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OCCUPATIONS

Matthew Sobek

Occupations are among the most revealing and valuable pieces of socioeconomic information pertaining to individuals that survive in the historical record. Few types of evidence have been put to as much or as varied use by social scientists. At the level of families and individuals, occupations have been used as indicators of social status, class, and income, among other things. Aggregate occupation statistics for localities, population subgroups, and the nation have likewise been heavily utilized as measures of group economic well-being, social status attainment, labor market structure, and segregation. At the national level, the changing occupational structure can be seen as a manifestation of the socioeconomic opportunities generated by the evolving economy and the distribution of labor and skills demanded. No other single type of evidence provides such a window on the economy and social structure as they intersect at the level of individuals.

The relative ubiquity of historical occupation data is not an accident. Contemporaries have always recognized that the work an individual performs is a singularly important fact about that person. The combined occupations of the population as a whole have long been seen as a measure of the evolution of the economy and the progress of the nation. Francis Amasa Walker – founding president of the American Economic Association and perhaps the most famous superintendent of the U.S. Census – made it clear how much value he placed on the census occupation question: "Whether the industrial or social character of a nation be considered, a true return of the occupations of the people constitutes the most important single feature of the census. . . . The habits of a people, their social tastes and moral standards, would be more truthfully depicted in a complete list of their daily occupations, than ever was done in any book of travels or of history" (U.S. Office of the Census 1872, pp. xxii–xxxiii). Although modern scholars might not wax on similarly, most would acknowledge the unique contributions that occupations have made to research in social and economic history.

Occupation, Industry, and Labor Force Participation

Occupations characterize the type of work performed by a person, such as carpenter, professor, or laborer. In government statistics, occupations are restricted to paid work or unpaid work in a family enterprise that contributes to the production of goods for market. Unpaid domestic labor for one's family does not constitute an occupation (see Folbre 1991). Occupation should be distinguished from industry, which describes the basic activity carried out by the establishment in which a person works (for example, construction or advertising). Industry is concerned with the kinds of goods and services produced, whereas occupation relates to the specific characteristics of the job a person performs, regardless of the product involved. For example, there are bookkeepers (an occupation) in the telecommunications, real estate, and educational industries. Industry and occupation are often confused, and many historical data sources purporting to record occupations very often report industry instead. The two were not always consistently distinguished even in published government statistics (Conk 1978).[1]

Occupation is also conceptually distinct from labor force participation. Labor force participation means working or seeking paid

[1] A series of tables on the industrial breakdown of the working population is also presented in this chapter. The essay, however, maintains its focus on occupations, which pose more complicated questions of measurement and interpretation. In contrast to occupations, the industrial classifications have not changed substantially over time, and their meanings have been little disputed.

work in a given week. Conceived to measure unemployment and total labor engaged in the economy, the modern labor force concept aims to record actual activity at a point in time. Occupation is a more flexible concept not subject to such precise criteria. All employed persons have an occupation, but a person may claim an occupation even though he or she is not a labor force participant (that is, not currently working or seeking work). The distinction between participation and occupation has particular salience for historical research. The labor force concept was introduced in the 1940 Census. Researchers must use "gainful employment" – whether or not a person claimed an occupation – as a proxy for labor force participation before that time. Because occupation reflects a person's social identity as well as his or her current work, some persons may have claimed an occupation although they were retired or otherwise not currently engaged in paid or market labor (Ransom and Sutch 1986). The issue of social identity was a particularly pointed one for married women, who may have had to choose between their role as housewife and the other work they performed on the family farm or business (Folbre and Abel 1989). Pre-1940 labor force measures based on occupation data are therefore likely to overestimate the overall labor force participation rate, especially among older workers, while undercounting the participation of married women and youth.[2]

Uses of Occupation Data

Occupation is a complex socioeconomic characteristic with a variety of potential applications. Not only are occupations the means through which most people earn a living – but also, to a large extent, they situate people within society. The concepts of social and occupational structures are so closely entwined that they tend to be used interchangeably by researchers. In many historical studies, occupation is the only information available that suggests the social standing and material situation of individuals and families. Nationally representative income data became available only beginning with the 1950 Census. Because of their intrinsic interest and the lack of viable alternatives, occupations have been widely used in studies ranging from conventional social histories to quantitative historical sociological and economic analyses. In modern society, occupation is the principal means by which most persons attain their economic and social status, and it is among the most potent determinants of the opportunities available to one's descendants.

As a multifaceted phenomenon suggestive of so many dimensions of social experience, there is no consensus among scholars concerning how best to employ occupations in historical research. Broadly speaking, there are two main approaches. One strategy is to group occupations into what are typically referred to as classes or strata. Such groupings frequently correspond to the familiar typology of upper, middle, and lower or working classes. Alternatively, classes are often defined to accentuate the manual–nonmanual divide, using groupings oriented to upper and lower, white and blue collars. Fewer studies apply a strict Marxist categorization of working class and capitalists. Most research by historians has tended to use one of these variants of the grouping or typology approach to occupational structure (see Thernstrom 1964, 1973).[3]

Rather than combining occupations into broad groupings, a second approach used by many quantitatively oriented researchers assigns a numerical score to each occupation. This method organizes occupations into a continuous hierarchy amenable to measurement and straightforward statistical analysis. These occupational measures are of three varieties. One type assigns occupational scores based on subjective determinations of prestige or social standing derived from modern surveys (Treiman 1976). A second measure gives each occupation a socioeconomic score purporting to reflect both income and social prestige (Duncan 1961). This is the favored approach of historical sociological research using occupations, and there is a supporting literature to validate its application at least several decades into the past (Hodge, Siegel, and Rossi 1964; Hauser 1982). The final approach is to ascribe economic status based on the average incomes of persons within occupations. This income-scoring method has been most often employed by economic historians lacking individual-level income data (Goldin 1986; Preston and Haines 1991). The income scores are usually not the focus of the analysis but are used to control for economic status while examining some other behavior or outcome. In addition to their use for inferring current income, occupations can also be interpreted as predictors of lifetime earnings because they suggest a person's career and work-life trajectory.

Most research focusing on occupations derives its theoretical grounding from sociological theory, to the extent that authors acknowledge such intellectual underpinnings. Marxist analyses aim to situate persons in terms of their relationship to the means of production. Weberian studies are more common and are content to define classes in terms of economic or social status. Many researchers in this tradition use the terminology of strata and stratification, rather than class. The connection of individual occupational standing to the class position of family members is a contentious issue in theorizing about occupations, and the interpretation of housewifery is a particularly thorny problem.[4]

Quantitative studies in which occupations are the actual focus of analysis tend to be explicitly or implicitly about inequality. Scholars can compare the attainment of population subgroups over time or to one another using either occupational scores or groupings. Such analyses typically aim to explore discrimination or social mobility. Mobility at the individual level, however, requires longitudinal data that follow persons over time or between generations (Blau and Duncan 1967; Featherman and Hauser 1978). Such data are rare, and the results depend a great deal on where the researcher draws boundaries between occupational groups in order to define upward and downward mobility. A final category of research aims to measure occupational segregation – usually along lines of race, sex, or ethnicity – through the use of an index of dissimilarity (Reskin and Hartmann 1986). Such indexes indicate the proportion of one group that would have to change occupations to replicate the distribution of the other (see Table Ba4207–4213). As with studies of social mobility, the results are sensitive to the number of occupational categories used in the analysis; thus, it is hard to make direct comparisons across studies by different researchers.

[2] On the potential bias with respect to married women's participation, see Abel and Folbre (1990). The effect of gainful employment as a measure of married women's participation is not straightforward and varies by occupation; see Goldin (1990), appendix to Chapter 2.

[3] On the application of Marxist class categories to occupation data, see Sobek (1991) and Wright (1980, 1985).

[4] Most research applies the husband's or primary breadwinner's status to all family members. See Acker (1973, 1980).

Availability of Historical Occupation Data

Occupation data are available in scattered sources as early as the colonial period, but national-level statistics depend on the U.S. Census, which first collected this information in 1850. Women were not asked the occupation question until the following census in 1860, and slaves were never asked, resulting in a lack of occupation data for most blacks until 1870.[5] These early qualifications aside, the census provides a continuous series of national occupation data for each decade from 1850 to the present.

The published census occupation statistics have three significant liabilities. The first problem is the lack of data for subgroups of the population. The Census Bureau has always been limited in what it could afford to tabulate and publish, and most censuses report separate statistics only for men and women. The second difficulty is the changing age limit of the persons to whom the occupation question was addressed. The minimum age for occupation responses began with age 15 in the mid-nineteenth century, dropped to age 10, and then rose in the twentieth century first to age 14 and finally to age 16. Occupations such as domestic servant and unpaid farm laborer are especially sensitive to such changes. The final problem with the published statistics concerns the differing classification systems employed from one census to the next. Each census used a different scheme, and at several points – the Censuses of 1870, 1910, 1940, and 1980 – there was a complete overhaul of the system, confounding long-term comparisons.

These limitations of the published census statistics can largely be overcome using the Integrated Public Use Microdata Series (IPUMS).[6] The IPUMS is a machine-readable database consisting of thirteen large random national samples drawn from the decennial U.S. Census from 1850 to 1990. All censuses over this period are included except for 1890, which was destroyed by fire, and 1930, which is not yet available to researchers. (The 2000 sample was not released in time to be included in this volume.) Containing more than 50 million person records, the IPUMS is large enough to provide detailed occupation statistics for subgroups of the population that were never tabulated by the historical censuses. Because all data are individual level, the population subject to the occupation statistics can be defined consistently across all census years.

The occupation statistics reported in this chapter are derived from the IPUMS database. The general method employed is described in Sobek (2001). The original published census statistics are not reported in this volume because they do not constitute a coherent statistical series. The greatest attribute of the IPUMS for the purposes of *Historical Statistics of the United States* is the common categorization of occupations for all census years into a single classification system (Sobek 1995). Occupation responses for all years are coded into the 1950 Census scheme, which presents occupations in a hierarchical arrangement of 268 categories, from professional workers through unskilled laborers, with a clear demarcation between manual and nonmanual work. The major occupational groupings in this classification are consistent with the scholarly understanding of occupational structure as reflected in the majority of historical and sociological research (Sobek 1996).

Of the occupation series in this chapter, only Tables Ba3688–4206 are not constructed using the IPUMS database, which represents the best available attempt at reconciling the differing published census occupation series from 1900 to 1970. Categories are collapsed together in some years, the data are acknowledged to be only approximate, and the basis for some of the decisions allocating the data among categories is unclear (U.S. Bureau of the Census 1975). Nevertheless, the extra detail offered and the lineage of the table warrant its inclusion.

Limitations of Historical Occupation Data

Despite the advantages conferred by the IPUMS for the purpose of creating consistent occupational series, researchers should be cognizant of a number of limitations affecting the use and interpretation of these data. One set of difficulties results from the quality of the occupation responses elicited from census interviewees as recorded on the manuscript returns. Some of the occupations written on the nineteenth-century census manuscripts are more industrial in character than occupational. Many persons responded with their place of employment (for example, grocery or steel mill), rather than giving their occupation within the establishment. The quality of the occupation data improved as the instructions to the census enumerators evolved in both clarity and precision, but this particular difficulty persisted to some degree until the introduction of separate industry and class-of-worker questions in the Census of 1910. The single greatest effect of this confusion of occupation and industry is to cast doubt on nineteenth-century statistics for managers and proprietors, since their status often had to be interpreted by application of simple rules (Sobek and Dillon 1995).

Another issue, alluded to previously, concerns changes over time in the wording of the occupation question. The census instructions steadily lengthened from one census to the next as the Bureau attempted to rectify perceived deficiencies in the enumeration. The relative smoothness of the data series suggests that most of these instruction changes had only a limited effect, for good or ill. Nevertheless, it is clear that the data generally improved over time, especially in the nineteenth century. Two overlapping groups, married women and unpaid family workers, received particular attention in the evolution of the occupation instructions. Data for these groups can be considered among the most problematic, particularly before the introduction of explicit labor force criteria in 1940. Paid domestic servants and farm laborers were sometimes counted as unpaid family workers or assigned to the nonoccupational labor category "keeping house." The occupation counts for women reported in this volume almost surely understate the number of employed married women before 1940 (Conk 1981; Folbre and Abel 1989; Goldin 1990).

The Census of 1910 is particularly anomalous. The enumerator instructions for 1910 contained strong language about the importance of recording occupations for women, even if they worked only occasionally and without pay in a family enterprise. The instructions produced much higher female occupational response rates in 1910, especially for married women on farms. The Census Bureau published but disavowed these results, and it altered the instructions in 1920 to yield response rates more in line with the previous historical trend. Scholars have long debated the proper interpretation of these 1910 occupation responses (Smuts 1960; Lebergott 1964; Oppenheimer 1970). No attempt has been made to alter the 1910 data for *Historical Statistics,* and so

[5] However, for what is known about the occupation of slaves, see Gutman and Sutch (1976).

[6] See the Guide to the Millennial Edition for information on the IPUMS.

researchers can draw their own conclusions from the unadulterated responses.[7]

Another perhaps more subtle difficulty with historical occupation data concerns the unavoidable costs associated with classification of any kind, regardless of the quality of the underlying data. The 1991 *Dictionary of Occupational Titles* contains more than 28,000 distinct occupations (U.S. Department of Labor 1991). No usable classification can accommodate such fine categorization. Even the detailed occupational schemes used by the various censuses never contained more than a few hundred categories. Therefore, virtually all detailed occupational categories are combinations of many distinct, though related, occupations (see Tables Ba1159–1439). The residual occupations at the end of each major occupational grouping (for example, operatives, not elsewhere classified) are especially heterogeneous and are sometimes very large. Conversely, one of the most important occupations for historical purposes – farmer – is unambiguous and consistent but includes persons of such differing means and life situations that it is of questionable value for making many kinds of inferences. In sum, the reliability of the data depends on the use to which they are put. If it is sufficient for a researcher's purposes to locate persons accurately within large occupational groupings, then the data are almost always sufficient; however, care must be taken when making finer distinctions.

The application of a consistent classification scheme to occupations spanning more than a century necessarily imposes some costs. Some difficulties are the result of changing terminology, such as the evolution of "engineers" from locomotive and stationary-engine tenders to white-collar professionals. "Clerks," "cashiers," and "secretaries" are likewise occupational terms that have persisted but whose meanings altered considerably over time. Because of technological change, nineteenth-century teamsters performed the same role as truck drivers in the twentieth century, although the more archaic occupational designation still persists in the 1950 classification. In the construction of the IPUMS database, the designers attempted to combine functionally equivalent occupations in a manner sensitive to such changes (Sobek 1995). The 1950 classification scheme can accommodate most changes in occupations over time, but in periods of transition in which multiple meanings of a term may have been in use, there is undoubtedly some blurring and slippage between categories. Researchers wishing to use occupations to infer economic status or class position must be especially sensitive to changes in the relative standing of specific occupations that may not be reflected in their static placement within the 1950 scheme (Sobek 1996).

A final consideration concerns the use of sample data to determine occupations for the population as a whole. The IPUMS database contains 1 percent samples of the population for most censuses before 1970 (up to 9 percent more recently). For smaller detailed occupations, the counts from such data may be subject to sampling error, especially when the data pertain to only a small subgroup of the whole population, such as nonwhite female workers.

Occupational Trends

The American occupational structure has changed markedly since 1850, with momentous consequences for the great majority of persons who earned their livelihoods through their position within this structure. The economy and occupational structure were dominated by agriculture in the mid-nineteenth century. From approximately half of the workforce in 1870, agriculture continued to engage a third of the nation's workers at the turn of the century (Table Ba1033–1046). The black population was especially concentrated in farming because of slavery and residence in the rural South. In the late nineteenth century, young single women in the labor force tended to work in domestic service and in semiskilled manufacturing jobs, such as seamstress. Most women withdrew from the labor force on marriage and did not return. Teaching was the only occupation of any size open to women that required much education. The large proportion of women in the "professional" occupational grouping in the nineteenth century is attributable solely to teaching – one of the poorest paid occupations at that end of the status hierarchy (Tables Ba1061–1074 and Ba1721–2001).

As the nation industrialized, farming declined in relative importance, although in absolute terms, the agricultural labor force continued to expand throughout the early twentieth century. The declining share of agriculture as a segment of the occupational structure was not counterbalanced by the growth of any one occupational grouping. The occupations most directly associated with the industrial economy – manufacturing jobs in the crafts and operatives grouping – grew in absolute and relative terms. The combined crafts and operative occupations grew more than 40 percent in the first decade of the twentieth century, and would peak at just over one third of the total workforce in 1950. What is evident from an examination of the original manuscripts is the increasing division of labor within manufacturing, as growing numbers of semiskilled operatives performed ever-more-specialized tasks as their contribution to the production process.

The most significant long-term change in the occupational structure was the growing share composed of nonmanual occupations – especially clerical and sales work, sometimes referred to as lower white collar. Figure Ba-G shows the growth of white-collar

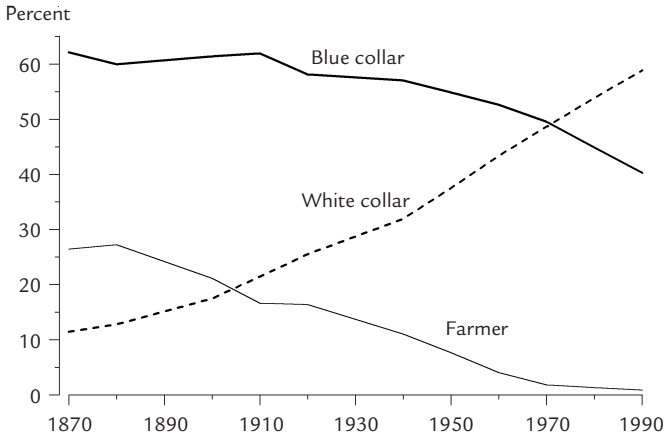

FIGURE Ba-G Occupational distribution – blue collar, white collar, and farmer as a percentage of the labor force: 1870–1990

Sources

Computed from the following: white collar, series Ba1034 and Ba1036–1039; farmer, series Ba1035; and blue collar, series Ba1040–1045. Percentages are based on the following denominator: series Ba1033 minus series Ba1046.

Documentation

The percentages graphed here sum to 100 percent.

[7] See Tables Ba1075–1088 and Ba1103–1130, and the labor force figures in Tables Ba340–354 and Ba425–469.

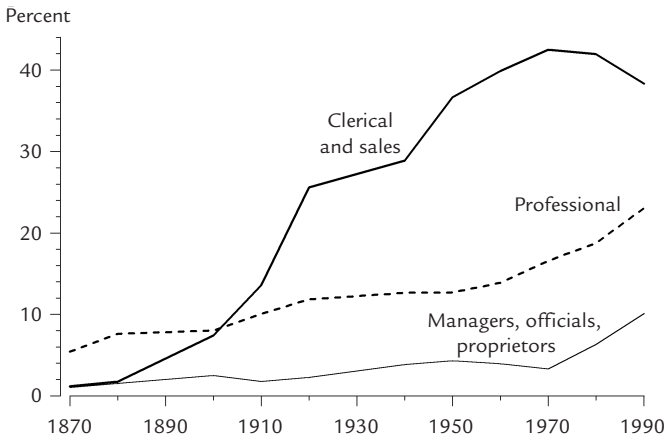

FIGURE Ba-H Women's white-collar employment as a percentage of the female labor force: 1870–1990

Sources

Computed from the following: professional, series Ba1062; managers, officials, and proprietors, series Ba1064–1065; and clerical and sales, series Ba1066–1067. Percentages are based on the following denominator: series Ba1061 minus series Ba1074.

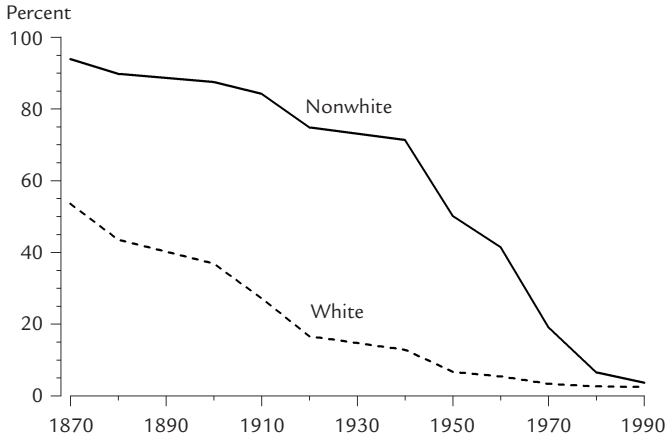

FIGURE Ba-I Women servants and laborers as a percentage of the female labor force, by race: 1870–1990

Sources

Computed from the following: white, series Ba1112 and Ba1114–1115; and nonwhite, series Ba1126 and Ba1128–1129. Percentages are based on the following denominators: white, series Ba1103 minus series Ba1116; and nonwhite, series Ba1117 minus series Ba1130.

employment among all workers. The steady shift out of manual work reflected the increasing importance of formal education in the labor market. The transition away from manual labor was particularly salient for women, who began entering clerical and sales work in large numbers around the turn of the century. Figure Ba-H shows the expansion of sales and clerical work and other white-collar employment among women. From less than 2 percent of the female workforce in 1880, clerical and sales workers accounted for over 25 percent of women workers by 1920. Improved transportation and communications spurred an expansion in firm size and corresponding demand for office labor. New office practices and technology – particularly the typewriter – reduced the specialized skills needed for such work so that more of the school-trained population became qualified for employment (Rotella 1977; Davies 1982). Sales and office work was less stigmatized than manual labor, and its growth would eventually help open the doors to greater participation by married women as the twentieth century progressed. The new and expanding occupations were urban in character and further spurred migration to the cities. By 1920, the majority of Americans lived in urban places.

Urbanization affected blacks most of all. Beginning during World War I, the "Great Migration" brought ever-increasing numbers of blacks northward to the urban centers of the Northeast and Midwest. The migrants were initially concentrated in unskilled occupations, with black women steadily taking over domestic service as white women moved on to more attractive and rewarding types of labor opened by educational qualifications (Table Ba1117–1130). The historical concentration of black women in the lower end of the occupational spectrum is evident in Figure Ba-I. Black men and women remained substantially occupationally segregated from their white counterparts until significant improvements stemming from the Civil Rights era and antidiscrimination laws in the late twentieth century opened previously closed doors (Table Ba4207–4213).

Until World War I and subsequent immigration laws largely cut the flow, immigrants made up as much as a quarter of the U.S. workforce. Immigrants were always predominantly urban, and they tended to enter nonagricultural manual occupations (Table Ba1145–1158). Farmers constituted 23.2 percent of native-born workers in 1900, but only 13.6 percent of employed immigrants. Although overrepresented in unskilled work, immigrant men were also skilled craft workers in percentages similar to those of native-born men. They were not generally subject to the levels of segregation faced by blacks of both sexes. Befitting their urban setting and backgrounds, immigrant men were actually more likely to be nonfarm proprietors than were the native-born. Of course, many immigrants were small proprietors, and the data on proprietorship before 1910 should be interpreted cautiously because of the ambiguity of many occupation responses.

The period since World War II witnessed the evolution to what has been characterized as a postindustrial or service economy, and this is certainly evident in the occupation statistics for the last few decades. Although the service-workers group proper has grown, the most noteworthy development in the occupational structure has been the rapid growth of professionals, managers, and officials – from 12 percent of the workforce in 1940 to 23 percent in 1990 (Table Ba1033–1046). This expansion among the most highly rewarded occupations reflects rising skill and educational levels in the workforce. At the same time, the demand for skilled labor has spurred a steady increase in college attendance. So striking has been the growth of the upper end of the occupational spectrum that some theorize the rise of a distinct new professional–managerial class. Perhaps most significantly, all major identifiable population subgroups have shared in the improved opportunities offered by the changing occupational structure, whether the measure is occupational segregation or socioeconomic status. And underlying the changing occupational distribution has been the rapid increase of married female participation in the workforce, with all the attendant ramifications for families, politics, and society (see Table Ba425–469).

Over the last century and a half, the economy has generated an ever-improving occupational structure in terms of status and material rewards. The entire structure has been shifted upward in terms of occupational desirability toward higher-skilled

white-collar work. Clearly, inequality persists, and occupation statistics do not capture differences within occupations in the earnings of persons caused by discrimination or varying work experience. And there is no guarantee that past improvements will not plateau or reverse themselves. However, the evidence suggests that the economy has done well by the majority of Americans since the nineteenth century in terms of steadily improving and more equal occupational opportunity.

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Wages and Wage Inequality

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The price of labor – its "wage" – is a fundamental datum in economics and economic history. The most important by-product of economic growth is a rising standard of living, and the wage, relative to the prices of consumer goods – the "real" wage – is a summary statistic of progress: a high and rising value of wages relative to consumer prices is a sign of a high and rising standard of living. The reverse is equally true. The low wages relative to the price of consumer goods that have been paid throughout much of human history and to many of the world's workers even today is the very definition of poverty. Differences in wages – across occupations, industries, and locations, by educational level, between men and women, and so forth – can reveal much about the workings of an economy. For example, large differences in wages between different regions may be a sign of a poorly functioning labor market – too much labor in the region with relatively low wages and too little where wages are relatively high. However, just as a high rate of profit may induce firms to enter an industry, or a high return to capital (the interest rate) may spur investment, regional differentials may induce migration from the low- to the high-wage region, raising wages in the former and lowering wages in the latter, "integrating" the two regions into a single, common (and national) labor market. Changes in technology may alter the demand for one type of labor (for example, college graduates) versus another (for example, high school graduates), thereby affecting the ratio of wages of the two groups. If the effects are persistent, the relative supplies of the two types of labor may change – more college graduates if the "returns to education" have increased, or conversely, if they have fallen.

In an economy with competitive labor markets, the level of wages (and employment) is ultimately determined by the