occupational Percentile Rank Analyses (Aged 25-64)

Data Source	Observations (unweighted)	Observations (weighted)
IPUMS U.S. Population Censuses		
1850 100% sample (Revised December 2017)	7,082,108	7,082,108
1860 100% sample (January 2019)	10,176,168	10,176,168
1870 100% sample (January 2019)	14,464,272	14,464,272
1880 100% sample (January 2010 expanded version)	19,210,433	19,210,433
1900 100% sample	31,832,459	31,832,459
1910 100% database	40,552,593	40,552,593
1920 100% database	48,356,155	48,356,155
1930 100% database	57,629,080	57,629,080
1940 100% database	65,852,785	65,673,840
1950 1% sample	859,429	75,923,430
1960 5% sample	4,153,480	83,069,600
1970 1% sample from Form 1 Metro; Form 2 Metro;	1,785,660	89,283,000
1980 5% sample	5,361,110	107,222,200
1990 5% sample	6,342,910	127,389,573
2000 5% sample	7,294,115	147,201,438
2001 ACS 0.43% sample	634,245	146,761,471
2002 ACS 0.38% sample	572,372	149,173,672
2003 ACS 0.42% sample	635,834	150,533,690
2004 ACS 0.42% sample	634,276	152,281,206
2005 ACS 1% sample	1,532,127	154,212,359
2006 ACS 1% sample	1,574,258	158,786,979
2007 ACS 1% sample	1,585,549	160,135,629
2008 ACS 1% sample	1,589,153	161,220,773
2009 ACS 1% sample	1,600,924	162,506,249
2010 ACS 1% sample	1,618,099	163,896,755
2011 ACS 1% sample	1,623,934	165,144,779
2012 ACS 1% sample	1,620,466	165,715,798
2013 ACS 1% sample	1,631,041	166,328,095
2014 ACS 1% sample	1,623,864	167,593,630
2015 ACS 1% sample	1,628,755	168,815,863
2016 ACS 1% sample	1,628,315	169,329,644
2017 ACS 1% sample	1,644,670	170,508,891
2018 ACS 1% sample	1,647,497	170,838,829

Notes: The 1890 Census data are missing because the original files were damaged by a fire. Unweighted observations refer to person count in the original data. Data sources with 100% population refer to full count censuses; All the analyses are weighted by the person weight (PERWT), except for year 1950, which was weighted by the sample-line weight because the education variable (EDUC) was asked for sample-line persons only (https://usa.ipums.org/usa-action/variables/SLWT#description_section). All data sources contain both male and female workers except for 1850 (only men).

Appendix Table A4. Data Sources for Occupational Percentile Ranks by Birth Cohort (Labor Force Aged 25-64)

Data Source	Birth Cohort																			
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
1850 100% population	X	X	X	X																
1860 100% sample		X	X	X	X															
1870 100% sample			X	X	X	X														
1880 100% population				X	X	X	X													
1890 (not available)					-	-	-	-												
1900 100% sample						X	X	X	X											
1910 100% sample							X	X	X	X										
1920 100% population								X	X	X	X									
1930 100% population									X	X	X	X								
1940 100% population										X	X	X	X							
1950 1% sample											X	X	X	X						
1960 5% sample												X	X	X	X					
1970 2% sample													X	X	X	X				
1980 5% sample														X	X	X	X			
1990 5% sample															X	X	X	X		
2000 5% sample																X	X	X	X	
2001 ACS																X	X	X	X	
2002 ACS																X	X	X	X	
2003 ACS																X	X	X	X	
2004 ACS																X	X	X	X	
2005 ACS																X	X	X	X	X
2006 ACS																X	X	X	X	X
2007 ACS																X	X	X	X	X
2008 ACS																X	X	X	X	X
2009 ACS																X	X	X	X	X
2010 ACS																	X	X	X	X
2011 ACS																	X	X	X	X
2012 ACS																	X	X	X	X
2013 ACS																	X	X	X	X
2014 ACS																	X	X	X	X
2015 ACS																	X	X	X	X
2016 ACS																	X	X	X	X
2017 ACS																	X	X	X	X
2018 ACS																	X	X	X	X

Notes: *N* refers to unweighted person count in the original data. All the analyses are weighted by the person weight (PERWT), except for year 1950, which was weighted by the sample-line weight because the education variable (EDUC) was asked for only sample-line persons. Data sources with 100% population refer to full count censuses; ACS refers to American Community Survey. Birth cohort is defined by a 10-year interval based on the midpoint year; for example, birth cohort 1790 refers to workers who were born between 1786 and 1795.

Appendix Table A5. Occupational Percentile Ranks Based on 1990 Census Occupations for Birth Cohorts 1890–1980

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
3	Legislators				89.01	88.03	85.83	84.12	85.94	90.43	92.89
4	Chief executives and public administrators	88.73	89.11	88.93	85.71	82.08	82.05	82.81	82.47	82.09	81.71
7	Financial managers			91.35	90.07	85.83	80.47	78.56	79.55	79.30	77.45
8	Human resources and labor relations managers				85.17	82.10	78.87	77.46	77.25	76.86	76.12
13	Managers and specialists in marketing, advertising, and sales		92.99	90.36	87.64	84.10	81.00	81.06	83.22	84.98	85.42
14	Managers in education and related fields	99.48	98.69	97.62	95.83	93.73	92.40	91.28	89.95	89.20	88.56
15	Managers of medicine and health occupations			91.76	90.18	86.31	82.70	81.66	81.10	79.84	79.00
16	Postmasters and mail superintendents	88.28	85.12	79.95	72.35	63.79	58.32	56.71	51.27	47.27	53.22
17	Managers of food-serving and lodging establishments			55.16	51.82	51.01	52.34	52.18	50.81	48.88	47.26
18	Managers of properties and real estate	61.88	61.28	62.24	65.80	68.75	67.62	64.98	63.16	62.02	61.92
19	Funeral directors	88.37	87.20	88.74	88.57	83.38	78.16	76.48	76.17	73.67	69.75
21	Managers of service organizations, n.e.c.					82.78	81.86	81.48	81.64	82.42	83.79
22	Managers and administrators, n.e.c.	72.41	74.28	76.28	77.19	75.52	72.60	71.42	71.69	72.06	72.05
23	Accountants and auditors	93.37	93.22	93.08	91.91	89.33	87.15	87.35	88.81	89.30	89.33
24	Insurance underwriters				87.04	80.27	71.65	68.16	69.91	74.80	79.20
25	Other financial specialists	83.72	86.81	89.91	89.60	85.76	81.59	80.14	80.63	81.02	80.99
26	Management analysts				94.09	92.14	90.56	89.52	88.43	87.56	86.86
27	Personnel, HR, training, and labor relations specialists				84.80	81.04	77.06	75.54	76.05	77.48	79.26
28	Purchasing agents and buyers, of farm products	79.30	61.93	53.41	53.21	50.38	48.69	47.52	46.57	47.87	45.62
29	Buyers, wholesale and retail trade	87.98	84.97	80.36	74.75	68.92	62.72	59.34	59.35	60.56	61.90
33	Purchasing managers, agents and buyers, of farm products	88.46	88.00	87.91	85.77	80.65	74.42	69.78	68.42	70.33	73.41
34	Business and promotion agents				72.76	76.37	77.17	76.60	76.49	75.45	74.26
35	Construction inspectors			77.51	71.53	65.75	61.50	59.18	57.49	55.63	55.33
36	Inspectors and compliance officers, outside of government	86.92	85.23	81.50	76.07	73.59	75.21	76.90	78.03	79.80	81.33
37	Management support occupations				88.39	80.51	71.73	69.83	72.88	75.09	75.80
43	Architects	95.12	95.56	95.71	94.97	93.70	92.99	93.19	93.58	93.59	93.37
44	Aerospace engineer	89.50	93.13	95.15	94.76	93.11	91.56	91.86	93.04	93.41	93.23
45	Metallurgical and materials engineers, various specialties	94.06	94.28	94.45	94.09	91.48	86.57	83.66	84.68	87.45	89.73
47	Petroleum, mining, and geological engineers	98.95	96.46	94.86	94.52	93.12	91.80	92.22	91.18	89.41	90.67
48	Chemical engineers	94.36	96.38	96.54	95.55	94.32	93.24	93.15	93.47	93.53	93.41
53	Civil engineers	95.62	94.93	94.12	93.17	91.77	90.85	91.59	92.86	93.13	92.82
55	Electrical engineer	95.27	94.97	94.73	93.81	91.79	89.68	89.65	90.89	90.46	89.13
56	Industrial engineers	93.48	92.79	92.42	91.05	87.31	83.23	82.20	83.91	86.18	87.85
57	Mechanical engineers	90.37	91.52	92.41	92.34	90.70	88.11	86.78	87.17	88.28	89.68
59	Not-elsewhere-classified engineers	95.51	94.03	93.86	93.27	91.45	90.31	90.82	92.03	92.51	92.44
64	Computer systems analysts and computer programmers			91.42	91.28	88.50	83.30	79.75	78.86	78.48	77.97
65	Operations and systems researchers and analysts			91.11	89.98	86.42	81.65	78.81	78.06	78.32	79.19
66	Actuaries			92.60	94.88	95.55	95.16	96.67	97.99	98.15	98.26
67	Statisticians	92.20	93.50	92.85	90.75	89.16	89.65	91.60	94.28	97.05	98.17
68	Mathematicians and mathematical scientists		96.47	97.52	97.66	96.02	93.88	93.23	93.62	93.69	93.52
69	Physicists and astronomers	0.00	93.47	96.02	96.63	96.68	96.10	94.39	94.56	96.62	98.02
73	Chemists	98.52	96.39	95.39	95.06	94.06	93.23	93.31	93.71	93.76	93.58
74	Atmospheric and space scientists			95.75	94.15	91.44	90.67	92.35	93.62	92.48	89.86
75	Geologists	99.78	99.22	98.81	98.69	97.08	94.39	94.43	96.74	97.84	97.90
76	Physical scientists, n.e.c.	24.22	72.12	95.00	93.20	94.05	96.96	98.28	98.49	98.91	99.15
77	Agricultural and food scientists	97.28	92.55	91.03	91.17	90.46	90.77	92.09	92.71	92.68	92.89
78	Biological scientists	98.72	97.54	97.19	96.80	96.45	96.56	97.10	97.72	97.94	98.06
79	Foresters and conservation scientists	83.11	79.85	76.63	80.36	84.10	87.41	91.75	93.38	93.46	93.28

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
83	Medical scientists				95.70	96.82	97.81	98.05	98.06	98.17	98.23
84	Physicians	99.22	99.13	99.47	99.73	99.49	99.23	99.38	99.54	99.50	99.52
85	Dentists	99.64	99.19	98.82	98.92	99.24	99.68	99.92	99.88	99.83	99.84
86	Veterinarians	96.31	95.92	96.67	98.53	99.19	99.08	99.21	99.42	99.56	99.29
87	Optometrists	96.32	95.57	96.44	97.76	97.73	98.04	99.12	99.59	99.33	99.06
88	Podiatrists			98.23	97.79	97.50	98.15	99.17	99.80	99.47	98.42
89	Other health and therapy	98.38	96.79	95.93	95.33	94.08	93.17	93.32	94.61	95.44	94.35
95	Registered nurses	93.60	91.97	90.62	88.84	86.19	84.68	84.77	84.87	84.11	83.39
96	Pharmacists	96.04	95.83	95.72	96.09	97.00	97.82	98.13	98.15	98.04	97.87
97	Dietitians and nutritionists	91.47	87.39	83.82	81.91	79.85	77.80	77.44	78.67	81.01	83.35
98	Respiratory therapists				84.60	80.83	77.53	76.56	74.86	71.25	69.20
99	Occupational therapists				92.40	91.74	91.85	92.26	92.68	92.76	92.37
103	Physical therapists				92.42	90.17	87.99	88.29	89.16	89.04	87.91
104	Speech therapists				97.72	97.52	97.83	98.05	98.01	97.99	98.00
105	Therapists, n.e.c.	89.91	91.36	92.14	91.81	90.51	90.01	90.63	90.83	90.68	90.42
106	Physicians' assistants				54.09	61.04	74.39	83.89	86.42	87.17	88.08
113	Earth, environmental, and marine science	0.00	99.51	99.05	99.05	98.58	96.85	95.50	96.62		
114	Biological science instructors	0.00	99.97	99.96	99.97	99.62	98.73	97.07	94.95		
115	Chemistry instructors	99.97	99.97	99.97	99.73	99.06	98.32	97.81	97.43		
116	Physics instructors	0.00	96.95	98.73	99.23	98.83	97.35	95.82	96.73		
118	Psychology instructors	99.95	99.95	99.73	99.51	99.38	97.62	94.86	93.85		
119	Economics instructors	0.00	99.52	99.82	99.70	99.07	97.33	95.82	96.81		
123	History instructors			99.98	99.96	99.60	97.62	95.93	97.07		
125	Sociology instructors			99.99	99.75	98.75	97.71	95.13	90.30		
127	Engineering instructors	99.56	99.16	99.06	98.20	96.16	93.51	92.08	92.38		
128	Math instructors	99.97	99.98	99.97	99.96	99.52	97.43	94.66	93.58		
139	Education instructors			99.98	99.21	97.95	96.56	94.36	92.89		
145	Law instructors			99.97	99.70	99.00	98.32	98.51	99.47		
147	Theology instructors			99.57	99.16	98.60	96.41	95.22	96.80		
149	Home economics instructors			95.93	95.18	94.09	93.15	94.00	96.52		
150	Humanities profs/instructors, college, nec	99.91	99.70	99.07	98.67	98.85					
154	Subject instructors (HS/college)	97.20	98.06	98.44	98.35	98.15	96.83	94.92	94.24	94.22	94.05
155	Kindergarten and earlier school teachers			94.16	91.35	86.34	80.52	75.22	70.70	68.47	67.79
156	Primary school teachers	97.70	97.36	97.14	96.65	95.59	95.06	95.53	95.94	95.91	95.80
157	Secondary school teachers		99.57	99.23	98.55	97.58	97.04	97.30	97.54	97.49	97.43
158	Special education teachers				89.81	89.41	90.85	92.41	92.79	92.83	92.87
159	Teachers , n.e.c.		95.16	93.67	91.22	85.71	75.95	67.27	63.44	63.59	65.30
163	Vocational and educational counselors			97.59	96.69	95.12	92.45	89.93	87.78	86.48	86.14
164	Librarians	96.51	96.20	95.81	94.65	93.10	92.59	92.86	93.12	93.21	93.11
165	Archivists and curators			93.80	91.78	89.90	89.32	90.22	91.59	91.70	90.71
166	Economists, market researchers, and surveyors	93.82	95.16	95.57	94.87	93.18	91.53	91.42	92.02	91.87	91.12
167	Psychologists	90.68	96.18	98.43	98.06	98.13	98.50	98.96	99.33	99.72	99.93
168	Sociologists			98.78	96.80	95.35	93.73	92.96	93.06		
169	Social scientists, n.e.c.	98.84	96.78	95.98	95.60	94.31	93.34	93.31	93.54	93.46	93.21
173	Urban and regional planners			95.95	94.98	93.64	93.10	93.43	93.79	94.91	97.01
174	Social workers	95.51	95.39	95.20	93.66	90.89	89.14	88.54	87.74	87.28	87.45
175	Recreation workers	89.37	92.36	92.74	90.28	82.74	70.55	63.65	64.54	67.55	69.34
176	Clergy and religious workers	94.88	94.37	94.33	94.06	92.32	89.89	87.53	85.49	84.81	84.84
178	Lawyers	99.03	98.99	99.02	99.21	99.35	99.23	98.89	98.70	98.67	98.66
179	Judges			95.87	94.80	92.98	91.49	90.48	90.16	89.43	86.54
183	Writers and authors	98.91	96.77	94.97	93.89	93.03	92.34	92.25	92.81	92.48	91.20
184	Technical writers				93.75	90.79	88.68	88.40	88.36	87.75	86.77

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
185	Designers	87.05	84.84	83.92	83.65	78.45	70.87	69.67	73.52	76.62	78.48
186	Musician or composer	94.43	93.37	91.48	89.18	85.27	79.72	76.51	73.70	69.11	67.01
187	Actors, directors, producers	87.30	87.77	89.78	89.44	87.46	85.35	83.62	83.84	84.00	82.89
188	Art makers: painters, sculptors, craft-artist	91.90	92.33	91.64	88.56	83.62	79.10	77.14	76.64	75.96	75.47
189	Photographers	71.09	81.12	82.90	76.37	71.36	71.03	72.35	70.74	68.83	68.36
193	Dancers	94.12	91.51	86.68	75.79	60.54	54.52	56.63	52.95	43.15	37.66
194	Art/entertainment performers and related	22.41	63.32	82.26	81.25	79.34	76.67	75.47	73.01	69.01	66.95
195	Editors and reporters	96.06	95.48	95.00	93.81	91.09	89.28	90.09	91.17	90.06	87.85
198	Announcers			93.36	89.95	80.65	70.50	66.70	64.68	60.06	56.57
199	Athletes, sports instructors, and officials	93.75	93.92	92.96	91.54	87.49	82.57	80.09	78.44	76.97	75.82
200	Professionals, n.e.c.	91.75	92.79	92.74	91.65	90.61					
203	Clinical laboratory technologies and techni	94.44	89.97	86.93	85.77	83.66	81.37	79.79	77.69	75.39	74.22
204	Dental hygienists			93.96	91.61	87.36	82.44	79.13	77.35	74.50	71.19
205	Health record tech specialists			93.74	89.31	76.99	60.43	52.13	51.60	51.07	51.19
206	Radiologic tech specialists			86.06	84.35	78.00	69.56	66.07	65.99	65.58	66.18
207	Licensed practical nurses	64.25	60.93	56.85	53.60	52.94	53.30	52.24	50.39	46.67	43.57
208	Health technologists and technicians, n.e.c			81.73	74.47	69.49	66.71	64.89	63.60	62.20	61.70
213	Electrical and electronic (engineering) tech		84.02	80.22	73.91	68.21	62.44	60.42	62.50		
214	Engineering technicians, n.e.c.			79.19	74.06	69.22	64.00	59.51	58.10	58.96	60.60
215	Mechanical engineering technicians			87.73	81.67	73.89	68.70	70.11	75.61		
217	Drafters	88.77	90.49	89.73	85.84	77.84	67.92	63.04	63.10	64.04	64.95
218	Surveyors, cartographers, mapping scienti	69.86	79.10	79.90	71.61	65.47	63.27	61.90	60.66	59.87	59.87
223	Biological technicians			68.30	60.60	56.38	55.87	55.84	57.91	61.69	64.57
224	Chemical technicians			82.85	79.74	71.57	62.45	58.25	58.37	60.26	61.98
225	Other science technicians	87.28	85.53	80.85	75.02	70.97	66.22	62.25	60.38	58.75	58.44
226	Airplane pilots and navigators	90.08	82.28	86.34	89.43	86.21	86.02	88.34	89.54	87.82	85.24
227	Air traffic controllers			84.66	80.56	72.77	67.21	66.68	66.52	65.58	66.25
228	Broadcast equipment operators	20.05	60.36	78.69	69.86	60.59	60.05	63.09	63.91	63.31	62.36
229	Computer software developers			93.30	91.23	88.62	87.57	88.53	90.44	91.47	91.50
233	Programmers of numerically controlled ma			93.96	85.91	67.27	45.56	34.95	33.41	32.66	31.22
234	Legal assistants, paralegals, legal support, e				84.86	78.96	71.00	67.10	66.92	69.18	72.78
235	Technicians, n.e.c.	89.57	84.39	84.25	84.45	78.61	72.70	71.33	69.94		
243	Supervisors and proprietors of sales jobs	85.19	69.68	64.17	64.86	63.11	59.61	56.71	55.97	55.26	54.05
253	Insurance sales occupations		86.36	86.77	85.93	81.70	76.81	73.08	69.80	68.28	68.00
254	Real estate sales occupations	87.66	86.47	86.17	85.70	82.38	78.07	75.90	74.13	71.19	69.48
255	Financial services sales occupations	91.85	90.36	90.95	91.79	90.50	86.86	83.61	82.99	82.80	82.19
256	Advertising and related sales jobs	88.10	87.63	89.18	88.23	82.86	75.80	72.53	75.02	76.82	76.01
258	Sales engineers		94.57	94.46	93.56	90.83	87.28	86.25	87.17	87.51	87.33
274	Salespersons, n.e.c.	76.46	69.42	64.09	61.36	60.34	61.38	63.17	64.74	65.08	64.35
275	Retail sales clerks			58.77	52.72	46.66	47.96	51.17	50.20	47.47	45.54
276	Cashiers	65.58	62.85	57.62	49.53	39.75	31.65	27.86	26.47	25.32	24.83
277	Door-to-door sales, street sales, and news	61.73	56.15	54.67	54.07	48.59	41.81	38.94	39.23	39.28	38.53
283	Sales demonstrators / promoters / models	85.65	69.43	58.26	53.39	45.92	38.46	37.63	41.10	43.50	43.44
303	Office supervisors			84.50	80.64	73.12	65.46	61.12	59.97	60.09	60.43
308	Computer and peripheral equipment opera			80.51	78.48	69.30	58.38	55.26	57.30	58.38	58.64
313	Secretaries	91.80	90.13	87.50	81.17	68.15	54.11	47.35	47.78	51.51	55.46
314	Stenographers		87.88	85.77	78.85	64.01	51.97	53.58	59.79		
315	Typists		84.59	80.20	70.22	55.61	43.39	40.54	44.00	49.37	54.15
316	Interviewers, enumerators, and surveyors			88.88	81.90	72.52	63.38	57.52	55.97	55.35	55.19
317	Hotel clerks				61.36	52.64	45.25	41.99	40.26	39.66	39.81
318	Transportation ticket and reservation agen	69.46	77.18	81.91	79.90	73.71	66.95	62.48	60.15	58.73	58.30
319	Receptionists		83.45	78.77	70.55	59.52	46.89	39.59	39.52	40.77	41.03

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
323	Information clerks, nec				62.86	55.65	48.05	47.49	50.18		
326	Correspondence and order clerks				55.84	49.43	41.43	37.62	37.79	38.37	38.34
328	Human resources clerks, except payroll an	93.98	93.67	92.28	89.15	81.18	67.06	56.40	56.18	59.39	61.46
329	Library assistants	92.97	92.67	91.58	87.47	78.78	68.43	62.67	62.20	64.57	67.70
335	File clerks		63.16	60.75	55.63	48.13	41.92	40.94	42.67	45.55	49.68
336	Records clerks				69.70	64.54	57.33	55.18	57.42	59.46	60.67
337	Bookkeepers and accounting and auditing	89.84	87.55	82.45	73.61	61.31	49.27	44.18	44.94	46.36	47.46
338	Payroll and timekeeping clerks		79.64	77.50	68.84	56.01	45.48	42.92	46.79	50.99	54.34
343	Cost and rate clerks (financial records pro				69.62	63.27	53.38	46.73	42.92		
344	Billing clerks and related financial records			71.32	65.36	52.97	43.28	40.63	41.57	43.92	46.38
345	Duplication machine operators / office ma			56.55	54.58	46.42	37.26	35.78	38.99		
346	Mail and paper handlers			55.35	47.75	43.86	48.06	48.32	43.29	38.96	35.99
347	Office machine operators, n.e.c.	85.02	74.39	67.40	61.44	50.01	39.43	35.79	36.37	37.20	38.00
348	Telephone operators	62.56	61.23	58.78	54.70	45.73	35.94	34.03	37.26	39.15	39.66
349	Other telecom operators	65.17	62.29	59.23	55.69	48.36	43.99	49.45	56.15	58.89	60.46
354	Postal clerks, excluding mail carriers		79.84	76.38	66.27	55.34	49.11	46.27	43.46	40.94	39.19
355	Mail carriers for postal service	64.44	65.97	67.95	62.73	53.17	48.59	46.54	42.51	39.63	38.85
356	Mail clerks, outside of post office	70.51	76.56	70.96	58.18	46.89	36.98	32.44	32.38	32.84	33.51
357	Messengers	58.18	54.47	50.95	48.24	46.19	43.12	39.54	37.77	36.30	34.73
359	Dispatchers	63.78	60.80	55.46	50.35	45.52	39.92	37.11	37.72	39.33	41.10
361	Inspectors, n.e.c.	56.11	54.62	51.28	46.57	42.49					
364	Shipping and receiving clerks	61.31	55.56	50.18	44.69	37.59	31.06	26.54	24.27	24.60	26.27
365	Stock and inventory clerks		55.25	52.49	48.22	42.10	34.87	29.55	26.76	26.41	27.38
366	Meter readers			50.55	46.54	39.73	33.81	32.42	33.29	34.05	34.71
368	Weighers, measurers, and checkers			43.49	39.92	34.37	31.62	31.29	31.62	32.57	33.53
373	Material recording, scheduling, production			66.59	62.68	57.44	54.88	54.43	55.07	57.09	58.68
375	Insurance adjusters, examiners, and invest	90.85	89.82	89.11	87.21	79.91	68.75	62.15	61.36	62.04	62.58
376	Customer service reps, investigators and a			84.54	80.29	70.38	58.42	52.31	52.22	52.16	50.49
377	Eligibility clerks for government programs;				85.97	78.92	70.87	67.39	66.94	68.93	72.53
378	Bill and account collectors	77.77	68.96	64.08	62.03	59.94	54.78	48.94	45.58	42.69	40.94
379	General office clerks	84.45	79.74	72.40	64.50	53.75	44.69	42.40	43.52	46.04	49.53
383	Bank tellers	89.14	86.65	81.35	71.16	56.12	41.82	36.02	37.98	42.48	46.75
384	Proofreaders			82.14	77.99	70.24	66.06	68.09	73.10	75.65	75.75
385	Data entry keyers			67.10	62.85	53.10	43.09	40.04	42.10	45.36	49.00
386	Statistical clerks			78.71	71.57	63.00	56.28	55.15	58.41	62.31	65.55
387	Teacher's aides			79.32	70.73	56.75	46.57	44.69	44.40		
389	Administrative support jobs, n.e.c.			68.60	68.81	64.98	59.73	58.42	59.48	61.49	64.04
405	Housekeepers, maids, butlers, stewards, a	52.04	39.62	20.79	9.62	6.35	3.58	2.04	2.34	2.62	2.47
407	Private household cleaners and servants			6.83	3.83	1.64	1.19	2.65	4.68		
415	Supervisors of guards				70.42	69.79	67.26	64.25	61.32	58.22	56.17
417	Fire fighting, prevention, and inspection	53.71	54.42	55.75	53.82	49.43	49.98	55.38	58.42	58.69	58.70
418	Police, detectives, and private investigator	60.08	60.89	60.44	58.65	59.75	64.27	66.97	67.14	67.46	68.20
423	Other law enforcement: sheriffs, bailiffs, c	81.59	67.42	57.82	56.23	55.94	53.50	48.58	44.18	42.94	43.33
425	Crossing guards and bridge tenders			44.59	41.17	32.89	24.37	21.39	22.35	22.99	22.71
426	Guards, watchmen, doorkeepers	50.27	44.33	42.35	43.80	43.35	41.07	39.40	38.77	38.25	37.80
427	Protective services, n.e.c.				47.77	46.68	45.76	45.12	43.86	46.74	52.55
434	Bartenders	44.84	44.54	45.35	43.20	35.90	28.91	28.23	33.22	39.83	44.62
435	Waiter/waitress	45.81	47.74	44.78	35.85	23.20	15.39	18.35	25.36	31.72	35.67
436	Cooks, variously defined	45.58	41.70	35.36	29.22	23.89	18.09	16.27	19.16	20.15	18.74
438	Food counter and fountain workers	58.29	52.35	45.14	36.94	24.84	12.30	11.46	19.22		

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
439	Kitchen workers	39.15	32.69	22.13	13.58	9.87	10.92	13.63	14.19	15.88	19.94
443	Waiter's assistant			11.91	27.42	28.46	16.80	11.48	14.15	17.19	20.20
444	Misc food prep workers				32.26	24.02	11.19	4.72	5.13	7.42	9.93
445	Dental assistants			79.64	69.62	56.29	45.33	40.34	40.57	41.44	41.55
446	Health aides, except nursing	83.85	80.97	69.20	56.50	48.71	43.92	41.82	41.89	42.34	42.43
447	Nursing aides, orderlies, and attendants	61.79	55.24	47.80	41.36	34.14	27.07	25.11	28.05	30.71	31.55
448	Supervisors of cleaning and building service				45.53	40.26	33.57	30.35	30.91	31.33	30.13
453	Janitors	12.92	12.62	14.47	17.47	17.62	13.04	8.98	8.59	9.10	9.39
454	Elevator operators	40.52	27.95	21.14	23.92	22.46	18.67	16.13	14.46	15.38	16.58
455	Pest control occupations				45.15	41.45	37.72	35.24	33.01	30.46	29.10
456	Supervisors of personal service jobs, n.e.c.				55.69	52.56	49.24	48.98	48.49	49.58	54.96
457	Barbers		39.75	39.66	37.41	32.60	26.90	25.22	28.25	28.15	24.99
458	Hairdressers and cosmetologists	62.31	59.50	54.68	47.47	38.53	29.63	26.35	29.16	31.27	32.32
459	Recreation facility attendants	52.14	50.95	49.72	46.46	44.13	45.96	45.54	41.27	39.34	39.92
461	Guides				70.62	70.31	68.33	65.96	63.49	62.10	62.54
462	Ushers	7.13	26.72	44.17	48.19	49.14	51.04	47.46	40.44	37.24	37.63
463	Public transportation attendants and inspectors			50.28	48.93	49.07	53.92	58.47	60.00	57.90	53.71
464	Baggage porters	17.95	12.21	8.15	7.38	14.25	27.70	35.43	37.34	39.21	40.97
465	Welfare service aides			55.09	48.16	49.27	63.49	73.69	74.98	75.08	75.14
468	Child care workers		47.09	43.10	40.07	36.04	30.61	29.72	33.34	37.00	38.89
469	Personal service occupations, nec	17.65	14.08	10.46	10.00	14.47	27.68	44.91	52.81	50.59	45.96
473	Farmers (owners and tenants)	27.08	29.55	30.61	31.38	33.95	38.98	42.22	39.53	37.36	38.28
474	Horticultural specialty farmers				47.36	45.91	44.03	43.85	40.66		
475	Farm managers, except for horticultural farms	82.04	65.04	49.89	43.27	40.63	42.47	44.41	42.28	41.36	42.06
476	Managers of horticultural specialty farms				43.08	41.83	39.33	41.44	46.87		
479	Farm workers	6.76	3.48	1.42	0.93	0.82	0.96	0.76	0.41	0.46	0.74
483	Marine life cultivation workers				56.80	53.06	37.40	24.18	13.52		
484	Nursery farming workers				36.20	27.14	16.44	12.26	9.84		
485	Supervisors of agricultural occupations				47.51	45.10	41.55	38.79	35.99	34.27	34.06
486	Gardeners and groundskeepers	12.08	11.72	14.55	19.52	20.32	18.53	13.75	7.02	4.33	4.49
487	Animal caretakers except on farms			43.62	42.82	40.81	38.31	37.07	37.09	37.46	38.06
488	Graders and sorters of agricultural products	36.95	25.81	12.42	5.60	2.43	0.40	0.02	0.02	0.08	0.18
489	Inspectors of agricultural products				29.43	38.63	50.81	55.29	51.79	52.29	58.21
496	Timber, logging, and forestry workers	14.53	9.00	3.83	1.87	2.87	6.58	8.74	7.81	9.61	14.13
498	Fishers, hunters, and kindred	9.96	7.74	8.28	13.17	16.52	19.38	18.13	12.39	13.69	20.08
503	Supervisors of mechanics and repairers				54.23	49.09	42.42	38.53	38.31	39.67	40.39
505	Automobile mechanics	57.05	48.63	38.72	29.69	21.86	17.59	17.78	19.67	21.72	22.97
507	Bus, truck, and stationary engine mechanics				32.64	28.35	22.91	20.63	21.73	23.09	23.48
508	Aircraft mechanics	47.52	55.19	57.28	53.20	47.46	44.26	45.21	45.07	43.27	42.30
509	Small engine repairers				41.31	34.83	25.92	20.97	20.27	21.82	23.46
514	Auto body repairers			35.98	30.78	18.64	7.71	4.92	6.71	9.57	11.93
516	Heavy equipment and farm equipment mechanics			39.52	35.27	27.36	20.48	18.84	20.17	21.94	22.75
518	Industrial machinery repairers				36.40	32.02	28.05	27.70	29.27	29.67	29.45
519	Machinery maintenance occupations	1.40	2.59	6.61	9.39	10.45	14.72	20.27	24.10	27.30	28.89
523	Repairers of industrial electrical equipment	63.77	62.20	59.77	55.22	47.99	42.00	40.98	40.31	37.19	34.89
525	Repairers of data processing equipment			82.59	76.82	70.91	65.31	61.73	60.37	59.10	58.35
526	Repairers of household appliances and power tools			49.28	45.17	37.40	30.97	29.53	28.76	26.82	24.84
527	Telecom and line installers and repairers	64.02	60.26	57.78	55.15	48.42	41.06	38.69	39.64	38.81	36.59
533	Repairers of electrical equipment, n.e.c.				47.32	47.55	47.13	45.44	42.44	39.05	35.70
534	Heating, air conditioning, and refrigeration mechanics		54.97	51.03	44.83	37.56	32.73	31.91	30.87	28.06	26.25
535	Precision makers, repairers, and smiths	62.87	58.56	54.85	50.19	45.46	45.03	45.51	43.14	42.80	45.25
536	Locksmiths and safe repairers				53.89	47.91	39.63	34.03	30.63	28.49	28.48

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
538	Office machine repairers and mechanics	64.38	61.94	58.09	55.12	48.89	43.52	45.88	49.02		
539	Repairers of mechanical controls and valves				42.04	38.46	34.66	33.00	32.68	31.87	30.39
543	Elevator installers and repairers				47.00	42.27	35.88	33.03	33.62	33.60	31.62
544	Millwrights	17.60	31.22	37.43	35.12	31.39	28.89	28.39	28.21	28.29	28.42
549	Mechanics and repairers, n.e.c.	48.74	45.94	42.61	37.66	31.04	27.97	27.91	26.93	27.16	28.33
558	Supervisors of construction work				49.93	44.77	37.39	32.90	30.46	28.30	26.98
563	Masons, tilers, and carpet installers	38.44	35.27	31.63	26.41	17.50	8.49	4.93	4.57	3.74	2.38
567	Carpenters	40.82	37.40	34.59	31.91	27.44	24.35	23.20	19.01	12.64	8.95
573	Drywall installers			39.17	28.26	16.81	7.51	2.97	1.62	0.66	0.29
575	Electricians	59.45	57.97	53.41	48.21	42.18	36.51	34.86	35.14	33.66	31.14
577	Electric power installers and repairers			49.45	44.58	38.26	33.18	31.55	32.54	32.66	31.27
579	Painters, construction and maintenance	45.96	41.42	35.16	26.81	21.05	20.39	18.22	12.32	7.16	4.29
583	Paperhangers	43.91	27.61	31.23	39.20	37.44	35.47	32.29	25.12	20.52	22.08
584	Plasterers	39.74	21.95	19.07	24.84	16.29	5.27	2.48	1.45	0.50	0.17
585	Plumbers, pipe fitters, and steamfitters	57.45	49.78	44.59	40.01	31.88	24.85	22.25	22.15	20.77	17.84
588	Concrete and cement workers	1.34	1.57	3.45	4.51	2.57	1.22	1.47	1.18	1.00	1.20
589	Glaziers	52.33	48.76	39.45	33.57	28.75	22.98	18.41	14.91	13.66	12.47
593	Insulation workers	0.00	50.03	45.62	39.43	30.46	23.30	20.33	16.83	12.70	11.23
594	Paving, surfacing, and tamping equipment operators			6.78	4.50	2.22	1.00	0.74	1.46	2.73	3.17
595	Roofers and slaters	47.86	35.42	18.12	7.83	3.78	2.25	2.03	1.34	0.78	0.53
596	Sheet metal duct installers				42.89	36.25	28.18	23.41	22.63	22.92	22.65
597	Structural metal workers	21.93	32.94	39.34	37.06	29.65	23.25	19.60	18.04	18.76	18.02
598	Drillers of earth			27.49	21.70	11.29	7.66	10.46	11.20	11.94	12.19
599	Construction trades, n.e.c.	0.00	0.00	41.43	32.85	20.75	13.10	11.01	9.29	8.57	9.70
614	Drillers of oil wells				32.21	23.96	13.66	8.51	7.60	10.02	12.23
615	Explosives workers	7.12	16.08	13.59	11.52	15.45	20.05	27.78	31.62	29.89	28.94
616	Miners	2.54	5.89	6.41	4.69	4.01	6.17	10.49	13.26	16.42	20.68
617	Other mining occupations				17.13	14.14	8.03	6.60	7.18	8.49	11.36
628	Production supervisors or foremen	57.53	56.69	54.47	50.98	44.85	38.41	36.00	36.05	35.81	35.40
634	Tool and die makers and die setters	57.44	55.25	53.70	49.39	41.52	35.24	33.59	34.51	34.64	33.91
637	Machinists	52.39	51.77	49.52	43.78	34.69	27.72	24.78	24.42	25.69	26.31
643	Boilermakers	62.93	53.33	43.77	37.45	30.10	23.86	20.97	18.72	16.45	15.34
644	Precision grinders and filers				43.43	34.99	27.18	23.03	19.08	13.42	10.94
645	Patternmakers and model makers	61.83	59.31	55.16	50.04	44.19	38.99	36.73	36.68	36.81	37.62
646	Lay-out workers			49.01	42.93	32.90	25.82	24.41	24.39	19.81	11.57
649	Engravers	20.01	52.20	56.84	46.83	41.05	35.78	34.15	32.96	34.80	42.14
653	Tinsmiths, coppersmiths, and sheet metal workers	58.91	52.84	47.91	42.27	31.88	24.32	23.31	23.33		
657	Cabinetmakers and bench carpenters	29.12	44.03	47.76	40.39	31.12	26.99	27.25	22.90	16.42	13.15
658	Furniture and wood finishers			32.92	32.39	28.43	23.32	20.37	17.29	13.55	11.68
659	Other precision woodworkers				49.49	40.08	29.71	23.60	23.67		
666	Dressmakers and seamstresses	60.20	55.47	49.43	41.48	31.71	24.43	24.22	27.01	27.14	28.16
667	Tailors	42.18	39.85	38.86	34.01	21.08	8.24	6.02	10.22		
668	Upholsterers	50.62	47.88	41.43	31.79	19.83	10.33	6.35	5.97	6.80	7.33
669	Shoe repairers			27.60	24.76	17.36	10.21	9.60	10.57	9.92	9.16
674	Other precision apparel and fabric workers	40.79	20.52	10.90	9.90	7.80	12.79	24.83	32.15		
675	Hand molders and shapers, except jewelers			19.07	22.16	22.44	24.02	26.74	25.26	23.20	22.65
677	Optical goods workers	15.16	46.83	62.09	55.68	48.97	48.25	50.01	50.01	49.63	50.23
678	Dental laboratory and medical appliance technicians			60.35	56.99	52.70	48.87	46.81	47.29	50.99	54.42
679	Bookbinders	52.59	51.41	45.60	38.98	30.49	21.32	17.46	20.05	22.77	22.73
684	Other precision and craft workers	22.80	30.23	38.66	37.45	27.84	18.44	15.62	17.29		
686	Butchers and meat cutters	46.17	43.85	44.69	40.29	27.12	12.95	5.24	3.00	2.85	4.29
687	Bakers	12.02	19.22	28.90	31.07	25.20	18.29	17.12	18.89	19.39	21.71

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
688	Batch food makers				33.76	27.27	18.24	12.95	12.39	14.85	19.37
693	Adjusters and calibrators				52.26	41.72	34.18	33.31	35.48		
694	Water and sewage treatment plant operators				46.11	43.56	40.67	38.34	37.03	37.02	37.66
695	Power plant operators	65.37	60.30	53.72	50.19	46.04	40.29	38.76	40.80	46.89	55.92
696	Plant and system operators, stationary engine	55.87	56.10	56.84	56.53	50.61	40.54	35.75	36.35	37.07	37.74
699	Other plant and system operators				45.39	40.68	35.82	34.15	34.89	36.23	37.10
703	Lathe, milling, and turning machine operators	4.23	19.11	35.93	37.16	25.01	14.90	12.39	11.88	12.44	14.41
706	Punching and stamping press operatives			15.75	12.41	8.57	5.51	5.25	7.59	9.58	10.26
707	Rollers, roll hands, and finishers of metal	9.50	25.92	29.76	23.92	17.13	9.54	5.60	6.09	8.49	10.94
708	Drilling and boring machine operators			31.02	25.58	16.71	8.40	8.00	15.47	17.46	11.15
709	Grinding, abrading, buffing, and polishing	21.84	30.36	32.14	23.77	11.94	5.09	4.38	5.54	6.74	7.27
713	Forge and hammer operators	20.32	34.03	30.79	20.77	15.59	9.79	7.60	9.40	11.38	13.83
717	Fabricating machine operators, n.e.c.			27.93	24.81	15.73	6.05	3.21	3.74		
719	Molders, and casting machine operators	11.86	9.72	7.83	7.56	7.27	5.99	7.60	11.78	13.48	12.83
723	Metal platers			39.70	28.89	14.86	8.45	6.26	5.14	7.38	10.35
724	Heat treating equipment operators	12.95	36.83	44.16	33.65	23.18	17.14	13.28	14.68	20.01	22.51
726	Wood lathe, routing, and planing machine				28.84	19.03	12.45	9.30	9.64	11.73	12.18
727	Sawing machine operators and sawyers	9.38	4.92	3.41	1.95	0.65	0.73	1.02	1.57	2.13	2.69
728	Shaping and joining machine operator (wood)				10.93	5.88	2.31	2.71	3.69		
729	Nail and tacking machine operators (wood)				5.42	3.25	2.84	3.27	3.80	4.71	5.22
733	Other woodworking machine operators				25.99	29.56	33.77	32.44	27.48	25.93	26.09
734	Printing machine operators, n.e.c.	58.01	55.46	51.35	46.28	38.18	30.10	26.59	25.18	24.50	25.21
735	Photoengravers and lithographers	52.99	51.42	52.30	52.82	45.84	36.97	36.14	38.92		
736	Typesetters and compositors	77.90	66.83	59.31	54.00	44.00	34.49	30.42	28.43	27.59	28.39
738	Winding and twisting textile/apparel operators			2.52	2.15	1.31	0.41	0.27	1.67	3.01	2.29
739	Knitters, loopers, and toppers textile operators	3.12	6.12	6.15	3.69	1.69	1.16	2.10	3.40	6.03	9.71
743	Textile cutting machine operators				4.02	3.86	2.36	2.36	2.71	3.44	6.00
744	Textile sewing machine operators			11.49	9.58	5.57	1.85	0.64	0.96	1.24	1.32
745	Shoemaking machine operators	36.19	20.23	13.32	10.33	4.94	1.34	0.20	1.95	3.71	2.53
747	Pressing machine operators (clothing)				5.65	2.96	0.85	0.35	0.53	0.64	0.56
748	Laundry workers	12.51	14.05	13.07	8.89	4.18	2.37	2.94	3.79	4.80	5.51
749	Misc textile machine operators	0.06	0.08	0.60	1.40	1.27	1.48	6.53	12.40	12.48	11.69
753	Cementing and gluing machine operators				22.59	14.01	6.06	3.69	4.73	5.23	3.26
754	Packers, fillers, and wrappers		24.72	19.27	13.86	8.03	3.85	2.57	2.08	2.50	3.53
755	Extruding and forming machine operators				23.70	18.30	11.72	10.06	11.53	12.23	12.44
756	Mixing and blending machine operatives	53.65	46.67	34.18	22.40	15.98	13.32	13.60	14.52	14.31	13.25
757	Separating, filtering, and clarifying machine				41.06	36.79	32.92	32.95	35.78	39.13	41.07
759	Painting machine operators	22.12	28.65	23.00	14.36	9.38	6.46	5.54	5.92	7.48	8.53
763	Roasting and baking machine operators (food)				12.29	17.20	17.97	13.27	12.08	15.25	16.88
764	Washing, cleaning, and pickling machine operators				13.89	13.15	6.55	2.20	3.18	3.69	2.32
765	Paper folding machine operators				11.10	9.50	7.87	7.38	9.34	12.04	13.66
766	Furnace, kiln, and oven operators, apart from	9.79	15.27	25.00	26.36	20.78	16.86	18.08	21.34	21.00	17.90
768	Crushing and grinding machine operators	2.79	14.07	22.95	16.39	7.35	3.86	3.21	3.72		
769	Slicing and cutting machine operators			17.43	15.63	9.93	4.77	3.24	3.67	5.14	6.76
773	Motion picture projectionists	28.03	47.60	52.83	47.36	44.83	47.04	53.22	58.08	56.77	50.80
774	Photographic process workers	59.11	61.74	57.24	51.67	44.69	38.81	39.29	41.29	43.10	45.10
779	Machine operators, n.e.c.	31.84	26.27	23.35	19.60	12.21	7.71	9.03	12.36	14.35	14.77
783	Welders and metal cutters	24.22	37.40	37.01	26.58	17.33	9.88	6.63	7.69	9.97	11.35
784	Solderers			24.55	27.61	18.88	6.75	3.39	4.84		
785	Assemblers of electrical equipment		38.43	37.57	33.20	24.39	15.52	12.06	13.72	15.65	15.84
789	Hand painting, coating, and decorating occupations			56.19	47.84	37.41	28.96	24.78	23.42		
796	Production checkers and inspectors		50.94	48.13	42.03	32.36	24.20	24.55	30.30		

OCC1990	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
799	Graders and sorters in manufacturing		12.04	11.45	10.15	14.36	25.96	32.77	34.01	34.82	34.75
803	Supervisors of motor vehicle transportation				50.19	48.01	43.95	40.88	40.05	40.20	40.20
804	Truck, delivery, and tractor drivers	15.70	17.27	17.42	15.80	16.07	17.54	17.32	17.01	18.36	19.95
808	Bus drivers	39.42	40.55	42.66	41.68	36.86	32.61	31.26	30.68	29.57	29.09
809	Taxi cab drivers and chauffeurs	22.17	33.19	38.51	35.60	33.02	33.81	34.66	34.51	34.13	33.77
813	Parking lot attendants			38.88	33.80	27.72	25.18	26.15	27.05	27.80	29.56
823	Railroad conductors and yardmasters	52.42	53.45	52.40	48.36	42.12	37.12	36.06	38.57	40.69	40.43
824	Locomotive operators (engineers and firemen)	46.74	49.02	50.08	46.35	39.92	36.11	35.85	37.32	37.68	35.97
825	Railroad brake, coupler, and switch operators	45.94	48.77	49.70	44.00	34.19	28.83	27.13	24.62	23.48	23.77
829	Ship crews and marine engineers	60.99	57.50	49.98	39.92	32.67	33.16	36.12	36.27	36.36	37.09
834	Water transport infrastructure tenders and deckhands	40.42	39.67	37.38	35.52	32.16	29.67	30.60	33.53		
844	Operating engineers of construction equipment			12.11	12.38	11.39	7.77	5.36	6.72	9.40	10.55
848	Crane, derrick, winch, and hoist operators	18.10	13.20	11.82	11.02	8.63	8.24	9.37	11.49	14.63	16.45
853	Excavating and loading machine operators	12.49	12.74	12.89	10.78	6.92	4.52	4.44	6.23	9.30	11.46
859	Misc material moving occupations	0.24	3.30	10.92	17.12	16.36	14.24	18.08	22.44	24.90	27.97
865	Helpers, constructions				9.66	6.84	4.91	3.94	2.61	3.41	6.22
866	Helpers, surveyors			41.95	38.49	24.88	9.33	3.19	2.12	1.83	2.57
869	Construction laborers			2.90	3.45	5.09	7.89	9.31	7.71	6.24	6.35
874	Production helpers				14.09	9.39	6.33	5.26	5.78	7.16	7.56
875	Garbage and recyclable material collectors			0.56	1.37	1.51	2.06	3.31	4.78	6.65	7.55
876	Materials movers: stevedores and longshoremen	32.79	11.89	2.62	4.46	5.41	5.10	6.67	7.18	3.47	1.17
877	Stock handlers			45.27	39.73	30.91	23.33	21.51	22.80		
878	Machine feeders and offbearers				11.51	12.42	7.89	5.31	6.95	8.66	10.42
883	Freight, stock, and materials handlers		40.40	21.69	12.71	11.85	12.36	18.44	26.66	34.50	39.38
885	Garage and service station related occupations	50.96	47.55	41.31	32.06	21.60	16.96	17.94	17.40	15.71	16.10
887	Vehicle washers and equipment cleaners	1.14	2.41	4.57	4.20	3.22	3.60	3.55	3.43	4.03	4.98
888	Packers and packagers by hand			43.62	33.37	19.85	7.97	2.51	1.73	2.17	3.23
889	Laborers outside construction	4.55	5.01	5.12	4.75	5.75	9.29	11.74	12.16	12.83	13.39
905	Military	88.49	85.15	78.19	66.73	59.40	61.18	66.55	69.46	65.72	60.81

Data sources: IPUMS United States Population Censuses 1950–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: Details of the variable OCC1900 are described in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS” (<https://usa.ipums.org/usa/chapter4/chapter4.shtml>). The original description of the 1990 occupation categories by the U.S. Bureau of the Census can be found in the file “The Relationship Between the 1990 Census and Census 2000 Industry and Occupation Classification Systems Technical Paper #65 (Washington D.C., 2003)” (<https://www.census.gov/content/dam/Census/library/working-papers/2003/demo/techpaper2000.pdf>). The IPUMS project has harmonized data from the U.S. Censuses 1850–2000 and American Community Surveys 2001–2018 using 1990 occupation coding system. Note that the OCC1990 variable in IPUMS data contains fewer occupational categories than the original 1990 occupational scheme. Occupations with empty percentile ranks indicate no workers found in those occupations for a specific birth cohort. This table can be downloaded from our project website.

Appendix Table A6. Occupational Percentile Ranks Based on 2010 Census Occupations for Birth Cohorts 1890–1980

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
10	Chief executives and legislators/public adm	88.76	89.05	88.95	86.22	82.62	81.80	82.15	81.82	81.07	80.38
20	General and Operations Managers						76.64	74.37	70.79	68.29	67.37
30	Managers in Marketing, Advertising, and P		92.63	90.15	87.40	83.69	80.04	79.40	81.38	83.32	83.82
100	Administrative Services Managers						72.29	69.09	65.90	65.12	66.16
110	Computer and Information Systems Mana						86.78	86.55	86.95	86.70	85.61
120	Financial Managers			91.51	90.13	85.63	80.12	78.12	78.67	78.43	77.21
130	Human Resources Managers				85.06	82.00	78.47	76.77	76.64	76.68	76.26
140	Industrial Production Managers						65.81	65.44	65.11	65.14	64.95
150	Purchasing Managers				90.09	86.41	80.92	78.02	77.83	78.08	78.54
160	Transportation, Storage, and Distribution I						61.81	59.68	55.56	51.91	50.70
205	Farmers, Ranchers, and Other Agricultura	34.31	32.26	30.61	31.54	34.57	39.56	42.58	40.23	38.82	39.87
220	Constructions Managers						57.82	55.37	52.90	55.31	59.61
230	Education Administrators	99.53	98.68	97.58	95.75	93.60	92.21	91.06	89.50	88.43	88.03
300	Architectural and Engineering Managers						89.68	90.88	92.18	92.25	91.53
310	Food Service and Lodging Managers			55.13	52.38	52.28	53.67	53.80	52.95	50.36	47.75
320	Funeral Directors	88.30	87.10	88.54	88.40	82.91	77.09	75.44	74.64	71.77	69.20
330	Gaming Managers						63.45	60.92	58.56	55.85	53.12
350	Medical and Health Services Managers			91.94	90.26	86.01	81.90	80.47	79.70	78.62	78.05
360	Natural Science Managers						93.04	93.30	93.62	93.57	93.40
410	Property, Real Estate, and Community As	61.80	61.47	62.46	65.71	68.28	67.05	64.75	63.73	63.44	63.40
420	Social and Community Service Managers						82.01	81.99	82.24	83.69	84.60
430	Managers, nec (including Postmasters)	72.46	74.13	75.60	76.15	74.70	72.68	72.95	73.79	73.47	73.00
500	Agents and Business Managers of Artists,				71.62	75.35	76.28	75.74	75.69	74.22	71.95
510	Buyers and Purchasing Agents, Farm Proc	79.66	62.41	53.34	53.19	51.14	49.54	48.22	47.47	49.12	46.74
520	Wholesale and Retail Buyers, Except Farn	88.00	84.84	79.61	73.53	68.63	63.88	61.09	61.26	62.36	63.36
530	Purchasing Agents, Except Wholesale, Re	88.40	87.83	87.76	85.57	78.35	68.99	64.41	64.16	65.89	69.04
540	Claims Adjusters, Appraisers, Examiners,		89.57	90.10	87.98	81.98	73.76	67.79	66.47	68.15	70.43
560	Compliance Officers, Except Agriculture	86.92	85.18	82.83	78.72	74.09	73.44	75.47	77.06	78.53	79.92
600	Cost Estimators						64.48	63.37	62.55	62.91	63.80
620	Human Resources, Training, and Labor R				84.74	80.74	75.29	72.18	72.89	75.35	76.96
700	Logisticians						72.73	69.61	67.43	66.95	67.42
710	Management Analysts				93.75	91.84	90.12	88.94	88.23	87.78	87.30
720	Meeting and Convention Planners						78.69	78.16	79.08	81.48	84.15
730	Other Business Operations and Managemen				88.22	80.66	72.60	71.74	75.50	78.46	80.28
800	Accountants and Auditors	93.38	93.16	93.07	91.96	89.37	87.34	87.71	89.12	89.51	89.27
810	Appraisers and Assessors of Real Estate						78.71	77.22	75.02	72.77	71.76
820	Budget Analysts						79.48	79.75	82.72	86.43	88.02
830	Credit Analysts						66.69	68.92	72.85	76.98	79.63
840	Financial Analysts						89.55	90.08	91.16	92.32	92.78
850	Personal Financial Advisors						90.01	90.21	90.49	90.02	88.90
860	Insurance Underwriters				86.82	80.49	72.14	68.31	69.60	73.95	77.72
900	Financial Examiners						92.00	91.40	89.50	87.08	86.88
910	Credit Counselors and Loan Officers						74.22	71.51	70.85	70.88	70.68
930	Tax Examiners and Collectors, and Reven						71.52	69.42	68.22	68.24	69.82
940	Tax Preparers						76.02	74.39	70.94	66.97	64.87
950	Financial Specialists, nec	83.69	86.73	89.86	89.47	84.62	78.67	76.67	77.28	76.84	75.86
1000	Computer Scientists and Systems Analysts			91.56	91.35	89.32	85.18	81.45	80.18	79.97	79.59
1010	Computer Programmers			93.39	91.37	87.24	83.99	84.63	86.32	86.11	84.90
1020	Software Developers, Applications and Sy						89.68	90.14	91.34	92.01	91.94

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
1050	Computer Support Specialists						75.04	72.66	71.36	70.34	68.85
1060	Database Administrators						84.05	83.42	84.58	85.20	84.90
1100	Network and Computer Systems Administrators						79.65	77.83	76.79	76.06	75.09
1200	Actuaries			92.73	94.89	95.48	95.10	96.62	97.95	98.13	98.25
1220	Operations Research Analysts			91.16	89.91	86.37	82.27	81.29	82.93	85.02	86.74
1230	Statisticians	92.13	93.51	92.99	90.92	89.08	89.22	91.18	94.02	96.90	98.11
1240	Mathematical science occupations, nec		96.44	97.49	97.60	95.93	93.78	93.05	93.35	93.48	93.42
1300	Architects, Except Naval	95.18	95.58	95.71	94.89	93.52	92.87	93.10	93.41	93.35	93.10
1310	Surveyors, Cartographers, and Photogrammetrists	69.84	78.92	79.36	70.96	69.49	78.06	85.31	88.34	90.06	90.47
1320	Aerospace Engineers	89.61	93.17	95.15	94.72	93.03	91.41	91.60	92.76	93.13	92.95
1350	Chemical Engineers	94.34	96.36	96.52	95.49	94.20	93.12	92.99	93.26	93.29	93.14
1360	Civil Engineers	95.35	94.84	94.15	93.11	91.46	90.39	91.20	92.58	92.59	91.73
1400	Computer Hardware Engineers						85.82	86.18	86.60	86.19	85.24
1410	Electrical and Electronics Engineers	94.96	94.80	94.65	93.70	91.52	89.18	88.95	90.30	90.82	90.67
1420	Environmental Engineers						92.88	93.01	93.22	93.04	92.55
1430	Industrial Engineers, including Health and Safety Engineers, except Food, Pharmaceutical, and Textile Mill	93.48	92.69	92.43	91.18	87.10	82.34	81.06	83.00	85.45	87.03
1440	Marine Engineers and Naval Architects				79.09	77.91	82.06	84.61	83.85	84.11	84.29
1450	Materials Engineers	94.00	94.06	94.29	93.88	91.01	85.89	82.86	84.11	87.18	89.40
1460	Mechanical Engineers	90.24	91.41	92.44	92.38	90.51	87.75	86.38	86.81	88.04	89.36
1520	Petroleum, mining and geological engineers and allied occupations, nec	98.96	96.52	94.93	94.32	92.61	91.05	91.39	90.64	88.75	89.33
1530	Engineers, nec	95.46	93.93	93.99	93.76	91.73	89.95	90.04	90.93	91.14	91.01
1540	Drafters	88.71	90.30	89.60	85.54	77.17	67.96	63.94	63.69	63.90	64.19
1550	Engineering Technicians, Except Drafters		83.70	79.45	72.94	68.07	62.61	58.44	57.56	55.81	53.59
1560	Surveying and Mapping Technicians			79.31	72.68	66.02	56.88	47.92	42.07	39.10	38.46
1600	Agricultural and Food Scientists	97.22	92.45	91.09	91.31	90.48	90.67	91.89	92.15	91.78	92.23
1610	Biological Scientists	98.77	97.53	97.16	96.75	96.38	96.50	97.05	97.67	97.90	98.04
1640	Conservation Scientists and Foresters	83.15	79.69	76.23	80.11	83.98	87.13	91.47	93.17	93.21	93.00
1650	Medical Scientists, and Life Scientists, All other				95.67	96.75	97.76	98.01	98.03	98.16	98.21
1700	Astronomers and Physicists	0.00	93.27	95.92	96.58	96.60	96.03	94.34	94.54	96.62	98.02
1710	Atmospheric and Space Scientists			95.66	93.95	91.04	90.03	91.81	93.20	91.56	88.04
1720	Chemists and Materials Scientists	98.58	96.41	95.39	95.01	93.95	93.15	93.28	93.70	93.74	93.54
1740	Environmental Scientists and Geoscientists, except Hydrologists and Geographers	99.75	99.14	98.86	98.84	97.11	94.33	94.38	96.68	97.76	97.73
1760	Physical Scientists, nec	24.19	72.09	95.00	93.09	93.78	96.80	98.43	98.84	99.09	99.14
1800	Economists and market researchers	93.81	95.14	95.55	94.81	93.05	91.68	91.95	92.29	92.15	92.34
1820	Psychologists	90.81	96.24	98.42	98.00	98.07	98.47	98.95	99.33	99.72	99.93
1830	Urban and Regional Planners			95.94	94.93	93.52	93.01	93.37	93.72	94.82	96.90
1840	Social Scientists, nec	98.85	96.77	95.92	95.47	94.17	93.27	93.24	93.37	93.19	92.86
1900	Agricultural and Food Science Technicians						54.79	51.25	49.05	53.44	58.54
1910	Biological Technicians			67.91	61.55	59.42	61.32	63.04	65.93	70.84	74.40
1920	Chemical Technicians			82.52	79.06	71.38	63.64	60.40	60.39	61.60	63.12
1930	Geological and Petroleum Technicians, and related occupations, nec						64.25	62.85	61.03	60.23	60.57
1960	Life, Physical, and Social Science Technicians, except Agricultural, Food, and Forestry Technicians	87.53	85.26	83.06	79.50	72.97	67.20	65.10	64.97	67.78	72.81
1980	Professional, Research, or Technical Workers, except Computer Occupations	91.65	92.30	91.63	89.91	85.13	78.52				
2000	Counselors			97.56	96.65	95.04	92.26	89.54	87.30	86.33	86.49
2010	Social Workers	95.24	95.29	95.16	93.55	90.62	88.05	85.98	84.66	84.97	85.64
2020	Community and Social Service Specialists, except Social Workers			55.13	48.51	50.74	64.58	71.29	71.27	73.36	74.59
2040	Clergy	95.40	94.63	94.45	94.20	92.25	89.79	88.63	87.60	86.43	86.13
2050	Directors, Religious Activities and Education						85.99	82.60	80.65	81.48	82.83
2060	Religious Workers, nec	92.92	92.56	92.26	90.91	87.27	81.95	78.16	77.28	77.11	76.47
2100	Lawyers, and judges, magistrates, and other legal occupations, nec	98.91	98.83	98.85	99.06	99.09	98.88	98.70	98.63	98.64	98.65
2140	Paralegals and Legal Assistants				84.96	80.39	73.43	68.47	67.95	70.48	73.59
2150	Legal Support Workers, nec						66.87	65.05	64.10	66.02	69.79
2200	Postsecondary Teachers	99.51	99.30	98.85	98.44	98.13	96.79	94.87	94.19	94.19	94.01

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
2300	Preschool and Kindergarten Teachers			94.20	91.47	86.45	80.41	75.00	70.26	67.09	65.70
2310	Elementary and Middle School Teachers	97.62	97.31	97.10	96.59	95.49	95.00	95.48	95.90	95.89	95.80
2320	Secondary School Teachers		99.64	99.30	98.57	97.53	96.99	97.25	97.49	97.46	97.42
2330	Special Education Teachers				89.63	89.36	90.78	92.16	92.14	91.92	92.19
2340	Other Teachers and Instructors		95.17	93.74	91.37	87.38	82.47	79.37	77.42	75.48	74.43
2400	Archivists, Curators, and Museum Technicians			93.84	91.89	89.81	88.79	89.35	90.43	90.20	89.04
2430	Librarians	96.49	96.18	95.79	94.62	93.03	92.50	92.70	92.88	92.91	92.74
2440	Library Technicians						61.47	59.49	58.10	60.15	62.38
2540	Teacher Assistants			78.38	70.52	61.23	54.24	50.60	49.82	50.29	51.63
2550	Education, Training, and Library Workers						92.31	91.21	89.08	87.96	87.72
2600	Artists and Related Workers	91.88	92.29	91.59	88.56	83.51	78.51	76.29	75.93	75.62	75.54
2630	Designers	83.28	76.79	77.97	80.86	77.08	70.92	68.92	71.75	75.72	77.95
2700	Actors, Producers, and Directors	87.30	87.80	89.77	89.33	87.29	84.85	82.77	82.85	82.94	81.88
2720	Athletes, Coaches, Umpires, and Related Workers	93.81	93.98	93.06	91.67	87.41	81.70	78.97	78.16	77.17	75.97
2740	Dancers and Choreographers	94.13	91.39	86.38	76.36	62.46	56.40	58.52	54.79	43.94	37.77
2750	Musicians, Singers, and Related Workers	94.44	93.33	91.43	89.07	84.94	78.08	73.22	70.84	67.78	66.22
2760	Entertainers and Performers, Sports and Related Workers	22.25	62.94	81.91	81.23	77.65	70.54	66.15	63.89	61.83	61.32
2800	Announcers			93.40	90.02	80.44	69.73	65.78	64.48	61.04	58.04
2810	Editors, News Analysts, Reporters, and Correspondents	96.05	95.47	94.91	93.62	91.02	89.57	90.65	91.78	91.35	90.56
2825	Public Relations Specialists				91.03	87.43	84.07	84.84	87.51	89.55	90.44
2840	Technical Writers				93.50	90.56	88.27	88.04	88.32	87.94	87.20
2850	Writers and Authors	98.96	96.77	94.92	93.68	92.69	92.07	91.98	92.50	92.12	90.77
2860	Media and Communication Workers, except Broadcasters						77.96	77.04	75.16	72.12	69.95
2900	Broadcast and Sound Engineering Technicians	20.03	60.05	77.78	69.80	62.58	62.04	63.63	64.08	63.79	63.18
2910	Photographers	71.02	81.00	84.27	79.07	72.66	70.11	70.41	69.37	67.95	67.78
2920	Television, Video, and Motion Picture Camera Operators						75.16	76.07	77.41	78.42	78.16
3000	Chiropractors	98.91	98.55	98.28	97.78	97.45	97.89	98.17	97.99	97.01	95.26
3010	Dentists	99.66	99.12	98.85	99.22	99.59	99.81	99.92	99.88	99.83	99.83
3030	Dietitians and Nutritionists	91.27	87.00	83.66	82.02	79.79	77.41	77.24	78.46	80.22	82.34
3040	Optometrists	96.24	95.54	96.53	97.91	97.76	98.15	99.41	99.74	99.34	99.09
3050	Pharmacists	96.04	95.82	95.70	96.04	96.92	97.77	98.07	98.08	98.02	97.90
3060	Physicians and Surgeons	99.10	99.04	99.48	99.78	99.70	99.59	99.54	99.53	99.50	99.51
3110	Physician Assistants				54.98	62.06	74.25	83.22	86.16	87.21	87.95
3120	Podiatrists			98.19	97.73	97.41	98.07	99.14	99.80	99.49	98.46
3130	Registered Nurses	93.59	91.80	90.36	88.63	85.94	84.19	84.11	84.06	83.10	82.38
3140	Audiologists						95.36	94.36	94.99	96.55	97.12
3150	Occupational Therapists				92.38	91.73	92.26	93.19	93.63	93.65	93.43
3160	Physical Therapists				92.43	91.37	91.32	92.58	93.50	93.53	93.29
3200	Radiation Therapists						77.31	74.91	75.97	77.92	78.54
3210	Recreational Therapists						77.08	80.17	84.37	86.84	87.97
3220	Respiratory Therapists				84.53	80.72	76.94	75.66	74.30	71.15	68.92
3230	Speech Language Pathologists				97.66	97.43	97.77	98.05	98.06	98.03	98.00
3240	Therapists, nec	89.90	91.32	92.19	91.90	90.39	90.02	91.23	91.60	91.31	90.98
3250	Veterinarians	96.30	95.90	96.67	98.56	99.39	99.44	99.38	99.42	99.55	99.27
3260	Health Diagnosing and Treating Practitioners, except Dentists, Chiropractors, and Optometrists	0.00	21.46	41.40	54.80	72.46	87.29	90.91	92.30	92.43	91.44
3300	Clinical Laboratory Technologists and Technicians	94.44	89.91	86.77	85.59	83.33	80.38	78.65	76.53	73.10	71.26
3310	Dental Hygienists			93.97	91.67	87.30	82.12	78.98	76.68	73.08	70.76
3320	Diagnostic Related Technologists and Technicians						68.00	66.56	65.74	65.16	64.84
3400	Emergency Medical Technicians and Paramedics						62.11	61.04	60.37	60.07	59.77
3410	Health Diagnosing and Treating Practitioners, except Physicians and Surgeons			85.94	83.99	74.63	60.18	51.56	51.27	54.51	56.64
3500	Licensed Practical and Licensed Vocational Nurses	64.31	61.04	56.93	54.65	55.19	55.43	54.14	51.93	47.51	44.31
3510	Medical Records and Health Information Management Specialists			93.77	89.44	77.47	61.38	53.46	53.13	52.20	51.72
3520	Opticians, Dispensing	15.21	46.82	62.00	55.77	49.06	48.50	51.00	51.44	50.69	50.71

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
3530	Health Technologists and Technicians, nec			81.52	73.89	68.90	65.82	63.57	62.55	61.61	61.43
3540	Healthcare Practitioners and Technical Oc				94.46	89.74	81.07	77.03	77.25	78.29	79.89
3600	Nursing, Psychiatric, and Home Health Ai	70.71	75.45	58.63	40.03	30.86	24.74	23.85	27.11	30.31	31.63
3610	Occupational Therapy Assistants and Aide						71.11	67.02	65.17	64.34	63.38
3620	Physical Therapist Assistants and Aides						56.86	59.74	62.59	63.97	64.46
3630	Massage Therapists						72.59	67.58	64.11	61.67	58.26
3640	Dental Assistants			78.86	69.83	57.77	46.30	40.77	41.20	41.99	42.01
3650	Medical Assistants and Other Healthcare S	62.23	57.08	50.58	44.44	38.39	34.47	36.02	40.36	42.75	43.25
3700	First-Line Supervisors of Correctional Off						64.74	63.04	60.91	58.98	57.03
3710	First-Line Supervisors of Police and Detec				71.88	74.80	73.36	70.15	68.86	67.19	65.17
3720	First-Line Supervisors of Fire Fighting and				62.72	63.78	64.51	64.20	63.52	63.24	63.20
3730	Supervisors, Protective Service Workers, .				69.64	69.17	66.75	64.38	62.55	59.82	57.31
3740	Firefighters	53.52	54.72	55.81	53.34	47.61	46.52	53.03	58.72	60.24	60.59
3750	Fire Inspectors				53.34	58.78	62.45	63.36	62.59	58.99	54.20
3800	Sheriffs, Bailiffs, Correctional Officers, an	81.70	67.51	58.01	57.57	58.10	54.41	48.14	43.55	42.35	42.69
3820	Police Officers and Detectives	60.41	61.20	61.68	61.11	60.66	62.40	64.67	65.42	65.47	65.68
3900	Animal Control						27.54	32.29	35.88	39.91	42.46
3910	Private Detectives and Investigators						78.82	77.20	75.06	73.72	74.42
3930	Security Guards and Gaming Surveillance			44.35	44.86	43.68	41.37	39.83	39.02	38.27	37.75
3940	Crossing Guards			44.58	41.47	33.25	24.24	20.93	21.85	22.39	22.10
3950	Law enforcement workers, nec	49.81	43.80	40.68	40.02	41.22	46.53	50.93	52.72	55.80	58.87
4000	Chefs and Cooks	45.21	41.52	34.91	27.28	19.62	12.09	9.34	11.42	12.68	12.88
4010	First-Line Supervisors of Food Preparation				48.61	42.72	35.67	33.06	34.19	34.93	34.55
4030	Food Preparation Workers	37.83	28.49	17.71	11.41	10.57	10.57	8.58	8.78	12.19	16.62
4040	Bartenders	44.73	44.47	45.18	42.91	35.15	27.70	27.41	32.94	39.84	44.84
4050	Combined Food Preparation and Serving V				32.93	23.65	19.05	17.30	16.09	16.97	18.58
4060	Counter Attendant, Cafeteria, Food Conce	58.61	52.51	45.11	36.94	27.57	19.23	17.16	20.20	21.15	20.04
4110	Waiters and Waitresses	45.92	47.85	44.82	36.49	24.41	15.80	18.01	24.94	31.27	35.48
4120	Food Servers, Nonrestaurant						19.03	18.38	20.61	24.03	27.24
4130	Food preparation and serving related work			38.64	34.51	24.32	11.17	6.12	8.68	10.61	11.20
4140	Dishwashers			5.64	2.88	0.69	0.15	0.27	0.55	0.86	1.15
4150	Host and Hostesses, Restaurant, Lounge, .						30.68	31.47	33.46	35.77	37.46
4200	First-Line Supervisors of Housekeeping ar				45.98	40.83	34.09	30.67	30.64	30.65	29.57
4210	First-Line Supervisors of Landscaping, La				47.69	45.28	41.92	39.11	35.92	34.03	33.96
4220	Janitors and Building Cleaners	13.47	12.64	13.70	16.52	17.21	13.67	9.96	8.94	9.28	9.95
4230	Maids and Housekeeping Cleaners	51.75	39.32	20.52	9.42	5.73	3.09	2.08	2.52	2.77	2.51
4240	Pest Control Workers				45.42	41.76	37.71	35.07	32.99	30.42	28.61
4250	Grounds Maintenance Workers	13.28	13.46	15.24	18.99	19.57	18.02	13.61	7.15	4.58	4.77
4300	First-Line Supervisors of Gaming Workers						62.60	58.05	56.65	58.89	60.35
4320	First-Line Supervisors of Personal Service				57.51	54.87	51.02	50.32	49.28	50.32	56.51
4340	Animal Trainers						61.93	55.08	50.53	49.46	48.23
4350	Nonfarm Animal Caretakers			42.34	42.69	41.15	38.45	37.33	37.73	38.55	39.32
4400	Gaming Services Workers						43.25	40.21	38.56	38.44	38.16
4420	Ushers, Lobby Attendants, and Ticket Tal	7.13	26.75	44.19	48.12	49.02	51.30	48.11	40.97	37.60	37.89
4430	Entertainment Attendants and Related Wo	47.98	51.79	51.11	46.75	46.27	50.68	49.86	43.75	41.95	43.52
4460	Funeral Service Workers and Embalmers			91.86	89.15	77.84	64.97	62.49	64.66	64.42	63.54
4500	Barbers		39.80	40.00	38.18	32.79	26.08	24.53	27.97	27.72	24.23
4510	Hairdressers, Hairstylists, and Cosmetolog	62.23	59.58	54.82	47.80	38.65	29.36	26.37	30.12	32.91	33.16
4520	Personal Appearance Workers, nec						36.22	30.28	25.56	25.44	28.33
4530	Baggage Porters, Bellhops, and Concierge	18.22	13.01	9.49	8.35	14.63	28.00	35.83	37.66	39.47	41.36
4540	Tour and Travel Guides				69.81	69.96	68.25	65.70	63.86	63.49	64.01
4600	Childcare Workers		47.32	43.34	40.19	35.68	29.52	28.43	32.68	36.79	38.62
4610	Personal Care Aides						27.51	27.49	28.84	29.81	30.33

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
4620	Recreation and Fitness Workers	89.34	92.29	92.76	90.31	82.46	70.53	64.54	64.93	66.95	69.27
4640	Residential Advisors						56.60	54.38	53.85	58.22	62.12
4650	Personal Care and Service Workers, All Other	17.05	13.54	9.47	7.58	8.12	16.46	32.29	41.34	41.78	40.92
4700	First-Line Supervisors of Sales Workers	85.36	69.77	63.81	64.25	63.03	60.68	58.54	57.81	56.91	55.41
4720	Cashiers	65.63	62.93	57.66	49.77	40.22	32.00	27.97	26.60	25.53	24.62
4740	Counter and Rental Clerks			57.46	51.10	41.50	33.44	30.95	31.93	34.18	36.95
4750	Parts Salespersons				59.19	49.88	38.41	31.71	28.41	27.27	27.80
4760	Retail Salespersons			59.30	55.31	50.72	50.17	52.55	52.12	48.50	45.83
4800	Advertising Sales Agents	88.12	87.67	89.18	88.13	82.32	74.95	71.98	74.61	76.62	76.15
4810	Insurance Sales Agents	90.62	88.58	86.94	85.41	81.09	74.99	70.75	68.55	67.39	67.38
4820	Securities, Commodities, and Financial Services Sales Agents	91.89	90.49	91.09	91.76	89.94	85.75	82.43	81.91	81.63	80.93
4830	Travel Agents						71.70	67.05	62.96	61.53	62.16
4840	Sales Representatives, Services, All Other			79.66	79.85	76.64	70.94	68.37	69.05	69.27	67.71
4850	Sales Representatives, Wholesale and Manufacturing, Except Parts and Accessories Salespersons			81.46	81.05	76.98	70.23	67.08	67.51	68.44	68.95
4900	Models, Demonstrators, and Product Promoters	85.69	69.51	58.35	53.49	46.10	38.90	38.09	41.42	43.97	44.18
4920	Real Estate Brokers and Sales Agents	87.54	86.24	86.16	85.94	82.07	75.70	71.28	70.20	70.05	69.77
4930	Sales Engineers		94.45	94.38	93.38	90.45	86.85	85.83	86.78	87.46	87.62
4940	Telemarketers						54.17	49.03	41.75	35.76	32.23
4950	Door-to-Door Sales Workers, News and Street Vendors, Except News Carriers	58.38	53.23	51.85	52.76	49.11	42.52	39.32	39.46	39.43	38.70
4965	Sales and Related Workers, All Other	76.52	69.41	63.76	59.15	53.11	51.72	58.09	65.60	69.80	70.53
5000	First-Line Supervisors of Office and Administrative Support Workers			84.56	80.48	72.53	65.24	62.10	61.64	61.85	62.10
5010	Switchboard Operators, Including Answering Machine Operators						32.99	33.92	36.76	38.92	39.41
5020	Telephone Operators	62.47	61.31	58.96	54.29	44.18	34.56	33.83	37.84	39.75	39.89
5030	Communications Equipment Operators, Except Telephone Operators	65.24	62.42	61.99	63.44	57.43	50.06	52.22	57.70	60.23	61.19
5100	Bill and Account Collectors	77.89	68.95	64.85	63.83	61.02	55.33	49.42	45.81	43.08	41.43
5110	Billing and Posting Clerks			70.52	65.57	54.60	44.44	41.17	42.19	44.33	46.63
5120	Bookkeeping, Accounting, and Auditing Clerks	89.69	87.37	81.91	72.53	60.57	49.23	44.36	45.11	46.59	47.74
5130	Gaming Cage Workers						49.30	38.73	33.35	32.03	30.66
5140	Payroll and Timekeeping Clerks		79.51	77.01	69.06	57.42	46.45	43.19	47.20	51.91	55.76
5150	Procurement Clerks						55.83	56.57	59.20	62.23	64.07
5160	Bank Tellers	89.00	86.45	80.73	71.08	57.57	42.92	36.22	38.17	42.65	46.95
5165	Financial Clerks, nec							63.47	66.09	69.91	71.70
5200	Brokerage Clerks						59.41	55.80	58.59	63.91	67.74
5220	Court, Municipal, and License Clerks						55.98	52.17	51.61	55.78	60.03
5230	Credit Authorizers, Checkers, and Clerks						55.53	53.47	54.40	56.01	56.33
5240	Customer Service Representatives						55.11	52.64	52.17	52.35	50.78
5250	Eligibility Interviewers, Government Programs			92.77	86.20	77.71	70.54	66.72	65.80	67.29	70.17
5260	File Clerks		63.38	61.11	55.92	48.14	42.08	41.30	42.96	45.86	50.02
5300	Hotel, Motel, and Resort Desk Clerks				62.22	54.45	46.24	42.21	40.44	39.73	39.87
5310	Interviewers, Except Eligibility and Loan Officers			88.71	81.68	72.49	65.33	61.47	60.11	58.10	54.73
5320	Library Assistants, Clerical	92.96	92.57	91.46	87.44	78.91	69.06	64.63	65.04	66.98	69.68
5330	Loan Interviewers and Clerks			84.42	79.83	71.45	62.66	58.22	57.40	57.36	59.02
5340	New Account Clerks						49.39	44.34	45.19	49.96	57.13
5350	Correspondent clerks and order clerks				60.14	52.46	42.62	38.07	38.12	38.53	38.54
5360	Human Resources Assistants, Except Payroll Clerks	93.92	93.49	92.18	89.05	81.20	67.86	58.24	58.37	61.20	62.78
5400	Receptionists and Information Clerks		83.23	78.19	69.79	59.01	46.89	39.95	39.78	40.97	41.40
5410	Reservation and Transportation Ticket Agents and Travel Clerks	69.45	77.13	81.56	79.12	72.48	65.90	62.41	60.85	59.37	57.97
5420	Information and Record Clerks, All Other				67.50	62.82	57.14	56.27	59.01	60.84	61.47
5500	Cargo and Freight Agents						46.75	46.10	43.98	42.56	42.50
5510	Couriers and Messengers	58.67	54.94	51.09	48.37	46.38	43.29	39.85	38.15	36.69	35.11
5520	Dispatchers	63.81	60.92	55.56	50.39	45.68	40.41	37.68	38.15	39.80	41.59
5530	Meter Readers, Utilities			50.29	46.66	40.10	33.89	32.41	33.34	33.95	34.76
5540	Postal Service Clerks		79.71	76.13	66.94	56.96	50.23	47.10	44.26	41.58	40.14

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
5550	Postal Service Mail Carriers	64.47	65.88	67.64	63.45	55.04	49.83	47.15	42.96	40.06	39.76
5560	Postal Service Mail Sorters, Processors, and				48.28	48.00	51.82	50.04	43.71	39.25	36.29
5600	Production, Planning, and Expediting Clerks			65.87	62.34	58.21	55.97	56.58	59.07	61.26	62.56
5610	Shipping, Receiving, and Traffic Clerks	61.41	55.87	50.09	44.60	37.53	29.97	24.98	23.47	24.40	26.15
5620	Stock Clerks and Order Fillers		55.27	52.52	48.18	41.83	34.51	29.09	25.85	24.98	25.78
5630	Weighers, Measurers, Checkers, and Samplers			43.23	40.12	35.06	31.90	30.97	30.73	31.24	32.74
5700	Secretaries and Administrative Assistants	91.75	90.00	87.45	81.08	67.96	54.20	47.59	48.18	52.53	56.92
5800	Computer Operators			79.78	77.82	69.62	60.03	57.26	59.21	60.48	61.04
5810	Data Entry Keyers			66.56	63.66	55.22	44.45	40.43	42.37	45.65	49.30
5820	Word Processors and Typists		85.12	81.02	72.09	57.92					
5840	Insurance Claims and Policy Processing Clerks						54.15	52.59	55.09	58.71	60.04
5850	Mail Clerks and Mail Machine Operators, except	70.50	73.93	65.33	54.36	45.55	36.38	32.12	31.69	32.07	33.05
5860	Office Clerks, General	84.45	79.57	71.79	64.73	55.47	45.97	42.74	43.76	46.33	49.84
5900	Office Machine Operators, Except Computer	84.97	74.20	67.00	61.69	50.67	39.36	35.63	36.70	37.81	39.00
5910	Proofreaders and Copy Markers			81.01	77.11	69.45	65.29	66.91	70.67	73.33	75.18
5920	Statistical Assistants			78.08	70.86	62.77	57.05	56.74	60.35	63.22	64.38
5940	Office and administrative support workers, n.e.c.			67.86	68.08	65.61	62.70	62.22	62.60	63.03	63.69
6005	First-Line Supervisors of Farming, Fishing, and	62.26	48.11	33.26	34.31	33.85	26.94	22.93	21.18	23.56	27.68
6010	Agricultural Inspectors				30.29	39.05	51.65	56.75	53.33	53.71	59.73
6040	Graders and Sorters, Agricultural Products	37.23	25.97	12.70	5.99	2.59	0.38	0.02	0.16	0.51	0.79
6050	Agricultural workers, nec	2.95	2.26	1.56	1.10	0.75	0.55	0.44	0.33	0.34	0.47
6100	Fishing and hunting workers	10.12	7.79	8.00	12.59	15.89	18.82	17.77	12.83	14.58	20.07
6120	Forest and Conservation Workers	62.77	52.73	38.85	31.65	30.62	33.02	34.81	29.14	23.34	26.05
6130	Logging Workers	8.23	3.03	0.24	0.08	0.45	1.56	2.26	2.06	2.47	3.38
6200	First-Line Supervisors of Construction Trades				50.07	44.99	37.69	32.73	29.80	28.12	27.67
6210	Boilermakers	63.16	53.86	44.09	37.44	30.01	23.60	20.91	19.79	18.54	17.48
6220	Brickmasons, Blockmasons, and Stonemasons	37.14	32.09	29.79	25.97	16.65	7.48	4.11	3.99	3.26	2.18
6230	Carpenters	41.11	37.52	34.55	31.85	27.30	23.97	23.02	19.87	14.03	9.71
6240	Carpet, Floor, and Tile Installers and Finishers			39.21	35.33	25.86	15.69	11.06	8.19	5.13	3.54
6250	Cement Masons, Concrete Finishers, and	2.00	2.87	3.20	3.11	2.44	1.75	1.64	1.24	1.11	1.36
6260	Construction Laborers			2.65	2.99	4.69	8.08	9.88	7.99	6.27	6.27
6300	Paving, Surfacing, and Tamping Equipment			6.69	4.37	2.58	1.46	0.92	1.63	2.98	3.38
6320	Construction equipment operators except			11.50	12.19	11.40	8.17	5.98	7.17	9.90	11.23
6330	Drywall Installers, Ceiling Tile Installers, and			38.74	27.52	16.18	7.39	2.97	1.66	0.77	0.33
6355	Electricians	59.78	58.15	53.40	48.12	42.04	36.49	34.91	35.07	33.42	30.76
6360	Glaziers	50.70	48.18	39.37	33.56	28.72	22.70	18.55	15.95	14.62	12.83
6400	Insulation Workers	0.00	49.74	45.22	39.17	28.77	17.54	10.87	7.41	6.88	7.65
6420	Painters, Construction and Maintenance	45.90	41.38	35.10	26.61	20.58	19.83	18.00	12.37	7.13	4.32
6430	Paperhangers	44.13	27.71	31.03	38.74	37.15	35.80	32.87	25.74	21.16	21.98
6440	Pipelayers, Plumbers, Pipefitters, and Steam	57.84	50.00	44.43	39.76	31.81	24.56	21.70	21.55	20.79	19.12
6460	Plasterers and Stucco Masons	40.42	23.06	19.14	24.45	16.48	5.83	2.74	1.43	0.52	0.17
6500	Reinforcing Iron and Rebar Workers						18.20	13.35	9.83	7.95	7.39
6515	Roofers	46.46	34.63	17.83	8.46	4.96	3.22	2.48	1.46	1.03	1.03
6520	Sheet Metal Workers, metal-working	59.32	53.11	47.93	42.32	32.54	24.72	22.50	22.36	22.26	22.03
6530	Structural Iron and Steel Workers	21.98	32.97	39.33	37.01	29.36	22.58	19.51	17.73	17.53	18.32
6600	Helpers, Construction Trades	0.00	0.00	40.65	27.28	11.96	4.47	2.97	2.19	2.00	2.73
6660	Construction and Building Inspectors			76.73	70.68	65.81	62.96	61.10	59.41	57.28	56.33
6700	Elevator Installers and Repairers				46.94	42.00	35.54	32.71	33.28	33.31	31.40
6710	Fence Erectors						14.55	8.20	3.65	3.92	4.56
6720	Hazardous Materials Removal Workers						33.10	31.35	28.21	24.14	22.08
6730	Highway Maintenance Workers						15.80	14.33	15.09	17.21	17.53
6740	Rail-Track Laying and Maintenance Equipment						4.48	8.02	15.29	22.15	26.07
6765	Construction workers, nec			38.25	28.69	18.77	13.92	15.43	17.93	17.65	17.63

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
6800	Derrick, rotary drill, and service unit oper				47.83	38.67	27.32	17.77	11.36	11.97	14.33
6820	Earth Drillers, Except Oil and Gas			26.83	21.54	11.55	7.96	10.59	11.69	12.91	12.78
6830	Explosives Workers, Ordnance Handling E	7.13	16.47	14.32	11.67	15.37	20.38	28.15	33.37	33.88	33.65
6840	Mining Machine Operators	2.61	6.08	6.33	4.18	3.64	6.63	11.83	15.03	17.11	19.02
6940	Extraction workers, nec				16.55	11.96	7.42	7.04	7.14	9.04	13.00
7000	First-Line Supervisors of Mechanics, Insta				54.05	50.01	43.48	39.10	38.65	39.99	40.77
7010	Computer, Automated Teller, and Office M	64.40	62.32	59.95	61.27	63.06	62.87	62.74	62.26	60.98	60.09
7020	Radio and Telecommunications Equipmen	64.13	60.45	58.00	55.81	49.56	42.89	41.88	43.43	42.66	40.96
7030	Avionics Technicians			55.84	54.19	46.40	42.59	48.61	51.30	47.96	44.23
7040	Electric Motor, Power Tool, and Related I				44.59	40.51	35.26	33.12	33.48	33.74	33.64
7100	Electrical and electronics repairers, transp	17.35	30.99	41.55	45.93	44.39	39.80	41.70	45.53	45.47	46.24
7110	Electronic Equipment Installers and Repai						52.09	44.28	37.53	31.68	25.02
7120	Electronic Home Entertainment Equipmen	63.80	61.98	58.96	53.15	43.98	40.03	43.24	42.07	36.77	34.08
7125	Electronic Repairs, nec				47.30	45.41	40.27	37.66	39.30		
7130	Security and Fire Alarm Systems Installers						51.25	44.03	37.99	34.83	32.21
7140	Aircraft Mechanics and Service Technicia	47.84	55.39	57.39	53.33	47.61	44.64	45.65	45.35	43.71	42.85
7150	Automotive Body and Related Repairers			35.73	30.45	18.36	7.82	5.00	6.54	10.12	13.60
7160	Automotive Glass Installers and Repairers						19.90	16.29	13.52	12.72	13.76
7200	Automotive Service Technicians and Mecl	57.38	48.78	38.65	29.92	22.84	17.92	16.99	19.37	21.55	22.31
7210	Bus and Truck Mechanics and Diesel Eng				32.83	28.73	22.77	20.10	21.11	22.46	22.95
7220	Heavy Vehicle and Mobile Equipment Ser			39.79	35.43	27.35	20.42	19.75	22.01	24.10	26.27
7240	Small Engine Mechanics				40.58	34.36	25.58	21.00	20.63	21.66	22.80
7260	Vehicle and Mobile Equipment Mechanics						7.82	5.84	5.20	7.45	10.15
7300	Control and Valve Installers and Repairers				42.45	39.01	34.92	32.74	32.02	31.12	29.83
7315	Heating, Air Conditioning, and Refrigeratic		54.98	50.93	44.57	37.31	32.57	31.68	30.61	27.78	25.79
7320	Home Appliance Repairers			48.99	45.32	37.36	30.18	29.24	29.14	26.72	24.24
7330	Industrial and Refractory Machinery Mecl				36.63	31.84	26.99	26.40	28.55	29.52	29.24
7340	Maintenance and Repair Workers, Genera				41.97	36.58	30.73	27.90	26.80	27.16	28.11
7350	Maintenance Workers, Machinery	1.41	2.71	6.92	9.88	10.79	15.11	20.80	24.16	26.86	28.20
7360	Millwrights	17.92	31.10	36.99	34.95	30.94	28.12	28.22	28.17	27.98	28.13
7410	Electrical Power-Line Installers and Repai						31.47	29.13	30.29	31.40	30.59
7420	Telecommunications Line Installers and R				52.12	47.00	39.57	35.45	35.85	35.46	33.54
7430	Precision Instrument and Equipment Repa	66.66	65.56	60.40	57.47	57.49	56.99	56.30	56.82	56.61	53.74
7510	Coin, Vending, and Amusement Machine						32.44	32.51	32.34	32.29	32.98
7540	Locksmiths and Safe Repairers				53.71	48.27	39.71	33.76	30.35	28.08	27.78
7550	Manufactured Building and Mobile Home						28.47	14.64	3.67	0.82	0.32
7560	Riggers						31.26	25.18	21.25	22.88	23.12
7610	Helpers--Installation, Maintenance, and Re			69.38	37.06	21.86	16.94	8.42	3.40	3.61	6.42
7630	Other Installation, Maintenance, and Repa	48.97	46.09	42.53	37.39	29.56	26.28	29.84	30.95	28.93	28.08
7700	First-Line Supervisors of Production and C	57.99	57.03	54.65	51.13	44.99	38.71	36.39	36.32	36.10	35.71
7710	Aircraft Structure, Surfaces, Rigging, and						24.52	22.75	22.62	21.17	16.98
7720	Electrical, Electronics, and Electromechan				42.87	33.54	22.30	16.71	17.57	19.08	19.45
7730	Engine and Other Machine Assemblers						26.01	22.95	22.17	23.36	24.61
7740	Structural Metal Fabricators and Fitters				44.09	35.61	26.19	21.69	21.77	22.82	22.51
7750	Assemblers and Fabricators, nec		38.37	37.34	32.92	23.72	14.71	12.52	15.22	17.10	17.02
7800	Bakers	12.42	19.42	28.17	29.58	24.65	18.71	17.19	19.22	20.33	21.71
7810	Butchers and Other Meat, Poultry, and Fi	46.10	43.77	44.39	39.91	27.02	12.99	5.25	3.10	3.04	4.52
7830	Food and Tobacco Roasting, Baking, and				12.44	16.80	17.82	13.90	13.12	16.83	19.05
7840	Food Batchmakers				33.88	27.24	18.36	13.94	14.17	15.73	17.98
7850	Food Cooking Machine Operators and Te						13.53	7.81	6.60	7.24	6.06
7855	Food Processing, nec							4.55	5.63	7.23	7.88
7900	Computer Control Programmers and Oper			92.06	82.05	65.25	45.43	34.63	32.72	31.97	30.91
7920	Extruding and Drawing Machine Setters, C						14.21	18.77	20.35	18.80	18.34

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
7930	Forging Machine Setters, Operators, and Tenders, Except Hand	20.81	34.08	30.24	20.04	15.12	10.04	8.45	9.99	12.23	15.98
7940	Rolling Machine Setters, Operators, and Tenders, Except Hand	9.50	25.71	29.31	23.49	16.89	9.56	5.92	6.63	8.89	11.12
7950	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Except Hand			15.53	12.46	8.78	5.80	5.43	7.75	10.00	10.89
7960	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Except Hand			31.45	25.48	15.39	7.56	7.58	14.60	16.89	11.15
8000	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Except Hand	24.16	31.16	32.47	25.55	14.59	6.43	4.38	5.21	6.49	7.33
8010	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Except Hand	4.29	19.18	35.81	37.28	25.76	15.63	12.70	12.60	14.08	16.40
8030	Machinists	52.25	52.04	49.63	43.95	34.61	26.56	23.66	24.22	25.61	25.88
8040	Metal Furnace Operators, Tenders, Pourers, and Casters, Except Hand						19.11	16.61	16.27	16.43	15.18
8060	Model Makers and Patternmakers, Metal	61.74	59.41	55.18	49.34	43.25	39.14	37.01	36.26	36.90	38.55
8100	Molders and Molding Machine Setters, Operators, and Tenders, Except Hand	12.55	10.41	8.73	8.76	7.99	6.54	8.77	13.53	15.54	14.95
8130	Tool and Die Makers	57.95	55.83	54.00	49.70	42.03	35.49	33.48	34.26	34.24	33.28
8140	Welding, Soldering, and Brazing Workers	24.55	37.53	37.30	26.38	15.93	9.17	7.01	8.03	10.27	11.61
8150	Heat Treating Equipment Setters, Operators, and Tenders, Except Hand	12.99	36.92	44.20	33.53	22.04	15.64	13.82	16.27	20.25	21.84
8200	Plating and Coating Machine Setters, Operators, and Tenders, Except Hand				25.38	20.14	14.71	9.14	6.03	7.51	10.38
8210	Tool Grinders, Filers, and Sharpeners						28.10	23.54	18.40	12.58	10.72
8220	Metal workers and plastic workers, nec			41.02	38.09	29.18	17.37	10.45	10.85	13.42	14.28
8230	Bookbinders, Printing Machine Operators, and Related Workers	54.22	53.72	50.18	44.95	36.46	27.60	23.74	23.03	23.01	23.19
8250	Prepress Technicians and Workers	77.98	66.95	59.48	54.04	44.36	36.99	37.19	39.48	39.70	39.55
8300	Laundry and Dry-Cleaning Workers	13.01	13.98	12.44	8.78	5.00	3.36	3.43	3.98	5.41	6.90
8310	Pressers, Textile, Garment, and Related Machine				6.43	3.69	1.31	0.54	0.61	0.81	1.03
8320	Sewing Machine Operators		9.94	10.45	9.42	5.60	2.11	1.08	1.20	1.39	1.49
8330	Shoe and Leather Workers and Repairers			26.96	24.28	16.91	10.39	10.38	11.23	10.36	9.51
8340	Shoe Machine Operators and Tenders	36.34	20.61	13.41	10.12	4.65	1.19	0.23	2.04	3.80	2.55
8350	Tailors, Dressmakers, and Sewers	54.80	52.00	46.66	39.38	30.49	23.19	23.17	26.38	26.76	27.82
8400	Textile bleaching and dyeing, and cutting and finishing workers				3.13	3.38	2.12	2.23	2.75	3.45	6.07
8410	Textile Knitting and Weaving Machine Setters, Operators, and Tenders, Except Hand	3.20	5.47	4.28	2.27	1.39	1.17	2.21	3.54	6.17	9.91
8420	Textile Winding, Twisting, and Drawing Operations Workers	0.06	0.13	0.69	1.45	1.22	0.40	0.30	1.75	3.14	2.55
8450	Upholsterers	49.30	47.64	41.58	31.59	19.59	10.64	6.84	5.97	6.61	7.38
8460	Textile, Apparel, and Furnishings workers, nec	49.68	44.91	28.13	10.56	3.17	2.28	7.19	13.95	14.92	14.10
8500	Cabinetmakers and Bench Carpenters	29.52	44.59	47.82	40.32	31.44	26.87	26.61	22.85	17.69	15.19
8510	Furniture Finishers			29.06	31.38	28.90	23.23	19.70	17.07	14.31	12.34
8530	Sawing Machine Setters, Operators, and Tenders, Except Hand	9.80	5.00	3.38	2.05	0.89	1.02	1.23	1.73	2.25	2.72
8540	Woodworking Machine Setters, Operators, and Tenders, Except Hand				21.18	11.38	4.84	3.60	4.03	4.88	5.42
8550	Woodworkers including model makers and patternmakers, nec				40.37	37.05	35.33	33.06	28.54	26.20	25.64
8600	Power Plant Operators, Distributors, and Mechanics, and Stationary Engine Operators	165.44	60.45	53.85	50.20	45.96	40.44	39.14	41.14	47.52	57.15
8610	Stationary Engineers and Boiler Operators	56.06	56.14	57.82	59.57	53.71	41.68	35.88	36.58	37.41	38.04
8620	Water Wastewater Treatment Plant and Sewerage System Operators				46.24	43.53	40.82	38.52	37.14	37.24	37.89
8630	Plant and System Operators, nec				45.68	41.25	36.32	34.27	34.89	36.56	37.73
8640	Chemical Processing Machine Setters, Operators, and Tenders, Except Hand				40.44	36.40	32.72	32.76	35.63	39.23	41.44
8650	Crushing, Grinding, Polishing, Mixing, and Blending Workers	2.89	15.47	28.94	27.02	18.33	14.46	14.89	16.44	16.47	15.30
8710	Cutting Workers			17.00	15.20	9.90	5.07	3.50	3.81	5.26	6.92
8720	Extruding, Forming, Pressing, and Compacting Machine Operators, Except Hand				23.40	17.73	10.43	7.65	9.90	12.13	12.37
8730	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders, Except Hand	9.95	15.34	24.92	26.56	21.07	16.67	18.08	22.57	24.36	23.14
8740	Inspectors, Testers, Sorters, Samplers, and Weighers	55.58	52.23	47.61	41.37	33.43	29.00	30.68	33.58	34.68	34.90
8750	Jewelers and Precious Stone and Metal Workers	62.30	57.26	53.20	46.80	38.27	34.20	34.10	33.79	35.33	39.02
8760	Medical, Dental, and Ophthalmic Laboratory Technicians			64.10	59.51	54.14	48.28	44.86	42.64	41.18	41.06
8800	Packaging and Filling Machine Operators and Tenders, Except Hand		24.80	18.31	12.30	7.69	4.28	2.77	2.24	2.67	3.73
8810	Painting Workers and Dyers	25.12	29.86	22.00	12.37	8.55	6.68	5.82	5.98	7.63	9.12
8830	Photographic Process Workers and Processors	58.73	61.52	56.94	51.16	44.35	38.97	39.86	42.05	43.76	45.49
8850	Adhesive Bonding Machine Operators and Tenders, Except Hand				23.52	14.19	6.09	3.78	4.78	5.17	3.18
8860	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders, Except Hand				13.66	12.93	6.68	2.43	3.36	3.93	2.62
8910	Etchers, Engravers, and Lithographers	52.06	55.82	55.22	52.50	45.81	37.19	34.37	33.57	35.30	42.42
8920	Molders, Shapers, and Casters, Except Hand			49.22	39.90	30.15	25.94	26.35	25.21	22.54	20.51

OCC2010	Title	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
8930	Paper Goods Machine Setters, Operators,				11.40	9.59	8.05	7.88	10.30	13.74	15.76
8940	Tire Builders						20.95	20.64	22.73	23.85	21.46
8950	Helpers--Production Workers				11.76	9.04	6.77	5.34	5.66	7.21	7.75
8965	Other production workers including semic	25.20	23.96	22.75	18.96	12.09	8.23	10.31	14.16	16.51	17.42
9000	Supervisors of Transportation and Materia				50.06	47.17	43.05	40.79	40.21	40.31	40.58
9030	Aircraft Pilots and Flight Engineers	89.98	82.24	86.33	89.32	85.96	85.57	87.95	90.01	89.07	86.14
9040	Air Traffic Controllers and Airfield Operat			84.73	80.49	72.46	66.69	65.82	65.70	64.71	64.37
9050	Flight Attendants and Transportation Worl			73.10	61.46	58.78	62.61	63.85	63.89	62.93	61.40
9100	Bus and Ambulance Drivers and Attendan	39.64	40.64	42.73	41.71	36.70	32.26	30.81	30.36	29.30	28.65
9130	Driver/Sales Workers and Truck Drivers	16.20	17.48	17.39	15.83	16.04	17.47	17.84	18.33	19.67	20.61
9140	Taxi Drivers and Chauffeurs	24.48	33.98	38.58	35.79	33.11	33.66	34.63	34.56	34.06	33.77
9150	Motor Vehicle Operators, All Other				28.85	24.86	30.46	31.03	24.90	21.98	20.41
9200	Locomotive Engineers and Operators	47.82	49.86	50.76	47.21	41.33	37.55	36.66	37.90	38.55	36.96
9230	Railroad Brake, Signal, and Switch Operat	45.98	48.76	49.71	44.15	33.95	27.97	26.61	24.54	23.25	23.25
9240	Railroad Conductors and Yardmasters	52.09	53.36	52.39	48.62	42.64	37.46	36.21	38.75	40.98	40.82
9260	Subway, Streetcar, and Other Rail Transp	39.68	41.05	45.09	44.87	39.61	35.92	34.92	36.03	36.19	34.44
9300	Sailors and marine oilers, and ship enginee	46.78	36.75	24.89	21.40	22.50	27.49	33.06	34.29	34.47	34.21
9310	Ship and Boat Captains and Operators	65.65	65.30	59.61	49.12	37.77	35.27	38.87	40.10	41.08	42.32
9350	Parking Lot Attendants			39.36	34.33	27.99	25.24	25.96	26.78	27.65	29.39
9360	Automotive and Watercraft Service Attenc	50.64	47.60	41.82	31.52	20.54	18.30	20.19	19.17	17.80	18.34
9410	Transportation Inspectors						43.54	41.87	41.94	41.75	40.44
9420	Transportation workers, nec	40.64	35.57	27.87	27.70	29.02	31.59	35.02	35.95	37.82	39.82
9510	Crane and Tower Operators	18.50	13.41	11.43	12.21	12.51	11.98	11.20	12.78	16.75	19.07
9520	Dredge, Excavating, and Loading Machine	13.69	14.06	13.01	10.76	7.51	4.96	4.41	6.13	9.50	11.72
9560	Conveyor operators and tenders, and hoist	33.02	13.04	6.15	7.48	5.14	5.44	9.19	12.48	14.54	14.84
9600	Industrial Truck and Tractor Operators				9.60	8.22	6.73	5.59	5.93	7.55	8.84
9610	Cleaners of Vehicles and Equipment	1.80	3.77	5.03	4.01	3.54	4.00	3.75	3.66	4.71	6.41
9620	Laborers and Freight, Stock, and Material		45.39	34.71	25.84	21.00	16.57	13.72	13.32	14.53	15.48
9630	Machine Feeders and Offbearers				10.66	10.75	7.12	5.33	6.86	8.53	10.40
9640	Packers and Packagers, Hand			44.38	33.68	20.06	8.30	2.75	1.90	2.35	3.43
9650	Pumping Station Operators				32.46	26.07	18.97	18.69	22.06	25.22	27.96
9720	Refuse and Recyclable Material Collectors			0.55	1.40	1.61	2.07	3.28	4.83	6.64	7.62
9750	Material moving workers, nec	6.96	5.93	5.00	4.05	2.99	5.04	10.80	15.17	17.01	18.47
9800	Military Officer Special and Tactical Oper					92.51	91.96	91.93	90.05	84.22	78.26
9810	First-Line Enlisted Military Supervisors						79.30	78.47	74.25	67.48	63.42
9820	Military Enlisted Tactical Operations and					67.88	69.55	65.36	61.20	59.61	57.56
9830	Military, Rank Not Specified	88.42	84.99	77.38	64.55	57.27	60.68	64.76	65.70	62.93	58.15

Data sources: IPUMS United States Population Censuses 1950–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: Details of the variable OCC2010 are described in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS” (<https://usa.ipums.org/chapter4/chapter4.shtml>). The original description of the 2010 occupation categories by the U.S. Bureau of the Census can be found in the file “Appendix B 2010 Occupational Classification (Washington D.C., 2012)” (<https://www2.census.gov/programs-surveys/cps/methodology/Occupation%20Codes.pdf>). The IPUMS project has harmonized data from the U.S. Censuses 1950–2000 and American Community Surveys 2001–2018 using 2010 occupation coding system. Note that the OCC2010 variable in IPUMS data contains fewer occupational categories than the original 2010 occupational scheme. Occupations with empty percentile ranks indicate no workers found in those occupations for a specific birth cohort. This table can be downloaded from our project website.

Appendix Table A7. Treiman's Ranks Based on Occupational Education Using 1950 Census Occupations for Birth Cohorts 1790–1980

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	
0	Accountants and auditors	141	123	127	189	181	155	212	218	230	224	218	219	220	219	214	209	176	177	156	154	
1	Actors and actresses	141	116	162	195	206	197	173	160	180	156	182	179	200	198	207	203	164	162	136	133	
2	Airplane pilots and navigators			208	228	229	233	240	240	249	247	217	187	217	210	208	207	178	178	155	148	
3	Architects	141	122	180	180	193	200	192	213	196	195	225	234	240	235	236	229	195	196	170	169	
4	Artists and art teachers	84	150	164	186	195	194	205	188	193	168	200	214	212	205	206	197	161	159	134	135	
5	Athletes	141	188	106	86	62	74	45	75	127	161	165	202	161	204	166						
6	Authors	141	188	121	136	229	209	200	209	206	205	238	241	227	227	230	224	188	188	163	157	
7	Chemists	65	97	181	200	201	191	165	159	165	155	236	231	233	236	237	230	198	202	172	172	
8	Chiropractors				228	229	233	240	240	225	198	239	245	244	243	240	231	204	203	175	171	
9	Clergymen	87	141	141	143	136	131	146	162	158	154	224	221	223	231	233	216	181	176	149	151	
10	College presidents and deans	141	188	154	205	199	172	240	240	226	185	247	249	247	240	238	227					
12	Agricultural sciences-Professors and instructors			208	228	229	233	240	240	249	247	241	260	246	250	252	236	194	209			
13	Biological sciences-Professors and instructors				228	229	233	240	240	249	247	0	266	260	266	268	253	213	204			
14	Chemistry-Professors and instructors	141	188	208	111	95	233	240	240	93	247	253	266	264	264	264	249	212	207			
15	Economics-Professors and instructors					229	233					0	257	262	267	259	256	206	213			
16	Engineering-Professors and instructors		188		24	229	233	240	240	249	247	253	252	261	249	247	233	184	183			
17	Geology and geophysics-Professors and instructors	141	188		228	229	233	240	240			0	266	235	269	245						
18	Mathematics-Professors and instructors	141	188	122	121	116	95	240	240	249		253	266	265	261	260	244	200	190			
19	Medical Sciences-Professors and instructors		188	208	228	18	2	240	11	249	247	0	251	243	244	244	234	201	194			
23	Physics-Professors and instructors		188	208	228	229	233	240	240	249	247	0	240	263	256	258	255	208	210			
24	Psychology-Professors and instructors					229		240		249	247	253	261	268	254	267	254	209	205			
25	Statistics-Professors and instructors													268	237	269						
26	Natural science (nec)-Professors and instructors	141	188	208	228	121	233	240	240	249			266	268	269	254	248	192	208			
27	Social sciences (nec)-Professors and instructors	141	188	208	228	229	233	240	240	249	247	253	263	266	265	262	250	211	198			
28	Non-scientific subjects-Professors and instructors	141	118	171	206	204	174	164	90	111	247	248	262	259	257	257	242	205	199			
29	Subject not specified-Professors and instructors	141	96	142	151	151	195	220	215	231	222	243	250	254	253	255	243	210	206	173	173	
31	Dancers and dancing teachers	141	188	118	204	146	127	108	240	211	199	174	185	179	185	163	161	132	128	80	71	
32	Dentists	141	133	167	201	198	168	214	206	223	220	244	256	253	260	263	259	222	220	183	184	
33	Designers	141	188	151	194	178	207	187	158	135	125	176	177	189	193	194	186	153	153	135	140	
34	Dietitians and nutritionists			12	20	229	233	240	240	249	247	213	190	188	187	191	194	165	168	145	147	
35	Draftsmen	141	188	208	202	172	160	168	210	199	208	188	210	201	197	189	177	142	142	120	123	
36	Editors and reporters	141	151	174	190	191	179	199	205	204	192	223	229	225	223	220	212	180	179	159	160	
41	Aeronautical-Engineers		188									247	180	225	232	233	235	222	186	191	167	168
42	Chemical-Engineers					229	233	240	240	249	247	226	247	242	246	241	232	193	193	169	170	
43	Civil-Engineers	141	114	147	193	188	177	209	186	215	218	227	228	226	224	226	219	185	189	164	164	
44	Electrical-Engineers		4	46	228	229	119	156	199	213	211	220	223	229	228	228	214	179	180	157	153	
45	Industrial-Engineers				228				240	249	247	222	215	219	216	216	215	177	175	153	152	
46	Mechanical-Engineers	5	188	172	133	143	169	208	169	209	216	216	216	221	220	222	211	174	174	154	155	
47	Metallurgical, metallurgists-Engineers				89	229	106	94	240	77	247	234	226	228	230	231	205	170	172	152	156	
48	Mining-Engineers		188	208	187	150	156	171	191	232	210	253	239	222	234	232	221	189	186	150	159	

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
49	Engineers (nec)	141	17	106	160	102	144	213	207	211	165	235	217	224	226	225	217	182	182	161	161
51	Entertainers (nec)	141	91	79	39	25	37	46	40	66	112	102	173	177	195	201	200	166	166	133	131
52	Farm and home management advisors		188		228	229	233	240	240	249	247	230	237	248	251	242	237				
53	Foresters and conservationists	141	188	208	228	229	140	161	92	68	82	170	178	171	186	190	198	169	164	141	142
54	Funeral directors and embalmers	69	188	146	183	117	150	158	163	184	164	193	188	199	209	204	191	157	157	131	126
55	Lawyers and judges	95	139	157	188	175	159	197	204	217	190	242	253	255	258	261	252	217	216	180	180
56	Librarians	141	188	84	228	164	201	211	217	224	227	233	238	238	232	223	226	191	185	166	165
57	Musicians and music teachers	47	81	110	127	124	122	124	118	131	138	215	213	205	208	212	206	171	169	143	141
58	Nurses, professional	141	188	50	25	42	100	91	125	156	163	210	208	202	207	209	204	172	171	147	146
59	Nurses, student professional			208	228	229	233	65	108	189	186	141	224	197	191	175	154				
61	Agricultural scientists	141	188	208	228	6	233	240	240	249	247	253	204	214	214	218	220	190	187	160	166
62	Biological scientists	141	188	208	228	91	186	151	240	144	247	245	243	251	245	246	241	214	212	177	177
63	Geologists and geophysicists		62	208	159	168	187	240	240	249	247	253	255	256	255	253	239	207	211	176	176
67	Mathematicians		188	208	228	229	233	6	240	249		0	235	249	248	243	238	203	197		
68	Physicists		188	83	228	186	161	160	153	161	247	0	211	252	239	248	240	202	200	171	178
69	Misc. natural scientists	141	188	208	228	111	233	240	240	249	247	6	242	241	217	229	247	215	215	179	179
70	Optometrists							240	179	249	247	237	230	239	259	249	245	220	221	181	181
71	Osteopaths						233	126	240	216	200	232	259	257	241	266					
72	Personnel and labor relations workers				228			240		249	247	219	220	215	203	202	196	160	156	137	138
73	Pharmacists	81	148	179	196	187	180	203	194	202	212	228	233	231	242	250	246	216	214	178	175
74	Photographers	141	101	140	177	171	188	176	173	181	167	164	184	183	181	181	187	159	155	130	129
75	Physicians and surgeons	98	146	169	164	153	148	174	193	203	203	246	254	258	263	265	257	221	219	182	183
76	Radio operators								240	249	247	119	181	180	177	178	173	148	149	122	121
77	Recreation and group workers				228	229	233	153	168	249	197	177	222	218	212	211	181	144	146	128	130
78	Religious workers	141	128	136	132	170	167	169	185	172	171	205	212	209	213	213	208	167	167	144	144
79	Social and welfare workers, except group		188	208	178	180	233	112	240	233	225	221	227	236	229	219	210	173	170	148	149
81	Economists									249	247	211	244	230	238	234	223	183	181	158	158
82	Psychologists				228	229	233	240			247	180	258	250	252	251	251	218	217	184	185
83	Statisticians and actuaries	141	188	208	33	229	233	240	240	249	247	206	232	216	215	215	225	197	201	174	174
84	Misc social scientists	141	188	208	228	229	233	240	240	249	247	253	248	237	222	227	228	196	195	168	167
91	Sports instructors and officials	141	17	53	61	64	80	88	89	100	127	197	218	210	225	217	202	168	163	140	134
92	Surveyors	141	152	144	199	177	176	177	165	157	191	142	155	166	178	180	174	143	139	113	117
93	Teachers (n.e.c.)	92	120	131	150	162	154	172	174	191	202	240	246	245	247	239	235	199	192	165	163
94	Medical and dental-technicians		188	208	228	229	233	240	240	249	188	229	199	193	190	195	185	152	147	119	118
95	Testing-technicians	141	188	208	42	94	233	240	130	124	100	175	183	182	184	188	175	139	133	111	122
96	Technicians (nec)		188	208	228	229	233	204	240	123	247	196	175	190	174	182	168	129	127	106	105
97	Therapists and healers (nec)	27	105	116	85	87	58	110	98	88	78	191	209	208	221	221	218	187	184	162	162
98	Veterinarians	18	125	117	135	152	163	194	208	194	226	231	236	234	262	256	258	219	218	185	182
99	Professional, technical and kindred workers (nec)	30	87	96	116	109	96	86	115	80	145	184	207	203	211	210	199	163	161	142	143
100	Farmers (owners and tenants)	33	46	44	27	29	24	19	20	24	22	57	38	36	56	98	125	112	86	73	78
123	Farm managers	37	40	26	29	44	49	50	54	62	76	169	151	119	118	124	148	121	104	92	89

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
200	Buyers and dept heads, store		188	9	43	38	97	120	189	200	176	190	180	186	189	197	192	162	165	146	145
201	Buyers and shippers, farm products	59	79	115	137	144	151	136	131	115	116	162	130	133	149	155	157	126	108	107	90
203	Conductors, railroad	141	138	133	157	163	157	196	192	207	214	114	121	139	132	117	128	86	101	89	81
204	Credit men		11	208	228	229	45	70	139	147	201	186	201	207	200	196	171				
205	Floormen and floor managers, store				228	229	233	202	214	218	178	198	153	167	109	152					
210	Inspectors, public administration	141	188	139	146	166	183	178	190	176	187	181	189	187	179	184	188	158	160	138	139
230	Managers and superintendants, building	64	144	160	154	126	99	103	103	118	132	145	142	159	167	183	183	147	141	118	119
240	Officers, pilots, pursers and engineers, ship	82	117	137	148	137	130	134	154	148	146	144	158	142	138	90	118	108	89	78	84
250	Officials and administrators (nec), public admin	94	124	128	134	129	129	155	178	175	181	201	205	204	199	200	193	155	152	132	137
260	Officials, lodge, society, union, etc.	141	51	208	182	145	128	133	202	166	180	178	171	173	172	185	189				
270	Postmasters	97	135	155	162	182	181	201	212	222	221	195	186	181	173	177	163	133	126	76	108
280	Purchasing agents and buyers (nec)	141	188	208	173	229	202	189	155	208	173	194	195	196	194	192	180	145	143	125	132
290	Managers, officials, and proprietors (nec)	83	112	130	82	69	56	56	106	105	104	161	169	175	175	187	182	150	144	121	120
300	Agents (nec)	70	136	165	155	155	135	167	143	136	143	185	198	198	202	199	201				
301	Attendants and assistants, library		188	6	228	229	139	207	240	219	247	202	194	213	201	193	178	141	140	123	127
302	Attendants, physicians and dentists office		188	208	63	94	41	240	152	228	148	183	191	172	152	154	143	109	117	96	93
304	Baggagemen, transportation	141	188	112	153	189	189	162	183	183	152	135	122	89	99	104					
305	Bank tellers	141	188	175	167	205	196	166	216	221	229	204	193	185	176	170	134	85	96	88	102
310	Bookkeepers	141	145	163	191	185	185	195	203	195	213	203	197	191	180	174	149	111	120	102	101
320	Cashiers	141	119	158	161	190	149	135	147	162	182	163	160	151	126	115	106	67	67	52	48
321	Collectors, bill and account	141	188	177	185	176	182	190	170	179	189	156	156	176	162	176	162	119	121	93	83
322	Dispatchers and starters, vehicle		188	208	93	123	158	115	128	134	108	151	144	136	124	140	133	97	92	79	87
325	Express messengers and railway mail clerks		188	208	114	142	192	216	182	220	223	172	176	178	182	135					
335	Mail carriers	59	102	72	65	97	79	106	141	174	183	154	161	174	164	159	158	123	111	83	77
340	Messengers and office boys	141	86	92	83	60	78	92	114	132	118	110	109	124	121	138	144	103	97	70	67
341	Office machine operators				228	229	233	240	240	102	94	187	170	169	169	164	147	114	123	103	104
342	Shipping and receiving clerks	141	188	170	139	159	164	191	172	154	137	132	112	110	95	95	98	62	58	51	51
350	Stenographers, typists, and secretaries	141	83	125	98	115	170	182	175	201	206	208	206	194	188	179	155	110	122	105	107
360	Telegraph messengers		188	208	115	68	120	240	157	141	90	111	110	78	8	91	73				
365	Telegraph operators		99	73	144	161	165	193	184	198	215	159	154	156	159	149	113	80			
370	Telephone operators			12	228	108	116	218	187	187	194	149	150	150	154	136	112	82	98	82	80
380	Ticket, station, and express agents	141	140	135	184	169	162	210	198	214	204	171	174	184	183	186	179	140	136	109	111
390	Clerical and kindred workers (n.e.c.)	93	80	97	123	128	146	185	181	192	179	173	172	170	166	168	152	117	118	99	100
400	Advertising agents and salesmen	141	188	208	228	200	206	198	211	212	219	209	200	206	206	205	190	154	158	139	136
410	Auctioneers	141	121	148	192	179	184	184	195	186	193	106	152	149	156	158	132	128	99		
420	Demonstrators				228	229	233	240	146	228	247	192	166	154	142	145	121	104	109	101	91
430	Hucksters and peddlers	44	53	57	52	47	33	24	6	6	7	20	48	112	146	157	137	113	130		
450	Insurance agents and brokers	141	149	145	169	173	203	215	196	190	166	199	196	195	192	198	184	151	148	124	124
460	Newsboys	141	188	111	117	148	111	107	76	58	75	138	108	100	113	128	141	102	95	84	75
470	Real estate agents and brokers	141	137	173	179	197	193	206	197	197	174	189	192	192	196	203	195	156	154	129	128
480	Stock and bond salesmen				228	229	233	123	240	229	228	207	203	211	218	224	213	175	173	151	150

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
490	Salesmen and sales clerks (nec)	85	134	138	174	174	153	159	150	149	149	168	165	163	158	167	167	136	138	115	110
500	Bakers	63	106	114	122	113	101	87	64	48	38	37	49	54	57	69	61	38	49	36	45
501	Blacksmiths	46	71	65	67	63	52	76	84	69	69	36	51	44	34	45	31				
502	Bookbinders	141	147	168	197	184	152	141	129	138	130	97	125	75	91	74	79	35	48	46	41
503	Boilermakers	141	63	63	77	79	85	105	109	103	87	95	83	74	80	75	84	52	45	35	32
504	Brickmasons,stonemasons, and tile setters	45	73	76	80	73	59	71	50	46	42	41	45	47	48	56	30	16	12	10	5
505	Cabinetmakers	67	100	134	147	139	113	116	99	87	79	66	103	91	89	78	89	78	50	33	27
510	Carpenters	62	89	100	106	100	93	101	94	92	84	71	63	56	62	72	83	64	46	27	18
511	Cement and concrete finishers			208	228	6	233	142	58	51	53	24	15	12	15	14	9	5	2	4	4
512	Compositors and typesetters	141	126	159	198	192	166	180	180	177	158	157	149	153	150	133	116	98	110	77	79
513	Cranemen,derrickmen, and hoistmen		188	83	33	57	36	93	63	67	54	53	33	37	32	27	41	26	26	34	35
514	Decorators and window dressers		188	208	128	229	233	240	126	173	217	166	162	165	171	161	138				
515	Electricians		188	208	228	229	233	179	176	170	153	136	138	129	128	129	122	90	84	65	59
520	Electrotypers and stereotypers	141	188	208	129	202	233	217	149	178	172	99	53	81	110	106	81				
521	Engravers, except photoengravers	141	127	178	203	196	190	188	166	155	140	87	157	106	120	123	119	88	78	59	97
522	Excavating, grading, and road machinery operate			12	228	58	233	52	30	35	35	40	31	26	30	26	35	18	14	22	20
523	Foremen (nec)	17	38	58	75	77	102	119	120	119	114	126	127	127	139	139	131	101	85	72	73
524	Forgemen and hammermen	21	21	37	44	55	53	74	122	90	65	54	84	38	45	47	38	23	27	21	31
525	Furriers	52	99	90	158	112	82	66	37	25	19	73	27	109	85	79	46	70	77		
530	Glaziers	141	111	62	31	30	23	42	35	55	37	63	113	60	76	70	82	46	31	32	24
531	Heat treaters, annealers, temperers	2	188	28	103	106	145	137	51	85	117	33	88	88	71	55	69	28	34	40	43
532	Inspectors, scalars, and graders log and lumber	55	95	176	166	167	178	149	142	125	126	146	118	59	60	49	50				
533	Inspectors (nec)	141	131	149	145	104	136	145	137	133	121	127	128	126	125	156	166	134	131	108	106
534	Jewelers, watchmakers, goldsmiths, and silversm	88	129	156	163	165	147	138	136	120	120	140	117	135	130	126	145	122	112	91	96
535	Job setters, metal						233		240	249	70	6	35	73	73	40	34	17	44		
540	Linemen and servicemen, telegraph, telephone, a		188	46	68	101	89	113	111	117	133	139	131	147	151	142	127	93	100	74	66
541	Locomotive engineers	141	32	89	102	118	133	170	177	188	175	94	90	137	131	118	126	96	90	86	68
542	Locomotive firemen		42	43	54	48	64	90	72	82	95	83	93	111	114	105	107				
543	Loom fixers		188	208	60	114	110	63	48	38	44	31	23	9	10	6	4				
544	Machinists	74	142	152	156	158	138	139	127	121	109	93	100	97	105	97	94	61	59	53	50
545	Airplane-mechanics and repairmen								240	249	110	108	135	152	141	144	142	116	119	97	88
550	Automobile-mechanics and repairmen						233	240	138	139	131	112	82	67	54	60	58	39	39	42	42
551	Office machine-mechanics and repairmen			208	228	229	233	240	240	249	177	153	163	138	161	172	169	135	137	110	109
552	Radio and television-mechanics and repairmen									146	150	150	146	155	147	153	139	115	116	81	69
553	Railroad and car shop-mechanics and repairmen	141	188	78	107	78	104	97	78	56	48	42	54	61	67	59	55				
554	Mechanics and repairmen (nec)	43	68	88	100	96	94	98	97	97	96	104	85	86	83	92	101	72	66	54	53
555	Millers, grain, flour, feed, etc	34	52	70	87	90	87	85	95	104	111	78	59	64	40	21	12				
560	Millwrights	72	104	124	142	135	124	131	113	108	92	43	61	62	69	88	99	73	68	57	52
561	Molders, metal	61	69	102	112	107	105	109	88	59	34	27	21	22	18	20	19	34	43		
562	Motion picture projectionists				229			240	240	182	151	103	132	131	107	130	146	130	134	114	99
563	Opticians and lens grinders and polishers	141	188	208	168	194	208	125	124	109	102	124	136	164	143	143	150	127	124	104	103

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
564	Painters, construction and maintenance	76	115	126	130	133	117	121	110	106	93	80	74	68	50	62	74	50	28	17	10
565	Paperhangers	141	188	132	141	149	143	152	134	130	113	90	26	58	84	41	140	89	61	37	46
570	Pattern and model makers, except paper	49	110	161	170	154	175	175	167	167	159	134	134	134	136	131	136	94	94	68	76
571	Photoengravers and lithographers	141	188	208	165	203	205	186	201	164	157	120	124	140	153	151	111	99	105		
572	Piano and organ tuners and repairmen	141	79	208	182	140	199	147	140	126	119	152	167	145	135	147	135				
573	Plasterers	29	67	80	81	74	61	69	57	53	45	68	37	34	70	37	24	10	3	2	1
574	Plumbers and pipe fitters	59	103	119	140	147	132	132	119	129	122	109	77	85	88	89	88	55	51	43	34
575	Pressmen and plate printers, printing	141	188	107	105	122	98	128	133	140	144	117	115	101	123	114	102	68	56	48	49
580	Rollers and roll hands, metal	24	48	56	49	54	54	57	85	75	56	9	55	51	42	44	42	12	18	18	26
581	Roofers and slaters	141	61	101	125	84	75	82	70	74	80	85	67	33	26	18	23	8	4	3	2
582	Shoemakers and repairers, except factory	51	76	93	95	98	63	64	25	22	18	51	25	49	46	66	52	33	20	13	9
583	Stationary engineers	86	90	94	110	103	107	118	117	122	124	118	123	143	157	162	129	92	83	69	72
584	Stone cutters and stone carvers	56	107	108	101	99	91	99	68	65	64	30	91	48	59	19	17				
585	Structural metal workers	26	60	51	48	71	69	67	74	64	61	64	64	69	81	77	78	53	36	30	30
590	Tailors and tailoresses	57	94	109	118	105	77	53	28	28	27	47	46	70	74	61	27	15	30		
591	Tinsmiths, coppersmiths, and sheet metal workers	80	113	123	131	134	118	127	104	96	86	101	86	95	101	85	87	57	52	45	40
592	Tool makers, and die makers and setters	141	188	208	176	141	126	144	151	150	135	116	111	128	137	121	120	79	82	66	63
593	Upholsterers	71	109	129	152	138	121	130	116	112	101	91	80	71	65	50	47	22	15	14	14
594	Craftsmen and kindred workers (nec)	41	64	75	94	89	90	89	87	71	72	59	39	72	68	57	29				
595	Members of the armed services	90	92	95	113	82	62	77	132	163	184	160	168	168	168	165	172	146	151	127	116
600	Auto mechanics apprentice									7	247	6	182	157	122	112	68	47	79		
601	Bricklayers and masons apprentice		11	208	89	132	44	13	27	5	26	212	2	1	52	94	32	45	22		
602	Carpenters apprentice		188	54	71	81	43	60	59	153	43	38	76	105	63	65	97	71	60		
603	Electricians apprentice						233	240	240	50	247	133	99	39	102	122	108	100	103		
604	Machinists and toolmakers apprentice		188	53	120	75	114	154	144	89	71	214	56	160	145	132	109	105	102		
605	Mechanics, except auto apprentice	141		208	228	229	25	29	240	249	1	0	2	162	78	113	92				
610	Plumbers and pipe fitters apprentice		1	208	57	229	233	240	240	146	62	21	148	80	49	111	76	83	87		
611	Apprentices, building trades (nec)		6	208	89	229	142	62	62	39	123	115	96	107	163	38	8				
612	Apprentices, metalworking trades (nec)		51	39	69	56	40	79	46	70	81	0	129	108	170	107	105	77	129		
613	Apprentices, printing trades		188	208	63	125	39	240	240	249	129	3	145	132	119	119	53				
614	Apprentices, other specified trades	141	74	86	64	131	70	150	102	98	142	1	133	146	90	102	86	43	64		
615	Apprentices, trade not specified	141	11	5	8	7	55	49	123	43	73	65	105	117	165	120	63				
620	Asbestos and insulation workers					229	233	36	79	114	97	123	89	84	86	76	80	51	38	24	23
621	Attendants, auto service and parking								240	151	147	113	94	96	66	54	64	44	40	31	38
622	Blasters and powdermen	141	2	18	22	24	17	18	22	17	28	13	41	27	27	51	59	76	76	56	55
623	Boatmen, canalmen, and lock keepers	35	41	55	59	51	42	40	24	19	3	46	70	25	64	31	25				
624	Brakemen, railroad	141	36	42	45	49	57	100	96	99	128	77	97	118	108	93	100	69	57	49	47
625	Bus drivers	37	66	91	104	85	81	96	77	79	98	62	62	83	92	103	110	75	70	58	56
630	Chainmen, rodmen, and axmen, surveying		188	40	76	27	171	55	67	95	29	107	101	121	97	109	95	84	81		
631	Conductors, bus and street railway		188	120	138	157	198	219	200	205	207	84	106	76	134	100	57				
632	Deliverymen and routemen	25	49	81	92	83	76	59	47	54	68	82	98	98	93	82	65	65	75	62	65

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
633	Dressmakers and seamstresses, except factory	141	27	32	40	65	73	95	107	107	103	137	116	99	87	87	85	54	71	50	57
634	Dyers	77	84	103	91	72	60	54	29	23	13	44	52	46	31	13	6				
635	Filers, grinders, and polishers, metal	55	77	77	109	88	88	80	86	63	49	49	43	52	51	35	37	19	17	16	15
640	Fruit, nut, and vegetable graders, and packers, e			208	73	229	27	23	12	36	67	69	57	28	22	10	5				
641	Fumacemen, smelters and pourers	73	72	69	50	32	22	22	18	12	12	12	20	41	25	23	18				
642	Heaters, metal	5	29	61	46	46	47	58	66	72	51	11	44	82	53	29	40				
643	Laundry and dry cleaning Operatives	11	25	20	18	19	10	11	10	20	25	39	36	30	28	17	20	7	8	8	7
644	Meat cutters, except slaughter and packing hous	68	93	113	119	110	103	102	93	91	88	81	73	103	94	80	54	13	11	5	13
645	Milliners	141	132	153	171	183	173	183	171	185	162	122	140	116	129	83	10				
650	Mine operatives and laborers	19	31	33	26	26	19	20	14	10	11	10	16	19	20	30	49	49	37	41	36
660	Motomen, mine, factory, logging camp, etc						233	10	56	47	52	26	7	5	12	1	1				
661	Motomen, street, subway, and elevated railway			208	20	229	112	163	148	171	170	70	66	94	117	58					
662	Oilers and greaser, except auto			19	57	40	38	39	34	31	30	18	11	24	33	39	66	58	54	55	54
670	Painters, except construction or maintenance	66	70	99	124	120	123	122	105	94	66	45	65	42	36	32	44	24	16	19	19
671	Photographic process workers			208	228	36	108	140	91	159	247	105	159	122	148	127	124	107	113	95	94
672	Power station operators							34	53	143	134	148	147	123	133	148	130	106	107	98	115
673	Sailors and deck hands	48	58	68	79	50	34	33	39	34	40	76	69	55	41	52	103	95	73	67	60
674	Sawyers	31	59	67	84	92	92	84	69	60	58	35	12	14	7	9	11	3	7	6	8
675	Spinners, textile	38	24	29	36	22	35	30	19	15	10	2	3	2	6	3					
680	Stationary firemen	141	28	25	34	33	30	38	31	29	23	32	24	53	61	71	62	40	47	44	33
681	Switchmen, railroad	5	188	41	38	52	67	114	112	128	139	92	78	104	104	84	90	74	106		
682	Taxicab drivers and chauffeurs	14	18	34	30	35	28	41	60	84	115	58	58	65	72	86	123	87	80	64	64
683	Truck and tractor drivers	22	37	35	28	31	29	27	36	41	60	61	42	35	29	33	72	42	41	38	39
684	Weavers, textile	53	54	49	51	43	46	44	26	26	20	17	9	11	11	11	13	6	10	12	22
685	Welders and flame cutters	141	188	208	66	39	204	83	101	101	89	60	79	66	47	42	43	21	21	23	25
690	Operative and kindred workers (nec)	50	75	71	72	53	48	47	43	40	32	55	40	43	43	43	48	31	33	29	29
700	Housekeepers, private household	141	26	31	17	23	20	26	42	52	57	88	68	31	16	16	7	2	5		
710	Laundresses, private household	141	3	2	1	1	1	1	3	3	4	14	6	6	5	12	28	20	24		
720	Private household workers (nec)	7	15	4	5	8	6	9	9	21	21	56	29	20	9	15	14	14	35		
730	Attendants, hospital and other institution	141	82	87	78	80	86	78	83	110	99	143	114	93	82	99	91	60	69	61	62
731	Attendants, professional and personal service (n	2	7	15	10	12	13	12	21	27	107	121	126	113	112	125	115	81	88	87	85
732	Attendants, recreation and amusement		188	150	172	130	115	129	100	81	63	129	107	114	115	134	153	120	114	94	98
740	Barbers, beauticians, and manicurists	42	30	47	58	66	51	72	82	83	83	125	120	120	111	108	104	59	72	60	61
750	Bartenders	32	88	104	126	119	109	117	121	113	105	72	75	92	100	101	93	66	74	85	95
751	Bootblacks	3	8	16	13	13	5	3	2	2	2	4	4	18	1	8	3				
752	Boarding and lodging house keepers	91	56	66	70	67	68	73	65	61	47	147	119	102	98	110	77				
753	Charwomen and cleaners	21	11	8	7	9	7	14	16	18	17	16	14	17	21	22	26	4	9	9	6
754	Cooks, except private household	10	13	1	2	3	3	4	5	16	33	79	72	57	55	68	56	25	32	26	28
760	Counter and fountain workers			208	228	229	66	112	81	137	74	130	87	87	75	73	70	36	53	39	37
761	Elevator operators		188	208	42	229	72	68	73	73	85	74	47	45	58	53	21	29	55		
762	Firemen, fire protection		188	59	99	127	134	157	164	168	160	96	104	144	144	141	151	131	132	112	113

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
763	Guards, watchmen, and doorkeepers	75	57	60	55	61	65	75	61	57	55	89	71	77	103	137	156	118	115	90	82
764	Housekeepers and stewards, except private hous	24	34	38	53	70	84	104	135	142	141	158	137	115	116	146	170	138	145	117	112
770	Janitors and sextons	40	85	74	47	45	50	61	55	49	46	50	32	32	38	63	60	30	29	25	21
771	Marshals and constables	97	143	166	175	160	125	143	156	152	209	100	141	130	127	169	159				
772	Midwives		5	7	6	15	8	7	7	11	14	0	22	50	24	116	114				
773	Policemen and detectives	141	130	143	149	156	141	148	145	160	169	128	139	158	160	171	176	149	150	126	125
780	Porters	9	23	27	35	37	21	25	38	42	50	48	28	23	17	28	117	91	91	75	86
781	Practical nurses	141	47	30	16	28	26	31	49	78	106	155	143	141	140	160	165	125	125	100	92
782	Sheriffs and bailiffs	89	55	85	96	86	137	181	161	169	196	167	164	148	155	173	164	137	135	116	114
783	Ushers, recreation and amusement			208	228	229	233	29	53	116	136	34	81	125	106	150	160	124	93	71	74
784	Waiters and waitresses	8	19	23	21	20	18	37	71	86	91	86	92	90	77	64	45	48	63	63	70
785	Watchmen (crossing) and bridge tenders	79	108	98	97	76	83	81	80	76	77	75	60	79	96	96	67	27	62		
790	Service workers, except private household (nec)	141	35	17	11	17	15	21	23	30	31	67	50	40	37	48	33	11	19	15	16
810	Farm foremen	141	39	22	15	34	31	48	44	45	59	131	102	63	79	81	96	63	42	47	58
820	Farm laborers, wage workers	15	20	3	4	4	4	5	4	4	6	15	5	3	4	4	15	1	1	1	3
830	Farm laborers, unpaid family workers						233	2	1	1	5	28	30	21	23	36	39				
840	Farm service laborers, self-employed	78	43	64	74	59	71	51	41	32	41	98	95	7	44	67	22				
910	Fishermen and oystermen	16	22	21	12	16	14	15	13	13	16	25	19	10	35	34	75	56	23	28	44
920	Garage laborers and car washers and greasers				3	2	233	43	45	44	39	23	17	13	13	7					
930	Gardeners, except farm and groundskeepers	39	65	48	37	41	32	32	32	33	24	52	34	29	39	46	71	37	13	11	12
940	Longshoremen and stevedores	12	44	24	14	14	12	17	15	9	9	29	10	8	14	25	36	41	65		
950	Lumbermen, raftsmen, and woodchoppers	28	45	36	23	21	16	16	17	14	15	22	8	4	3	5	16	9	6	7	11
960	Teamsters	141	33	10	108	11	11	35	33	37	36	8	18	16	2	2	2				
970	Laborers (nec)	13	14	14	9	10	9	8	8	8	8	19	13	15	19	24	51	32	25	20	17

Data sources: IPUMS United States Population Censuses 1850–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: Details of the variable OCC1950 are described in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS”

(<https://usa.ipums.org/usa/chapter4/chapter4.shtml>). The original description of the 1950 occupation categories by the U.S. Bureau of the Census can be found in the file “Alphabetic Index of Occupations and Industries: 1950 (Washington D.C., 1950)” (<https://usa.ipums.org/usa/resources/volii/Occupations1950.pdf>).

The IPUMS project has crosswalked all Census occupations from 1850–2010 to 1950 Census occupational codes. Note that the OCC1950 variable in IPUMS data contains fewer occupational categories than the original 1950 occupational scheme. Occupations with empty percentile ranks indicate no workers found in those occupations for a specific birth cohort. This table can be downloaded from our project website.

Appendix Table A8. Occupational Distributions Based on 1950 Census Occupations by Birth Cohort, 1790–1980

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
0	Accountants and auditors	0.03	0.03	0.02	0.02	0.02	0.02	0.04	0.09	0.14	0.20	0.35	0.46	0.54	0.83	0.85	1.17	1.42	1.47	1.46	1.38
1	Actors and actresses	0.0023	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.06	0.06	0.06	0.04	0.03	0.02	0.01	0.02	0.02	0.03	0.04	0.04
2	Airplane pilots and navigators			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.07	0.07	0.11	0.11	0.12	0.09	0.07
3	Architects	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.06	0.04	0.05	0.06	0.09	0.11	0.14	0.13	0.14	0.12
4	Artists and art teachers	0.02	0.03	0.04	0.05	0.06	0.05	0.06	0.08	0.08	0.07	0.08	0.11	0.14	0.15	0.16	0.18	0.19	0.15	0.15	0.14
5	Athletes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00					
6	Authors	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.06	0.12	0.15	0.13	0.14	0.14
7	Chemists	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.05	0.08	0.10	0.12	0.15	0.14	0.10	0.07	0.07	0.07	0.07
8	Chiropractors				0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.03	0.02	0.02	0.02	0.03	0.05	0.06	0.06	0.05
9	Clergymen	0.82	0.75	0.73	0.56	0.45	0.46	0.48	0.54	0.48	0.38	0.33	0.28	0.29	0.29	0.35	0.38	0.38	0.28	0.21	0.18
10	College presidents and deans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.00				
12	Agricultural sciences-Professors and instructors			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00		
13	Biological sciences-Professors and instructors				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.00	0.00		
14	Chemistry-Professors and instructors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00		
15	Economics-Professors and instructors					0.00	0.00						0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	
16	Engineering-Professors and instructors		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.01	0.00	0.00		
17	Geology and geophysics-Professors and instructors	0.00	0.00		0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00					
18	Mathematics-Professors and instructors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.01	0.01	0.01	0.02	0.01	0.00	0.00	
19	Medical Sciences-Professors and instructors		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.01	0.00	0.00		
23	Physics-Professors and instructors		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00		
24	Psychology-Professors and instructors					0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00		
25	Statistics-Professors and instructors													0.00	0.00	0.00					
26	Natural science (nec)-Professors and instructors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27	Social sciences (nec)-Professors and instructors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.03	0.01	0.00	0.00		
28	Non-scientific subjects-Professors and instructors	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.06	0.07	0.04	0.01	0.00		
29	Subject not specified-Professors and instructors	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.05	0.09	0.11	0.11	0.10	0.16	0.34	1.00	0.99	0.71	0.80	0.94
31	Dancers and dancing teachers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.01	0.00	0.01	0.01	0.03
32	Dentists	0.02	0.04	0.07	0.08	0.09	0.09	0.09	0.12	0.18	0.19	0.18	0.19	0.11	0.12	0.13	0.15	0.16	0.11	0.10	0.08
33	Designers	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.07	0.15	0.25	0.42	0.51	0.53	0.61	0.66
34	Dietitians and nutritionists			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.04	0.06	0.07	0.06	0.07	0.07	0.06	0.07
35	Draftsmen	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.09	0.12	0.16	0.17	0.27	0.33	0.20	0.15	0.14	0.13	0.13
36	Editors and reporters	0.02	0.03	0.04	0.05	0.07	0.08	0.09	0.10	0.10	0.08	0.09	0.15	0.19	0.23	0.28	0.29	0.31	0.28	0.33	0.34
41	Aeronautical-Engineers		0.00								0.00	0.00	0.01	0.03	0.10	0.14	0.12	0.09	0.12	0.07	0.07
42	Chemical-Engineers					0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.07	0.06	0.05	0.04	0.04	0.04	0.04
43	Civil-Engineers	0.01	0.01	0.02	0.03	0.05	0.05	0.06	0.07	0.09	0.16	0.23	0.25	0.20	0.22	0.24	0.21	0.21	0.21	0.20	0.22
44	Electrical-Engineers		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.05	0.11	0.17	0.16	0.29	0.40	0.29	0.23	0.26	0.22	0.18
45	Industrial-Engineers				0.00				0.00	0.00	0.00	0.02	0.05	0.11	0.24	0.31	0.57	0.66	0.61	0.61	0.56
46	Mechanical-Engineers	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.03	0.06	0.12	0.17	0.17	0.27	0.25	0.20	0.16	0.19	0.18	0.16
47	Metallurgical, metallurgists-Engineers				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.02
48	Mining-Engineers		0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.03
49	Engineers (nec)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.13	0.26	0.32	0.35	0.36	0.41	0.37	0.35

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
51	Entertainers (nec)	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.02	0.02	0.05	0.08	0.12	0.14	0.13	0.14	0.14
52	Farm and home management advisors		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.00				
53	Foresters and conservationists	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.05	0.05	0.04	0.04	0.03	0.03	0.03
54	Funeral directors and embalmers	0.01	0.01	0.00	0.00	0.00	0.02	0.04	0.07	0.06	0.06	0.07	0.07	0.07	0.06	0.04	0.04	0.04	0.03	0.03	0.02
55	Lawyers and judges	0.42	0.45	0.49	0.56	0.50	0.48	0.48	0.45	0.44	0.39	0.34	0.39	0.36	0.29	0.38	0.64	0.84	0.70	0.74	0.69
56	Librarians	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.04	0.07	0.10	0.13	0.15	0.19	0.22	0.23	0.12	0.10	0.08
57	Musicians and music teachers	0.04	0.07	0.09	0.12	0.15	0.18	0.22	0.27	0.34	0.33	0.33	0.32	0.29	0.30	0.41	0.73	0.95	0.79	0.80	0.89
58	Nurses, professional	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.06	0.12	0.26	0.44	0.68	0.98	1.14	1.52	2.04	2.78	2.61	2.36	2.25
59	Nurses, student professional			0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.05	0.01	0.02	0.01	0.01	0.01	0.00				
61	Agricultural scientists	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
62	Biological scientists	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.08	0.11	0.12	0.17	0.19
63	Geologists and geophysicists		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.04	0.04	0.06	0.06	0.05	0.06
67	Mathematicians		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.01	0.01	0.00	0.00			
68	Physicists		0.00	0.00	0.00	0.00	0.01	0.02	0.06	0.08	0.00	0.00	0.00	0.01	0.02	0.03	0.03	0.02	0.01	0.01	0.01
69	Misc. natural scientists	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.06	0.08	0.10	0.15	0.20
70	Optometrists							0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.04	0.02	0.02	0.03	0.02	0.03	0.02
71	Osteopaths						0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00					
72	Personnel and labor relations workers				0.00			0.00		0.00	0.00	0.02	0.06	0.16	0.33	0.46	0.74	0.91	0.89	1.02	0.93
73	Pharmacists	0.05	0.08	0.10	0.14	0.16	0.20	0.20	0.20	0.21	0.19	0.21	0.20	0.15	0.11	0.14	0.14	0.16	0.14	0.18	0.21
74	Photographers	0.00	0.01	0.02	0.03	0.06	0.08	0.08	0.09	0.10	0.08	0.07	0.07	0.08	0.09	0.08	0.10	0.12	0.12	0.14	0.18
75	Physicians and surgeons	0.86	0.94	0.95	0.96	0.79	0.63	0.58	0.63	0.61	0.48	0.33	0.33	0.37	0.37	0.42	0.56	0.61	0.56	0.60	0.52
76	Radio operators								0.00	0.00	0.00	0.00	0.01	0.03	0.07	0.07	0.06	0.07	0.09	0.09	0.11
77	Recreation and group workers				0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.11	0.15	0.18	0.23	0.27	
78	Religious workers	0.01	0.02	0.02	0.02	0.04	0.05	0.05	0.04	0.04	0.04	0.05	0.07	0.06	0.05	0.07	0.12	0.12	0.10	0.07	0.07
79	Social and welfare workers, except group		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.08	0.13	0.19	0.21	0.32	0.58	0.78	0.68	0.82	0.90
81	Economists									0.00	0.00	0.00	0.01	0.02	0.05	0.07	0.10	0.11	0.13	0.18	0.23
82	Psychologists				0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.01	0.03	0.07	0.17	0.20	0.10	0.10	0.11
83	Statisticians and actuaries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.04	0.03	0.03	0.04	0.04	0.05	0.07
84	Misc social scientists	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.03	0.02	0.03	0.04
91	Sports instructors and officials	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.02	0.04	0.06	0.07	0.09	0.07	0.08	0.10	0.14	0.19
92	Surveyors	0.07	0.05	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.03	0.04	0.05	0.07	0.05	0.07	0.08	0.08	0.08	0.07	0.09
93	Teachers (n.e.c.)	0.37	0.45	0.43	0.52	0.79	0.90	1.00	0.91	1.51	1.68	2.04	2.75	2.93	2.50	3.72	4.82	5.15	3.58	4.16	4.25
94	Medical and dental-technicians		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.10	0.22	0.36	0.61	0.94	1.09	1.21	1.51
95	Testing-technicians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.08	0.18	0.34	0.50	0.36	0.31	0.26	0.23	0.27
96	Technicians (nec)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.07	0.16	0.26	0.31	0.37	0.37	0.30	0.26
97	Therapists and healers (nec)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.20	0.39	0.42	0.56	0.61
98	Veterinarians	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.05	0.05	0.05	0.05
99	Professional, technical and kindred workers (nec)	0.01	0.02	0.03	0.04	0.05	0.05	0.03	0.01	0.01	0.10	0.17	0.26	0.55	0.65	1.01	2.16	3.07	3.69	4.30	4.34
100	Farmers (owners and tenants)	62.89	53.65	45.14	38.49	31.45	30.06	31.20	29.81	23.78	19.46	14.16	8.64	5.25	2.96	1.50	0.80	0.54	0.41	0.24	0.21
123	Farm managers	0.00	0.03	0.03	0.03	0.03	0.03	0.06	0.16	0.16	0.15	0.12	0.07	0.06	0.08	0.12	0.17	0.12	0.08	0.05	0.03
200	Buyers and dept heads, store		0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.06	0.14	0.22	0.40	0.58	0.69	0.72	0.72	0.85	0.95	0.84

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
201	Buyers and shippers, farm products	0.01	0.03	0.06	0.10	0.15	0.18	0.17	0.16	0.11	0.09	0.09	0.06	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01
203	Conductors, railroad	0.00	0.01	0.03	0.05	0.09	0.13	0.18	0.31	0.32	0.32	0.22	0.11	0.06	0.07	0.05	0.05	0.05	0.03	0.03	0.04
204	Credit men		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.07	0.07	0.06	0.04	0.01				
205	Floomen and floor managers, store				0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.00					
210	Inspectors, public administration	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.04	0.07	0.12	0.13	0.17	0.14	0.13	0.18	0.17	0.16	0.16
230	Managers and superintendants, building	0.08	0.07	0.06	0.04	0.02	0.28	0.12	0.07	0.05	0.10	0.15	0.14	0.11	0.13	0.19	0.41	0.43	0.40	0.35	0.31
240	Officers, pilots, pursers and engineers, ship	0.12	0.20	0.24	0.22	0.21	0.14	0.10	0.11	0.09	0.08	0.09	0.08	0.07	0.05	0.04	0.04	0.03	0.03	0.02	0.02
250	Officials and administrators (nec), public admini	0.21	0.21	0.19	0.17	0.16	0.16	0.09	0.08	0.07	0.13	0.22	0.30	0.34	0.38	0.46	0.33	0.25	0.20	0.19	0.19
260	Officials, lodge, society, union, etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.06	0.04	0.02	0.00				
270	Postmasters	0.06	0.09	0.07	0.06	0.05	0.07	0.07	0.09	0.08	0.08	0.09	0.08	0.07	0.06	0.05	0.04	0.02	0.01	0.00	0.00
280	Purchasing agents and buyers (nec)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.11	0.16	0.21	0.19	0.22	0.24	0.22	0.18	0.14
290	Managers, officials, and proprietors (nec)	3.96	5.42	6.11	7.59	8.58	8.66	8.32	7.04	6.61	7.09	8.00	8.18	7.38	7.22	7.69	11.54	13.47	14.34	13.43	11.49
300	Agents (nec)	0.08	0.09	0.08	0.08	0.08	0.08	0.05	0.03	0.02	0.05	0.13	0.19	0.19	0.13	0.07	0.00				
301	Attendants and assistants, library		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.05	0.07	0.09	0.14	0.14	0.09	0.06	0.06
302	Attendants, physicians and dentists office		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.05	0.10	0.17	0.24	0.36	0.49	0.62	0.78	1.04
304	Baggagemen, transportation	0.00	0.00	0.01	0.01	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.00	0.00					
305	Bank tellers	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.07	0.09	0.21	0.32	0.30	0.23	0.20	0.19	0.30
310	Bookkeepers	0.04	0.07	0.10	0.14	0.23	0.38	0.44	0.52	0.75	1.02	1.23	1.50	1.78	1.93	2.17	1.73	1.38	1.20	0.93	0.68
320	Cashiers	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.06	0.08	0.13	0.28	0.50	0.89	1.20	1.33	1.25	1.36	1.49	2.05
321	Collectors, bill and account	0.04	0.03	0.02	0.02	0.02	0.03	0.05	0.08	0.07	0.08	0.06	0.06	0.05	0.04	0.07	0.12	0.12	0.13	0.15	0.19
322	Dispatchers and starters, vehicle		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.05	0.08	0.10	0.13	0.17	0.18	0.21	0.22
325	Express messengers and railway mail clerks		0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.04	0.06	0.06	0.04	0.02	0.01	0.00					
335	Mail carriers	0.01	0.01	0.02	0.02	0.02	0.06	0.09	0.20	0.24	0.28	0.32	0.29	0.25	0.40	0.34	0.27	0.36	0.32	0.21	0.13
340	Messengers and office boys	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.14	0.16	0.19	0.19	0.15
341	Office machine operators				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.11	0.24	0.41	0.73	0.76	0.59	0.51	0.45	0.41
342	Shipping and receiving clerks	0.00	0.00	0.00	0.01	0.01	0.03	0.06	0.14	0.20	0.25	0.32	0.37	0.46	0.46	0.43	0.40	0.40	0.45	0.44	0.45
350	Stenographers, typists, and secretaries	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.11	0.34	0.65	1.16	2.04	2.83	3.99	5.08	4.80	3.94	3.16	2.52	2.09
360	Telegraph messengers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00					
365	Telegraph operators		0.00	0.00	0.01	0.02	0.05	0.09	0.09	0.16	0.14	0.14	0.09	0.04	0.02	0.02	0.00	0.00			
370	Telephone operators			0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.14	0.28	0.53	0.53	0.49	0.65	0.23	0.11	0.06	0.06	0.06
380	Ticket, station, and express agents	0.01	0.04	0.06	0.07	0.10	0.10	0.10	0.10	0.11	0.11	0.12	0.09	0.07	0.08	0.12	0.22	0.19	0.18	0.17	0.13
390	Clerical and kindred workers (n.e.c.)	0.09	0.11	0.18	0.22	0.34	0.59	0.56	0.69	1.06	1.68	2.81	4.31	5.32	6.41	6.95	6.61	6.80	6.63	6.64	7.47
400	Advertising agents and salesmen	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.05	0.07	0.06	0.07	0.09	0.12	0.13	0.14	0.16	0.16
410	Auctioneers	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.00		
420	Demonstrators				0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.04	0.05	0.07	0.07	0.04	0.03	0.03	0.04
430	Hucksters and peddlers	0.16	0.23	0.30	0.34	0.33	0.32	0.25	0.19	0.15	0.13	0.09	0.07	0.09	0.14	0.19	0.09	0.03	0.01		
450	Insurance agents and brokers	0.01	0.03	0.06	0.08	0.10	0.17	0.20	0.30	0.34	0.41	0.53	0.60	0.58	0.76	0.84	0.89	0.90	0.87	0.89	0.90
460	Newsboys	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.13	0.12	0.13	0.14	0.13
470	Real estate agents and brokers	0.02	0.04	0.07	0.09	0.09	0.15	0.28	0.47	0.44	0.43	0.38	0.32	0.30	0.45	0.59	0.95	0.83	0.66	0.55	0.43
480	Stock and bond salesmen				0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.05	0.05	0.06	0.11	0.32	0.37	0.42	0.53	0.49
490	Salesmen and sales clerks (nec)	0.35	0.52	0.72	1.06	1.34	1.74	2.15	2.63	3.51	4.22	5.11	5.99	6.25	6.04	5.19	4.52	3.97	3.67	3.63	3.72

OCC 1950	Title	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
764	Housekeepers and stewards, except private hous	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.08	0.11	0.15	0.21	0.26	0.20	0.12	0.08	0.09	0.11	0.12	0.10	0.06
770	Janitors and sextons	0.03	0.03	0.03	0.04	0.04	0.12	0.27	0.49	0.53	0.69	0.85	0.90	1.12	1.41	1.64	2.15	2.18	2.16	1.70	1.46
771	Marshals and constables	0.06	0.07	0.07	0.06	0.05	0.05	0.04	0.03	0.02	0.01	0.01	0.02	0.01	0.00	0.00	0.00				
772	Midwives		0.03	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
773	Policemen and detectives	0.03	0.04	0.06	0.09	0.13	0.17	0.16	0.27	0.26	0.29	0.34	0.41	0.30	0.36	0.45	0.47	0.51	0.66	0.94	0.73
780	Porters	0.04	0.09	0.11	0.14	0.17	0.16	0.17	0.24	0.30	0.35	0.34	0.38	0.22	0.10	0.05	0.04	0.04	0.05	0.05	0.05
781	Practical nurses	0.00	0.09	0.10	0.11	0.11	0.17	0.26	0.38	0.38	0.36	0.36	0.36	0.30	0.30	0.35	0.49	0.57	0.51	0.49	0.48
782	Sheriffs and bailiffs	0.03	0.05	0.06	0.05	0.05	0.04	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.04	0.05	0.03	0.02	0.01	0.01	0.01
783	Ushers, recreation and amusement			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.02
784	Waiters and waitresses	0.03	0.05	0.07	0.10	0.11	0.15	0.18	0.22	0.37	0.49	0.64	0.90	1.26	1.40	1.49	0.71	0.48	0.67	0.96	1.64
785	Watchmen (crossing) and bridge tenders	0.03	0.05	0.03	0.03	0.02	0.02	0.01	0.02	0.01	0.02	0.03	0.03	0.03	0.05	0.06	0.02	0.00	0.00		
790	Service workers, except private household (nec)	0.00	0.01	0.01	0.02	0.05	0.08	0.10	0.14	0.23	0.35	0.63	0.92	1.28	1.20	1.14	0.67	0.38	0.42	0.40	0.47
810	Farm foremen	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.05	0.04	0.03
820	Farm laborers, wage workers	1.08	1.96	4.58	5.50	7.60	9.58	7.84	5.39	6.52	4.76	3.70	3.08	2.32	1.38	1.03	0.59	0.47	0.54	0.63	0.73
830	Farm laborers, unpaid family workers						0.00	0.41	0.92	1.09	1.94	1.21	0.94	0.76	0.40	0.11	0.01				
840	Farm service laborers, self-employed	0.03	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00				
910	Fishermen and oystermen	0.19	0.23	0.23	0.22	0.24	0.27	0.26	0.22	0.20	0.16	0.15	0.12	0.09	0.06	0.05	0.04	0.04	0.04	0.03	0.03
920	Garage laborers and car washers and greasers				0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.09	0.11	0.08	0.06	0.03					
930	Gardeners, except farm and groundskeepers	0.22	0.29	0.31	0.30	0.27	0.26	0.20	0.18	0.18	0.23	0.26	0.29	0.29	0.26	0.28	0.46	0.59	0.76	0.87	1.07
940	Longshoremen and stevedores	0.02	0.02	0.03	0.04	0.06	0.07	0.09	0.16	0.18	0.22	0.20	0.16	0.12	0.08	0.05	0.01	0.00	0.00		
950	Lumbermen, raftsmen, and woodchoppers	0.14	0.18	0.22	0.23	0.25	0.28	0.30	0.34	0.36	0.37	0.33	0.25	0.23	0.15	0.12	0.08	0.06	0.06	0.06	0.05
960	Teamsters	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.63	0.61	0.64	0.25	0.06	0.03	0.02	0.01	0.00				
970	Laborers (nec)	9.62	9.98	10.43	11.23	10.87	10.79	10.86	10.44	10.94	10.54	8.78	6.87	5.22	3.66	3.08	2.45	2.51	3.06	3.35	3.89
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Data sources: IPUMS United States Population Censuses 1850–2000 & ACS 2001–2018. See a summary of the data sources in Appendix Table A3.

Notes: Details of the variable OCC1950 are described in “Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS” (<https://usa.ipums.org/usa/chapter4/chapter4.shtml>). The original description of the 1950 occupation categories by the U.S. Bureau of the Census can be found in the file “Alphabetic Index of Occupations and Industries: 1950 (Washington D.C., 1950)” (<https://usa.ipums.org/usa/resources/volii/Occupations1950.pdf>). The IPUMS project has crosswalked all Census occupations from 1850–2010 to 1950 Census occupational codes. Note that the OCC1950 variable in IPUMS data contains fewer occupational categories than the original 1950 occupational scheme. Occupations with empty percentile ranks indicate no workers found in those occupations for a specific birth cohort. This table can be downloaded from our project website.

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