

Impact of Structural Change in the Distribution of Occupations and Industries
on the Employment of Persons with Disabilities in the U.S., 1970-2001

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Abstract

The present project uses the 1970 through 2001 National Health Interview Survey to analyze employment dynamics among persons with and without disabilities.

Prior research by the investigators is consistent with the hypothesis that persons with disabilities will experience changes in the share of jobs in specific occupations and industries to a greater degree than persons without disabilities and this disproportionate impact plays a significant role in explaining their overall employment. The present project tests that hypothesis, one, by describing temporal changes in the share of employment held by persons with and without disabilities in specific occupations and industries over the last three decades, two, by formally analyzing the impact of three measures of change in the magnitude of occupations and industries on the occupation- or industry-specific disability rates, and, three, by estimating the impact of the change in the share of specific occupations and industries on employment at the level of the individual for the entire three decade period, after taking into account demographic and regional characteristics and the overall population age distribution and disability rates. The overall hypothesis that change in the magnitude of occupations and industries is central to whether or not persons with disabilities work and, if they work, in what kinds of jobs, was not supported by the results of any of the analyses.

The project also described trends in employment of persons with and without disabilities for the period under study. Among women, employment rates of those with and without disability rose in tandem through the first two decades under study, but starting in about 1989 the trends in the employment of the two groups diverged; employment rates among women without disabilities continued to increase, but rates among women with disabilities stabilized and then declined. Among men, employment rates of those with and without disabilities have been

diverging for most of the past three decades; employment rates of men without disabilities have been relatively stable throughout this period, but rates among men with disabilities declined slightly until about 1990 and have declined substantially since then.

Introduction

Disability researchers have long noted that the employment of persons with disabilities is tied to short-term fluctuations in the demand for labor (Berkowitz, Johnson, & Murphy, 1976; Levitan & Taggart, 1977; Stapleton, Coleman, Dietrich, & Livermore, 1998). Indeed, there is evidence that the passage of the Social Security Disability Insurance program was delayed because of the fear that it might become a more costly and long-term substitute for short-term relief from poor employment conditions through such programs as unemployment insurance (Berkowitz, 1987; Starr, 1982).

A related literature focuses not on the effect of short-term fluctuations in the demand for labor on the employment of persons with disabilities, but on the effect of longer-term trends. In this literature, Yelin (Yelin, 1989) observed the strong correlation between changes in the overall pattern of employment and the changing labor market circumstances of persons with disabilities. Thus, over the 1970s and 1980s, the labor force participation rate of all women, particularly younger women increased substantially, while the labor force participation rate of all men, particularly older men decreased. The fate of women and men with disabilities reflected these overall trends: women with disabilities, especially younger women with disabilities, actually experienced a larger increase in labor force participation rates than women without disabilities. In contrast, men with disabilities, especially older men with disabilities, experienced a larger decrease in labor force participation rates than men without disabilities. This dynamic was even more pronounced among members of minority groups with disabilities, with non-white women not experiencing gains proportional to white women with disabilities while non-white men with disabilities fared even more poorly than white men with disabilities. Indeed, Trupin and colleagues (Trupin, Sebesta, & Yelin, 1997) reported that, the racial gap in labor force

participation rates was much more pronounced among persons with disabilities than among those without.

The foregoing dynamic is consistent with the hypothesis that persons with disabilities are subject to a last-hired, first-fired phenomenon in which women with disabilities have been able to expand their labor force participation in tandem with the overall increase among women, while men with disabilities have experienced a greater than proportional loss of employment.

Evidence from the work of the authors in the first two years of the DRI buttress the supposition that persons with disabilities may be more weakly tethered to the labor market (Yelin & Trupin, 2003). Using data from the California Work and Health Survey, they observed that persons with disabilities were more likely to report part-time, episodic, and contingent labor. When using summary measures of the changes in employment that have occurred, persons with disabilities were seen to be more likely to have employment that was economically inadequate and psychologically inadequate and less likely to have secure forms of employment.

A decade ago, Yelin published the first evidence consistent with the observation that, not only was the labor force participation of persons with disabilities tied to longer-term trends in aggregate employment (increasing labor force participation among women, decreasing participation among men, and a decrease in the most secure form of employment), but that these larger dynamics were tied to the transformation in the mix of occupations and industries (Yelin, 1992). He reported that between 1970 and 1990, persons with disabilities experienced an increased share of jobs in expanding industries, while experiencing a decreased share of jobs in contracting industries. The implication is that, just as women with disabilities accommodated the increased demand for women's labor with an increased labor force participation rate and men accommodated the decreased demand for men's labor with a decreased rate, persons with

disabilities in general rode the increased demand for labor in service industries by increasing their share of jobs in that sector, while such persons were disproportionately displaced from industries in decline, particularly the manufacturing and extractive sectors. Indeed, the share of employment among persons with disabilities in government increased when that sector was expanding in the 1970s and later declined in the 1980s as that sector was subjected to cut-backs.

This report also focuses on the impact of changes in the magnitude of occupations and industries on the employment of persons with disabilities. However, it expands the earlier analyses in several ways. First, it incorporates data from 1970 through 2001, therefore encompassing more than one additional economic cycle, including the economic expansion of the late 1980s, the relatively severe recession in the early 1990s, and the subsequent strong economy from the mid-1990s through the end of the decade. Second, it estimates the effect of the change in occupations and industries at both the aggregate level (as was done in the earlier analyses) and at the individual level. Third, it incorporates variables that account for a wider array of the phenomena that may affect the employment of persons with disabilities independently, including the age, gender, and race distribution of the working age population, the prevalence of disability among persons these ages, and the gender and race distribution within specific occupations and industries.

Methods

Overview

This report uses the 1970 – 2001 National Health Interview Survey (NHIS) to examine how the employment of persons with disabilities in specific occupations and industries has changed over time and to describe the impact of the changing mix of occupations and industries

on their overall employment status over time when taking into account other determinants of employment. In the analyses, we evaluate several measures of change in the distribution of occupations and industries, including the absolute and percent change in the number of jobs in an occupation or industry category and the change in the total share of jobs in the labor market that are in a given occupation or industry category.

Data Source

The NHIS is a cross-sectional household survey, conducted annually by the National Center for Health Statistics since 1957. It is the principal health survey administered by the Federal government and, using a complex multi-stage sampling frame, is designed to provide information about the health status of the civilian, non-institutionalized population (Botman, Moore, Moriarity, & Parsons, 2000; Kovar & Poe, 1985; Massey, Moore, Parsons, & Tadros, 1989; National Center for Health Statistics, 1975). In addition to information about health status, the NHIS collects data about access to and utilization of health care, limitation in activities, employment status, and sociodemographic characteristics.

The NHIS is designed so that multiple years can be combined for analysis of time-trends, although the definitions of some measures have changed over time. During the time period covered in this report, there have been two major revisions to the questionnaire, in 1983 and 1997; the Appendix to this report details the changes to the activity limitation questions and the employment status items. The size of the NHIS has varied over the years, as well, from a minimum of 62,000 in 1986 to a maximum of 134,000 in 1971, with an average of 109,000 individuals per year. In the 1997 re-design, all adults in the household were asked a core set of questions, but then only one adult per household (the “sample adult”) was randomly selected for a longer survey. Because the occupation and industry questions were only included in the longer

survey and not in the core questionnaire, this change resulted in a markedly smaller sample of approximately 33,000 respondents available for the current study in 1997 through 2001 (National Center for Health Statistics, 1997).

In this report, we focus exclusively on adults ages 18 – 64. In the 32 years under study, there were a total of 1,883,355 such individuals interviewed for the NHIS. The annual files contain between 24,799 respondents (in 1999) and 73,963 respondents (in 1971), with an average of 58,855 respondents in this age range.

Definition of Disability

The NHIS uses a disability definition that is based on reported limitations in major life activities, such as work, housework, or school, with a follow-up question asking about limitations in any other activities. In this report, anyone reporting a limitation in a major life activity or in any other activity is considered to have a disability. Although by no means a perfect measure, this disability definition corresponds well to the definition incorporated into The Americans with Disabilities Act (ADA) (West, 1991) in that it is based on activity limitations, rather than medical conditions or functional impairments. Due to an error in the questionnaire coding in 1982, activity limitation responses are not valid for that year and have been excluded from all analyses (National Center for Health Statistics, 1985).

Between 1970 and 2001, there were three different variations on the activity limitation questions used in the NHIS, with changes in 1983 and 1997. We summarize here only those changes pertinent to persons aged 18 to 64, the age range covered in this report. Prior to 1983, only men were asked about work limitations; women were only asked about limitations in paid employment if they listed work as their major activity. Thus, a woman who was limited in her ability to work outside the home but whose ability to perform housework was not impaired

would presumably not report an activity limitation. Beginning in 1983, everyone of working age was asked about limitations in work, as well as about limitations in housework if they listed that as their major life activity. The effect of this change was to increase the disability rate among women beginning in 1983 (Kaye, LaPlante, Carlson, & Wenger, 1996).

In 1997, the wording of the activity limitation questions was changed slightly, from “any impairment or health problem” to “a physical, mental, or emotional problem”. In addition, several new types of limitations were added to the questionnaire for adults aged 18-69, including difficulty walking without special equipment and limitations due to memory or confusion problems. The purpose of these changes was to capture a greater range of activity limitations. However, there was also a change in the flow of this section of the questionnaire, from posing the entire series of activity limitation questions to each individual in the household, to a general query of the entire household with a follow-up for all positive responses. This change resulted in lower reported rates of activity limitations, as outlined in a recent report by Kaye (Kaye, 2002). Furthermore, the sample adult subset, which provides the occupation and industry information for this report, does not include any proxy respondents. Disability rates among non-proxy respondents are always lower than among proxy respondents, because they exclude people too ill to respond to the survey. These changes in the activity limitation questions in 1983 and in 1997 seriously compromise analysis of time trends in disability using the NHIS.

Employment Status and Labor Market Measures

Like the activity limitation questions, the NHIS employment status questions were changed several times during the study period (see Appendix for details). Throughout the period, however, the measure is based on the respondent’s primary activity in the weeks prior to interview, which could include work, going to school, keeping house, or another activity. For

the 1970 through 1996 surveys, the time frame for these questions is the previous two weeks; beginning in the 1997 survey it was changed to one week. This measure captures current employment status, not employment over the entire year of the interview. In this way, it is similar to the measure used in the Current Population Survey (CPS), the source for Federal monthly employment statistics (U.S. Bureau of the Census, 2000), although the CPS measure is somewhat more stringent as to who qualifies as employed. For most analyses in this report, we dichotomized the responses as employed versus all else, which is similar to the employment-population ratio from the CPS.

The NHIS collects detailed information about the occupation and industry of all employed respondents (or, beginning in 1997, all employed persons in the “sample adult” segment of the interview). Occupation and industry information is collected as open-ended responses and then coded to Census occupation and industry codes. Once each decade, the codes are updated to match the latest Census. As a result, arriving at a set of uniform categories for occupations and industries presented some challenges. In general, the 11 categories of each type correspond to 2-digit Census codes. In some cases, however, these codes did not break down to the same categories in the various iterations of the Census, and it became necessary to disaggregate the occupations or industries at a more detailed level. The final set of occupation categories includes: managers; professionals; technicians; salespersons; administrative support occupations; service occupations; farming, fishing, and forestry occupations; skilled trades; non-transportation operatives; transportation operatives; and laborers. The industry categories include: extractive industries (agriculture, fishing, and mining); construction; manufacturing; transportation, communications, and utilities; wholesale trade; retail trade; financial, insurance, real estate; business and repair services; professional services; all other services; and government.

Occupations and industries each included a residual category as well. Because of variations in the coding over the 32 years, the residual category contained between 0.9 percent and 5.5 percent of all jobs in the year, and the residual industry category contained between 0.7 percent and 4.4 percent of all jobs.

In order to capture labor market changes over the past three decades, we describe the year-to-year change in the distribution of occupations and industries using three separate measures. The measures of change in occupations and industries include i) the absolute change in the number of employees in an occupation or industry; if an occupation grows from 1.0 to 1.1 million, the absolute change is 0.1 million; ii) the percent change in the number of employees in an occupation or industry; if an occupation grows from 1.0 to 1.1 million, the percent change is 10 percent; and iii) the share change in the number of employees in an occupation or industry; if an occupation represents 3 percent of all workers in a year and 3.1 percent the next, the share change is 3.3 percent. Note that share change can be negative even when absolute and percent change are highly positive if the labor market is growing rapidly.

In addition to the basic employment status measures and the occupation and industry mix, we are interested in how the demographic structure of the labor force in general, and of specific occupations and industries relate to the employment of persons with disability, as detailed below. In this report, we use the term “labor force” to include all persons who report having a job, being on temporary layoff or looking for work. This concept is similar to the term used in Federal employment statistics based on the CPS, differing primarily in that the CPS has a stricter definition of unemployment (i.e., layoff or looking for work) (U.S. Bureau of the Census, 2000).

Demographic and Regional Variables

Several of the analyses control for within-year and between-year differences in the distribution of demographic and regional characteristics of the population. These variables include age (in categories), marital status, urban or rural residence, the four major census regions, education (in categories), and race. Over the 32 year period under study, the NHIS changed ethnicity and race categories several times; the only consistent comparison that could be made was white vs. all other races, termed “non-white” in this report.

Statistical Analyses

The analyses for this report begin with a description of the labor market for persons with and without disabilities over the entire study period. Next, we turn to an analysis of the population predictors of the proportion of employees in a given year in a given occupation or industry who have a disability. This aggregate-level analysis is followed by an individual-level estimate of employment rates for persons with and without disabilities stratified by gender, controlling for other characteristics of the individual known to affect the likelihood of employment. Finally, we combine the aggregate and individual-level data in an examination of the effect of the changing occupational and industrial mix on the employment rates of persons with disabilities after controlling for characteristics of the individual and characteristics of the population and the labor market in each year.

The NHIS sample is developed through a complex multistage process including geographic sampling clusters and unequal probabilities of selection for different segments of the population. To account for the survey design, we use sampling weights for all estimates, so that the results are generalizable to the civilian, non-institutionalized population of the U.S. In addition, for individual-level analyses involving statistical inference, we calculate all variance estimates using

SUDAAN, a specialized software program designed for complex survey designs (Research Triangle Institute, 2001). For the combined aggregate and individual level analysis that concludes this report, the sheer size of the dataset (3.1 million observations) is too large for SUDAAN, as well as for other programs designed for complex samples, and we conducted these analyses using normalized population weights in SAS (SAS Institute, Cary, NC)¹. However, since the variance estimates in a sample of this size are likely to be quite small no matter what the survey design, this restriction is unlikely to have had any effect on our conclusions.

The first section of the report describes the labor market between 1970 and 2001 for all employed persons and for those with and without disabilities. We calculate the three measures of change for occupations and industries, as described above, for each pair of years and for the entire period, i.e., from the first year (1971) to the last year (2001). We examine differences in the changing distributions of occupations and industries for persons with and without disabilities. For each year and for the average of all years, we estimate the disability rate in the entire working age population, in the employed population, and in each category of occupation and industry. Although this section does not include formal statistical tests, we have examined the statistical reliability of all estimates through use of the relative standard error (RSE—the standard error expressed as a proportion of the estimate). Because of the large sample sizes in the NHIS, in no instance is the RSE greater than 30 percent, which is the cutoff point for reliability used by the National Center for Health Statistics in its publications of NHIS data (Adams, Hendershot, & Marano, 1999). Tables of standard errors are available from the authors by request.

¹ Other software investigated included Stata, which was also unable to handle a dataset of this size on the Windows platform. As part of the no-cost extension of this project, we also retained the services of a statistical consultant for advice on the combined aggregate and individual-level analyses.

The second section of the report examines to what extent the year-to-year change in overall employment in an occupation or industry affects the likelihood that a person with a disability will be employed in that occupation or industry. This section utilizes aggregate data in which the unit of analysis is the occupation-year (or the industry-year), i.e., all employees in an occupation (or industry) in a given year.

We estimate linear regression models of the proportion of employees in a given occupation (industry) who have a disability, termed the occupation-specific (industry-specific) disability rate. All models contain variables that capture the characteristics of the population and the labor force for the year, including the age distribution and the disability rate in the population age 18 to 64, the annual employment rate and measures of the gender and race distribution of the labor force. The entire age distribution was expressed in three variables, the proportion of the population age 18 to 24 and age 25-34, with ages 35-64 included as a reference category; additional age category variables were considered but ultimately excluded because they were so highly collinear with these two variables. The gender distribution of the labor force was described in two variables. The first variable is simply the proportion of the total labor force that is female, while the second variable is a deviation from that overall annual mean for each occupation (industry). This latter variable expresses the extent to which women are over- or under-represented in an occupation (industry) in each year. We took the same approach to describe the racial distribution in the labor force, including a variable that measures the proportion of the total labor force that is non-white in each year, and another variable that measures the difference between that overall annual rate and the proportion of all employees in each occupation (or industry) who are non-white.

After fitting these base models for both the occupation- and industry- specific disability rates, we add each of the measures of year to year change—absolute, percent, and share change—one variable at a time, to determine the extent to which occupation and industry changes account for these disability rates after controlling for other characteristics of the population and the labor force. We also examine the bivariate relationships between each change measure and the outcome.

The third section of the report is an individual-level analysis of the predictors of employment in each year under study. Using logistic regression, we model the likelihood of employment as a function of disability, age (18-24, 25-34, 35-44, 45-54, with 55-64 as referent), race/ethnicity (non-white vs. white), marital status (widowed, separated/divorced, never married, with married as referent), urban or rural residence, Census region (Midwest, South, West, with Northeast as referent), and education (no high school diploma, high school graduate, some college, college graduate, with post-baccalaureate education as referent). Because of the vast differences in the labor market experiences of men and women over the past three decades, these analyses are stratified by gender. In addition, the models include interaction terms for age and race with disability status, based on evidence from these data and from previous analyses (Trupin et al., 1997) that there are strong differences in the effect of disability on employment among groups defined by age and by race. From those models, we estimate the adjusted employment rates for men and women with and without disabilities. We also calculate the difference in the rates for those with and without disabilities and the 95% confidence intervals (CI) for those differences, using SUDAAN for all variance estimates (Research Triangle Institute, 2001).

The final section of the report includes aspects of the preceding two sections, in order to see the effect of individual, population-level, and labor force characteristics on the employment

of persons with and without disabilities. As in the third section, we develop logistic regression models of the probability of employment, with the individual as the unit of analysis. However, rather than estimating each year separately, we combine all the years into a single model, and estimate the average disability rate over the study period for men and women with and without disabilities. To this model, we then add some of the population measures developed in the second section of the report, including the population age distribution and the disability rate in the population. These aggregate variables, measured at the population level for each year, take on 31 values; all respondents in the same year have the same value. The age distribution variables and the individual's age cannot be entered into the same model, due to collinearity. Instead, we create a variable for the deviation between that individuals' age category values and the proportion of the population in that age category for the year. As an example, suppose that 15 percent of the population in 1988 was 18-24 years, and 20 percent was 25-45 years old. A 23-year old respondent would have a value of 0.85 (i.e., $1 - 0.15$) for the first category and -0.80 (i.e., $0 - 0.20$) for the second category. This configuration allows us to separate the effect on employment of between-year differences in the age distribution from the within-year differences. The same collinearity issues arise between the individual's disability status and the annual population disability rate, but in order to have a single value indicating disability status throughout the analysis, we needed to approach the problem differently. We collapsed the annual disability rates into quartiles, and entered three indicator variables representing the four quartiles of rates over the three decades. Next we added a set of variables representing the year-to-year share change in each of the 11 occupation categories, and then replaced those with the industry share change variables. We included the share change variables because of evidence from the earlier section that they most strongly predicted the disability rates within the

occupation or industry, and because both the absolute change and the percent change variables were too collinear to include all 11 categories. The analysis was stratified on gender; for each model, we present the adjusted employment rate for persons with and without disabilities.

Results

Annual Disability Rates, 1970 – 2001, in Total and Employed Populations

During the period between 1970 and 1996 when a common definition of disability was used, an average of 13.5 percent of the working age population reported disability based on that definition (Table 1). Annual disability rates during those years ranged from a low of 12.3 percent in 1970 to a high of 14.6 percent in 1993. As a result of the change in the definition of disability in the NHIS, the average disability rate in this age group was 10.9 percent for the years 1997 to 2001

Disability rates in the employed population during those years mirrored the overall population rates, averaging 8.8 percent between 1970 and 1996 (with a low of 7.9 percent in 1987 and a high of 10.0 percent in 1974), and 5.5 percent between 1997 and 2001 (with a low of 5.0 percent in 2000 and a high of 5.9 percent in 1997). The more constrained definition of disability used in the NHIS beginning in 1997 likely excluded those with less severe activity limitations and who are, therefore, the most likely to be employed. Thus, the gap between the total population disability rate and the employed disability rate grew dramatically between 1996 and 1997. For the period 1970 through 1996, the average disability rate in the employed population was 65 percent of the total population disability rate (8.8 versus 13.5 percent), while for the period 1997 through 2001, it was about half as great (5.9 versus 10.9 percent). Besides this change due to the questionnaire re-design, disability rates in the employed population

declined relative to those of the total population during the 1970s, and stabilized thereafter. Thus, in 1970, the disability rate in the employed population was 73 percent of that in the entire population (9.0 versus 12.3 percent), but by 1979 it was only 66 percent (9.3 versus 14.0 percent) and, as of 1996, it was 62 percent (8.5 versus 13.8 percent).

Distribution of Occupations and Industries among Persons with and without Disabilities

Figures 1-22 show the proportion of all employed persons with or without disability holding jobs in a given occupation or industry category, for each year of the study. With a few notable exceptions, the trend lines for employment of persons with and without disabilities in occupations and industries are parallel and the occupations and industries employing the largest number of persons with disabilities were also those that employed the largest numbers of persons without disabilities. Moreover, the distributions of occupations and industries among the two groups have become more similar over the past three decades. Together, these results are suggestive of a unitary labor market affecting persons with and without disabilities alike.

Distribution of occupations. Four categories of occupations showed substantial growth over the 31 year period. The share of all jobs in managerial occupations grew by 17 percent, in professional occupations by 36 percent, in sales occupations by 87 percent, and in technical occupations by 102 percent (Table 1). Managerial occupations accounted for 12 percent of all jobs in 1970; this was the fifth largest category of occupations in that year. By 2001, 14 percent of jobs were in managerial occupations, and the professions were the only occupation with a larger share of employment.

Persons with disabilities had a higher share of managerial jobs in the 1970s relative to persons without disabilities, but by 1990 this trend had reversed, as the share of managerial jobs grew more rapidly for those without disabilities (Figure 1). Professional occupations made up

the fourth largest category in 1970, accounting for 13 percent of jobs; by 2001, it accounted for 17 percent of jobs. In contrast to the pattern seen in the managerial occupations, the proportion of professional jobs among persons with disabilities started out much lower than that of persons without disabilities, but had a somewhat steeper increase over the period, so that by the mid-1990s the two groups were much more similar (Figure 2). While technical occupations showed the most growth over the period, they had only a small share of all jobs for persons with and without disabilities. Sales occupations, however, grew from the seventh to the fourth largest category. The proportion of jobs for persons with disabilities in sales and technical occupations was very similar to that of persons without disabilities throughout the period (Figures 3 and 4). Thus, among occupations with a substantial increase in the share of jobs, persons with disabilities had slower growth in managerial jobs than those without, such persons had faster growth in the professions, and the growth was similar for those with and without disabilities in sales and technical occupations.

The share of jobs declined in four occupation groups for the period covered: administrative occupations declined by 26 percent, dropping from first to third place in its ranking; farming, fishing, and forestry occupations declined by 28 percent, ending up the smallest category of occupations; skilled trades declined by 18 percent, falling from the third to the sixth largest category; and non-transportation operatives declined by 58 percent, declining from the second to seventh highest category.

In administrative occupations, persons with disabilities had very stable levels throughout the period, while the decline in the share of administrative jobs among persons without disabilities was pronounced (Figure 5). Consequently, beginning in 1990, the two groups had a similar proportion of jobs in administrative occupations. Farming, fishing, and forestry

occupations showed the reverse pattern (Figure 7). Persons with disabilities had a higher proportion of jobs in these occupations at the beginning of the 1970s, but also had a steeper decline throughout the period, so that beginning in 1990 the share of agricultural and related jobs was similar for the two groups. The temporal patterns in the share of skilled trades and operative occupations were similar for persons with and without disabilities (Figures 8 and 9).

The share of the remaining three groups of occupations—service jobs, laborers, and transportation operatives—remained fairly stable over the three decades, with growth (or loss) of between 4 and 14 percent in relative terms. Persons with disabilities had a larger relative share of jobs in service occupations throughout the period under study (Figure 6). The share of jobs among laborers and transportation operatives declined by 8 and 3 percent, respectively. The proportion of jobs in these two occupations were similar among persons with and without disabilities (Figures 10 and 11).

Distribution of industries. The share of jobs in three sectors of the economy increased substantially during the three decades (Table 2). The share of jobs in the financial, insurance, and real estate industries increased by 24 percent, moving from the eighth to seventh largest category. The share of jobs in professional services increased by 49 percent between 1970 and 2001; of 130 million jobs in the economy in 2001, 33 million, or one-quarter were in this industry (data not shown). Concurrently, the share of jobs in business and repair services increased by 112 percent, and grew from the smallest industry category in 1970 to the fourth largest in 2001.

The change in the share of jobs in the financial, insurance, and real estate industries was similar for persons with and without disabilities over the period under study, but those with disabilities were somewhat under-represented in this category (Figure 18). The share of jobs

among persons with and without disabilities in business and repair services rose in parallel, with persons with disabilities having a slightly larger share throughout the period (Figure 19). The pattern for professional services was similar to that of professional occupations, in which persons with disabilities started out with a much lower share, but such persons experienced faster growth in their share of jobs in professional services so that by the end of the period under study, the share of jobs held by persons with disabilities equaled or exceeded that of persons without disabilities (depending on the year).

There were marked declines in the share of jobs in manufacturing, extractive industries, and government over the 31 year period. The share of jobs in manufacturing declined from 27 percent of the workforce in 1970 (the largest at that time) to 14 percent in 2001 (only the third largest), constituting a 49 percent decline in relative terms. The share of jobs in extractive industries declined by 35 percent, while the share in government declined by 22 percent between 1970 and 2001.

In the manufacturing sector, persons with disabilities experienced a similar decline in the share of jobs as persons without disabilities, although the former group had a lower share of jobs in this sector for the entire period. Persons with disabilities began with a somewhat larger share of jobs in extractive industry than those without disabilities, but such persons experienced a sharper decline, so that at the end of the period under study the two groups had nearly identical shares of jobs in this sector. The share of jobs in government among persons with and without disabilities was nearly identical at both the beginning and end of the period under study, although it would appear that persons with disabilities experienced a more rapid decline when government was retrenching with the recession in the early 1980s and a more rapid increase as government expanded in the first part of the 1990s.

The share of jobs in five industries—construction; transportation, communications, and utilities; wholesale and retail trade; and services other than business/repair and professional—was relatively stable over the period 1970 through 2001. In construction, the share of jobs among persons with and without disabilities moved in tandem, with a slight decline among the former group at the end of the period under study. Conversely, persons with disabilities had a slightly smaller share of jobs in the transportation, communications, and utilities industries at the outset, but after the mid-1980s, such persons and those without disabilities had similar shares of jobs in this sector of the economy. A similar pattern was observed for retail trade: persons with disabilities had a slightly smaller share of jobs in this sector for much of the 1980s than those without disabilities, but by the end of the period under study they had a greater or equal share of jobs in this industry (depending on the year). Persons with disabilities had a substantially larger share of jobs in the “all other services” category than those without disabilities through the 1970s, but since then the share of jobs in this sector have moved in parallel among the two groups.

Summary of occupation and industry dynamics. There is no clear-cut pattern to the response of persons with and without disabilities to the change in the share of employment over the period under study. Among the four occupations with a substantially increasing share of employment, the share of jobs for persons with and without disabilities moved in parallel for two (technical and sales occupations); diverged in one (managerial occupations), with the result that the increase was not experienced to the same extent among persons with disabilities; and converged in another (professionals), with the result that persons with disabilities experienced a disproportionate amount of the increase. Among the four occupations with a substantially declining share of employment, the share of jobs for persons with and without disabilities moved

in parallel for two (operatives and skilled trades), and converged in two (administrative and agricultural occupations). In administrative occupations, persons without disabilities experienced a disproportionate decline; in agricultural, persons with disabilities did.

Among the three industries with a substantially increasing share of employment, the share of jobs for persons with and without disabilities moved in parallel for two (business services and finance, insurance, and real estate) and converged in one (professional services), with the result that the share of jobs in this sector grew faster among persons with disabilities in the 1970s, before moving in tandem with the share of persons without disabilities thereafter. For industries with a substantially declining share of employment, the share of jobs in government for persons with and without disabilities was similar at both the outset and end of the period under study, although not throughout this time. In manufacturing and extractive industries, persons with disabilities experienced a greater than proportional loss of employment. In manufacturing, the two groups diverged from relatively equal shares, while in extractive industries, the share of jobs of the two groups converged upon the level of persons without disabilities.

Effect of the Changing Mix of Occupations and Industries on Occupation- or Industry-Specific Employment of Persons with Disabilities

In the previous section, we presented data on the proportion of all jobs in a given occupation or industry for persons with and without disabilities over time. In this section, we examine how changes in the distribution of occupations and industries for the period 1970 through 2001 affect the proportion of jobs in each occupation or industry held by persons with disabilities (termed the occupation- or industry-specific disability rate). The hypothesis tested here is that persons with disabilities, like other at-risk groups such as members of minority race and ethnic groups or young or old workers, may be disproportionately crowded out of

occupations and industries in decline, while experiencing a disproportionate share of the growth in rising industries as the latter industries must extend their hiring beyond those they traditionally hired when they can not fulfill their demand for workers from those already holding jobs.

The hypothesis is tested with three separate measures of change in employment: absolute change in the number of jobs in an occupation or industry, percent change in the size of an occupation or industry, and change in an occupation or industry's total share of jobs in the economy. In addition, we test the hypothesis while controlling for several other factors that could affect the occupation- or industry-specific disability rate. As noted above, these include the age distribution of the population, the gender and race distribution of the overall labor force, the overall employment rate, and the overall disability rate in the employed population. In addition, we control for the extent to which a given occupation or industry has a larger female and non-white proportion than the overall labor force. In general, the choice of these variables follows the literature on the factors affecting the employment of persons with disabilities. The age distribution of the overall population is said to affect employment opportunities directly by determining the magnitude of the pool of available workers (Easterlin, 1987) and indirectly as a proxy for the average measured level of technical skills and expertise of the generations and/or the perception that generations differ in skill levels (Benner, Brownstein, & Dean, 1999). The gender, race, and disability distributions in the labor force are said to affect employment in select occupations and industries by increasing the pool of available workers in those occupations and industries and as a result of discrimination which limits access to certain sectors of the economy (Baldwin & Johnson, 1994; Reskin & Roos, 1990; Wilson, 1987).

We first evaluate the impact of the three measures of change in the distribution of occupations over the period 1970 through 2000 on occupation-specific disability rates from

1971-2001 (Table 3). None of the measures of change has a statistically significant effect on the occupation-specific disability rate. Thus, the results of the analyses are inconsistent with the hypothesis that the probability that persons with disabilities will be employed in an occupation is tied to the magnitude of growth or decline in that occupation. Instead, the occupation-specific employment of persons with disabilities is tied to the extent to which an occupation has a greater proportion of women than the overall labor force and to the overall disability rate in the employed population. As the extent to which an occupation has a greater proportion of women increases, the probability that persons with disabilities will hold jobs in that occupation decreases, consistent with a model in which women and persons with disabilities may compete for positions in occupations. And as the overall disability rate in the employed population increases, so does the probability that the occupation-specific disability rate will as well. The latter finding may indicate that there are positive externalities from the magnitude of the population reporting disabilities; that is, as the proportion reporting disability increases, the recognition of their capacities among employers may grow as well. Alternatively, as the magnitude of the population reporting disabilities increases, employers may have to resort to filling positions in specific occupations with persons with disabilities due to the diminishing availability of persons without disabilities.

Table 4 summarizes the results of the analysis of the impact of change in the magnitude of industries on the industry-specific disability rate. Among the measures of change in the magnitude of industries, the percent change in an industry's employment and the change in an industry's share of total employment are related to the industry-specific disability rate, but the impact of these measures is relatively weak and in the unexpected direction. Thus, as the percent change in an industry's employment or as an industry's share of total employment increases, the

industry-specific disability rate *decreases*. The relative weak effect of the employment change measures is attested to by the fact that the addition of any of the measures does not increase the proportion of the variation explained in the industry-specific disability rate (all models have an R-square of .57).

In the analysis of the determinants of industry-specific disability rates, in all models, as the female proportion of the overall labor force increased, the industry-specific disability rate decreases. In contrast, the industry-specific disability rate rises in tandem with increases in both the overall disability rate among the employed population and the extent to which an industry had a larger proportion of non-whites than the labor force as a whole. Thus, the results are consistent with the hypothesis that women and persons with disabilities may compete for jobs in specific industries, but that the magnitude of the population with disabilities has a positive effect on the employment of persons with disabilities in specific industries as does the extent to which an industry has a larger proportion of non-whites than the labor force as a whole.

Overall, the results summarized in Tables 3 and 4 provide no evidence consistent with the hypothesis that the capacity of persons with disabilities to obtain jobs in specific occupations and industries will increase as those occupations or industries grow or decrease as those occupations or industries decline.

Employment of Working Age Population 1970-2001, by Disability Status

Table 5 and Figures 23 and 24 show time-trends in employment of persons with and without disabilities for the period 1970 through 2001. The rates displayed are adjusted for age, race/ethnicity, marital status, rural versus urban residence, and education. Recall that the definition of disability in the NHIS changed dramatically as of 1997 (see Appendix for specific wording). However, even ignoring the change in disability definitions which gave rise to an

artificial increase in the gap in the employment between persons with and without disabilities between 1996 and 1997, there was a substantial worsening of the employment situation of the former group relative to the latter prior to the change in the survey. The worsening occurred for both men and women. In 1970, 32.9 percent of women with disabilities were employed while 50.3 percent of women without disabilities were, for a difference of 17.4 percentage points. By 1996, before the definition of disability in the National Health Interview Survey changed, the employment rate among women with disabilities had risen to 47.7 percent while the rate among women without disabilities had increased to 72.1 percent, resulting in a difference of 24.4 percentage points (Table 5). In 1970, 71.3 percent of men with disabilities were employed while 89.8 percent of men without disabilities were, for a difference of 18.5 percentage points. By 1996, employment rates among men with disabilities had fallen to 60.5 percent, while the rate among men without disabilities, at 87.6 percent, was almost as high as in 1970; the difference had grown to 27.8 percentage points. Even after the new definition of disability was implemented in 1997, the difference in the employment rates of persons with and without disabilities continued to grow. Among women, the difference grew from 30.8 percentage points in 1997 to 34.9 percentage points in 2001; among men the difference grew from 36.3 to 39.5 percentage points over the same period.

From 1970 through the late 1980s, employment rates of women with and without disabilities grew in tandem (Figure 23). However, after that time, the increase in the employment rate among women without disabilities continued, while the rate became relatively stable among women with disabilities. While the change in the National Health Interview Survey interrupted the time-series of measures, it would appear that employment rates among women without disabilities continued to rise after 1997, while women with disabilities

experienced declining employment during this period. Among men without disabilities, employment rates have been relatively stable since 1970 (Figure 24). Employment rates among men with disabilities fell gradually from 1970 through 2001, the change in disability measures between 1996 and 1997 notwithstanding.

Thus, overall, employment rates of women with and without disabilities diverged starting in the late 1980s, while rates among men with and without disabilities have been diverging throughout the entire period under study. In contrast to the results with respect to the share of jobs in occupations and industries held by persons with and without disabilities (Figures 1 through 22, above), the divergence in rates of employment of persons with and without disabilities suggests that the two groups may be differentially buffeted by changes in the demand for labor.

Impact of Change in the Distribution of Occupations and Industries on Employment

In Tables 3 and 4, above, we showed the results of the analysis of the impact of change in the distribution of occupations and industries, respectively, on the occupation- or industry-specific disability rates, an analysis performed limited to those who are employed. In this section of the report, we summarize the analysis of the impact of the changing distribution of occupations and industries on the employment status of persons with and without disabilities. In the analysis, we estimate these impacts over the entire period from 1971 to 2001 separately for men and women. We first present the unadjusted employment rates of persons with and without disabilities. Subsequently, we estimate models that control for demographic and regional characteristics, the latter plus aggregate measures of the age distribution and overall disability rate, and all of the foregoing plus the annual share change in eleven categories of either occupations or industries.

Over the period 1971 through 2001, women with disabilities were about 56 percent as likely to be employed as those without disabilities (the employment rates of the two groups were 37.0 and 65.6 percent, respectively) (Table 6). After adjustment for demographic and regional characteristics, women with disabilities were about two-thirds as likely to be employed as those without disabilities (43.1 versus 65.1 percent, respectively), suggesting that differences in those characteristics account for part of the employment gap of the two groups. Further adjustments incorporating aggregate measures of the age distribution and population disability rate widened the gap in the employment of women with and without disabilities somewhat compared to the model incorporating only demographic and regional characteristics (the employment rates of the two groups were 41.4 and 65.4 percent, respectively).

The hypothesis underlying this project is that change in the distribution of occupations or industries would explain part of the gap in employment. If the results were consistent with that hypothesis, the difference in the employment rates of women with and without disabilities would narrow with the inclusion of the variables measuring change in the distribution of occupations and industries. Instead, the gap in employment widened. Thus, we could find no evidence to support the notion that change in the share of specific occupations or industries has adversely affected women with disabilities.

The results for men parallel those for women. Over the period 1971 through 2001, on an unadjusted basis men with disabilities were about 62 percent as likely to be employed as those without disabilities (54.0 versus 87.8 percent). After adjustment for demographic and regional characteristics, the gap in employment between men with and without disabilities narrowed somewhat: the former group was 71 percent as likely as the latter to be employed over the period under study (61.9 versus 87.5 percent). With further adjustment for the aggregate measures of

the age distribution and overall population disability rate, the difference in the employment of men with and without disabilities widened slightly (the employment rates were 59.9 and 87.7 percent, respectively).

As in the situation among women, the results are inconsistent with the hypothesis that change in the distribution of occupations and industries accounts for part of the gap in employment of men with and without disabilities. Accordingly, when the variables measuring the share change in occupations or industries are added to models incorporating demographic and regional characteristics, aggregate measures of the age distribution and population disability rate, the gap in employment between men with and without disabilities does not narrow (the employment rates of the two groups were 56.7 and 87.7 percent when either the change in the share of occupations or industries are taken into account). Indeed, it actually widens.

Overall, the results of the analysis summarized in Table 6 provide no support for the hypothesis that the changing mix of occupations and industries accounts for any of the employment gap between persons with and without disabilities, regardless of gender.

Discussion

During the 1970s and early 1980s, persons with disabilities appeared to experience many of the same labor market phenomena as those without. Thus, at a time when the labor force participation rate of all women, but especially young women, was rising, the labor force participation rate of women with disabilities did so as well; concurrently, at a time when the labor force participation rate of all men, but especially young men, was declining, the labor force participation rate of men with disabilities did too, perhaps at even a faster rate (Yelin, 1989). Similarly, there was some evidence consistent with the hypothesis that persons with disabilities

were being disproportionately displaced from industries in decline, while obtaining jobs in rising sectors of the economy at the same, if not a greater rate than persons without disabilities (Yelin, 1992).

The present study was designed to expand the preceding analysis by extending the period under study to 2001 and by using a greater range of methodologies to evaluate long-term trends in employment and, within employment, in the kinds of occupations and industries in which persons with and without disabilities work.

We presented three kinds of evidence with respect to the placement of persons with disabilities in specific occupations and industries. First, we described temporal changes in the share of employment held by such persons and those without disabilities over the period covered by the study. There was no consistent pattern to the results in specific occupations and industries and so, overall, the results were not consistent with the hypothesized effect that the share of jobs held by persons with disabilities would necessarily increase in rising occupations or industries and decrease in declining occupations or industries over time (although the results for some occupations and industries did adhere to the model). Second, we formally analyzed the impact of three measures of change in the magnitude of occupations and industries on the occupation- or industry-specific disability rates. None of the measures (absolute, percent, or share change) of change in the magnitude of occupations was associated with occupation-specific disability rates. Although two of the three measures of change in the magnitude of industries (percent and share change) were significant predictors of industry-specific disability rates, the size of the effect was small and in the unexpected direction. Third, we analyzed the impact of the change in the share of occupations and industries on employment at the level of the individual for the entire period covered, after taking into account demographic and regional characteristics and the overall

population age distribution and disability rates. Again, the results were not consistent with the study hypothesis that the probability of employment would be positively affected by expanding occupations and industries and negatively affected by contracting ones. Thus, the weight of the evidence from the three sets of analyses suggests that change in the magnitude of occupations and industries is not central to whether or not persons with disabilities work and if they work, in what kinds of jobs. While it remains logical to counsel people, regardless of disability status, to seek employment in the expanding sectors of the economy, the absence of a specific effect for persons with disabilities would suggest that job counseling services should focus on characteristics of employment other than the magnitude of the change in occupations and industries. Such characteristics might include the willingness of employers to provide accommodations, or the flexibility of the work rules, or the turnover among employees in a workplace (Yelin and Trupin, 2003).

Although the magnitude of change in occupations and industries may not be central to the specific occupations and industries in which persons with disabilities work, we found other factors that were. As the proportion of women in an occupation increased relative to the mean among all occupations, the occupation-specific disability rate decreased. Thus, it would appear that women and persons with disabilities may crowd each other out of jobs in specific occupations. On the other hand, the occupation-specific disability rate increases as the overall disability rate in the employed population does, suggesting the hypothesis that there may be positive externalities from overall hiring of persons with disabilities. We also found that the industry-specific disability rate was negatively related to the proportion of the overall labor force that was female, but positively related to both the overall disability rate in the labor force and the extent to which an industry had a greater than average non-white work force. Thus, the results of

the analysis of both the occupation- and industry-specific disability rates suggest that women and persons with disabilities may be competing for jobs in specific occupations and industries, but that the growth in employment opportunities for persons with disabilities overall and for non-whites may help persons with disabilities gain entry into occupations and industries.

In addition to the focus on the role of change in the distribution of occupations and industries, we described time-trends in overall employment among persons with and without disabilities for the period under study. Employment rates among women with and without disabilities seemed to rise in parallel until the late 1980s, at which time the rates diverged: women without disabilities continued to experience an increase in employment rates, while those with disabilities did not. Employment rates among men with and without disabilities have been growing apart throughout the period under study, with relative stasis occurring among men without disabilities and a steady decline occurring among men with disabilities. Of note, the divergence in the employment rates of women with and without disabilities occurred prior to or concomitantly with the passage of the Americans with Disabilities Act of 1990; the divergence definitely occurred prior to the point at which the employment titles of the Act took effect on small and large employers, respectively. The divergence in the employment rates of men with and without disabilities, occurring throughout the period under study, would appear to precede both the passage and implementation of the Americans with Disabilities Act, although, as noted below, since most of the divergence occurred after 1989, one should interpret the time-ordering of events with caution.

The overall findings about the divergence in the employment rates of persons with and without disabilities would appear to be at odds with the argument of DeLeire (DeLeire, 2003) that held the ADA accountable for the worsening employment situation of persons with

disabilities because the divergence that we report here began, for both men and women, prior to the full implementation of the ADA. The findings for women are not dependent on the changes that occurred in the National Health Interview Survey in 1983 and subsequent to 1996, since the divergence in the employment rates of women with and without disabilities occurred well after the former change and in advance of the latter. The situation is more ambiguous among men. Although the employment of men with disabilities relative to those without would appear to have worsened dramatically starting in 1989, the worsening at that point might reflect a disproportionate effect of the cyclical downturn in employment on men with disabilities. If that were the case, one might find that the steady worsening among men from 1989 forward was, in fact, the result of two separate processes: the cyclical effect of the downturn, followed by a potential effect of the ADA after the employment titles of the Act took effect. However, it is also the case that there was some degree of divergence in the employment rates of men with and without disabilities throughout the period under study.

Nevertheless, the results reported above show unambiguously that there has been a worsening in the relative employment of both men and women with disabilities relative to those without, consistent with several recent studies (Bound & Waidmann, 2000; Houtenville & Daly, 2003; Stapleton, Goodman, & Houtenville, 2003). In the present study we could find no compelling evidence that the change in the distribution of occupations and industries, the central focus of this inquiry, is responsible for the worsening employment situation.

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Appendix: Activity Limitation and Employment Status Questions from the NHIS

1. Activity Limitation Questions:

1970 – 1981

In terms of health, is R now able to <work/keep house> at all?

Is R limited in the kind of <work/housework> R can do because of his health?

Is R limited in the amount of <work/housework> R can do because of his health?

Is R limited in the kind or amount of other activities because of his health?

Is R limited in any way because of a disability or health?

Note: “housework” is used for women unless they indicate that work is their major life activity.

1983-1996

Asked of everyone aged 18-69:

Does any impairment or health problem keep R from working at a job or business?

Is R limited in the kind OR amount of work R could do because of any impairment or health problem?

In addition, this question is asked if R lists “keeping house” as major activity:

Does any impairment or health problem keep R from doing any housework at all?

Is R limited in the kind OR amount of housework R can do because of any impairment or health problem?

1997-2001

Because of a physical, mental, or emotional problem, {do/does} {you/anyone in the family} need the help of other persons with PERSONAL CARE NEEDS, such as eating, bathing, dressing, or getting around inside this home?

Because of a physical, mental, or emotional problem, {do/does} {you/anyone in the family} need the help of other persons in handling ROUTINE NEEDS, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?

Does a physical, mental, or emotional problem NOW keep {you/anyone in the family (fill in names of family members aged 18 and older)} from working at a job or business?

{Are/(Other than the persons mentioned), are any of these family members} {you/repeat adult names if needed} limited in the kind OR amount of work {you/they} can do because of a physical, mental or emotional problem?

Because of a health problem, {do/does} {you/anyone in the family} have difficulty walking without using any special equipment?

{Are/is} {you/anyone in the family} LIMITED IN ANY WAY because of difficulty remembering or because {you/they} experience periods of confusion?

Are {you/anyone in the family (list names of persons without limitation if needed)} LIMITED IN ANY WAY in any activities because of physical, mental or emotional problems?

Follow-up question for each positive response to the above items: Who is this? (Anyone else?)

2. Employment Status Questions

1970-1981

Did -- work at any last week of the week before – not counting work around the house?

(note: last phrase of question was included only for women prior to 1975)

Even though -- did not work during these 2 weeks, does -- have a job or business?

Was -- looking for work or on layoff from a job?

Which, looking for work or on layoff from a job?

1982-1996

During those 2 weeks, did -- work at any time at a job or business, not counting work around the house? (Include unpaid work in the family [farm/business])

Even though -- did you work during those 2 weeks, did -- have a job or business?

(The next questions are asked later in the interview)

Earlier you said that -- has a job or business but did not work last week or the week before. Was -- looking for work or on layoff from a job during those 2 weeks?

Earlier you said that -- didn't have a job or business last week or the week before. Was -- looking for work or on layoff from a job during those 2 weeks?

Which, looking for work or on layoff from a job?

1997-2001

Which of the following {were/was} {you/subject's name} doing LAST WEEK?

(1) Working at a job or business (2) With a job or business but not at work

(3) Looking for work (4) Not working at a job or business

(7) Refused (9) DK

If (2),(3),(7),(9), ask:

Did {you/subject's name} do any work at a job or business at all LAST WEEK (includes unpaid work in family farm or business)?

(1) Yes (2) No

(7) Refused (9) DK

If (2), ask:

What is the main reason {you/subject's name} did not have a job or business last week?

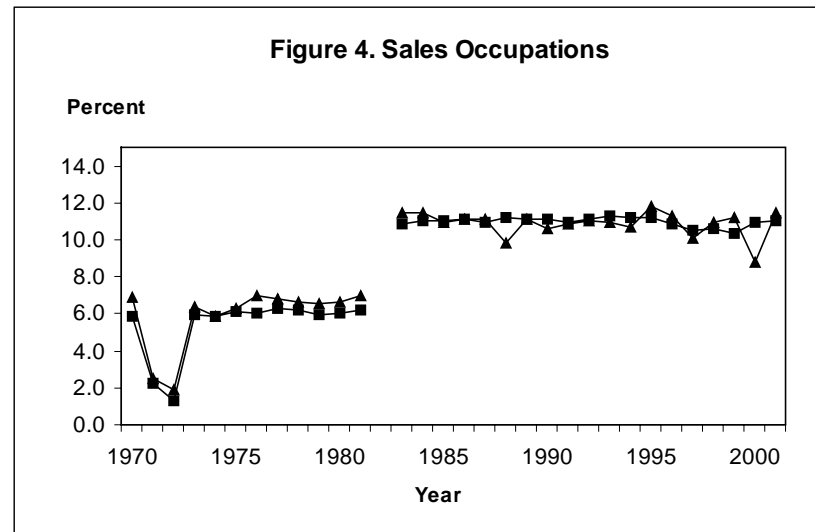
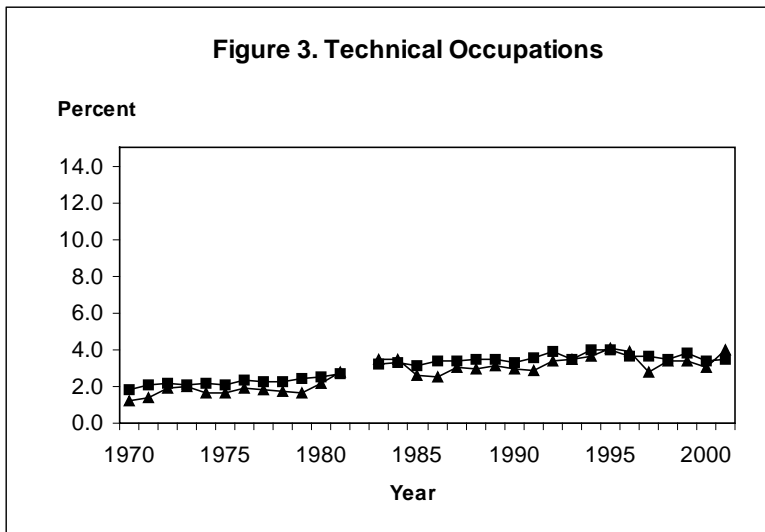
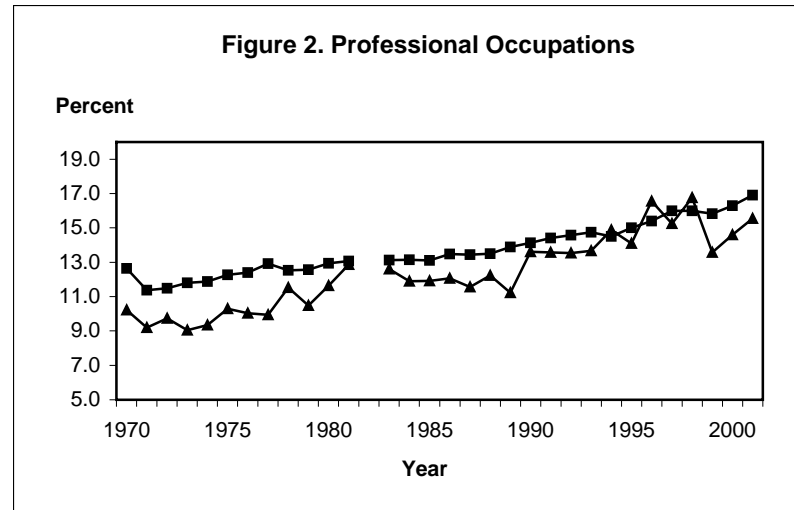
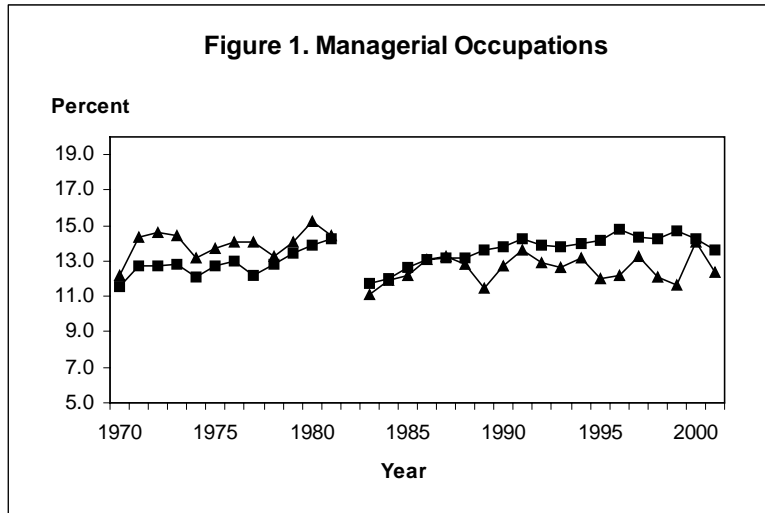
(1) Keeping house (2) Going to school

(3) Retired (4) Unable to work for health reasons

(5) On layoff (6) Other

(7) Refused (9) DK

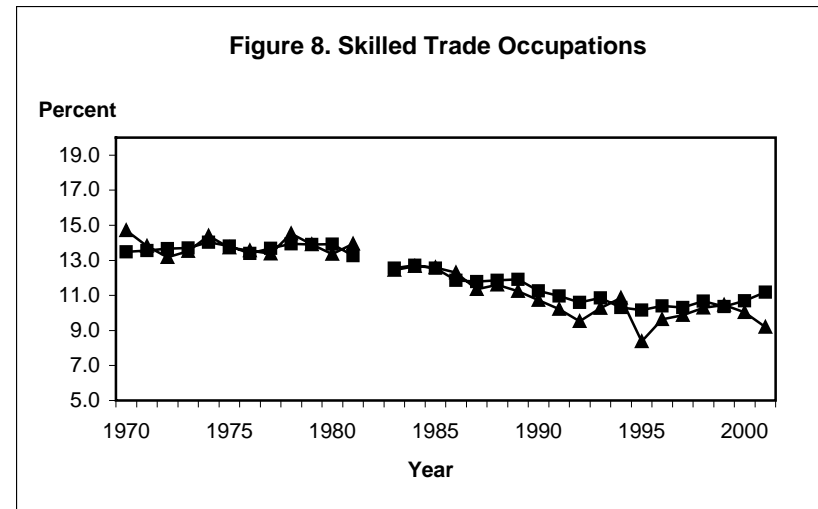
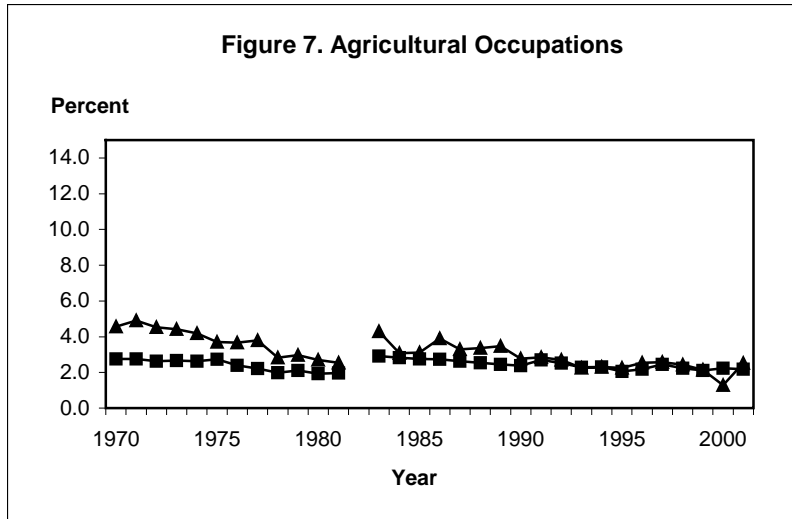
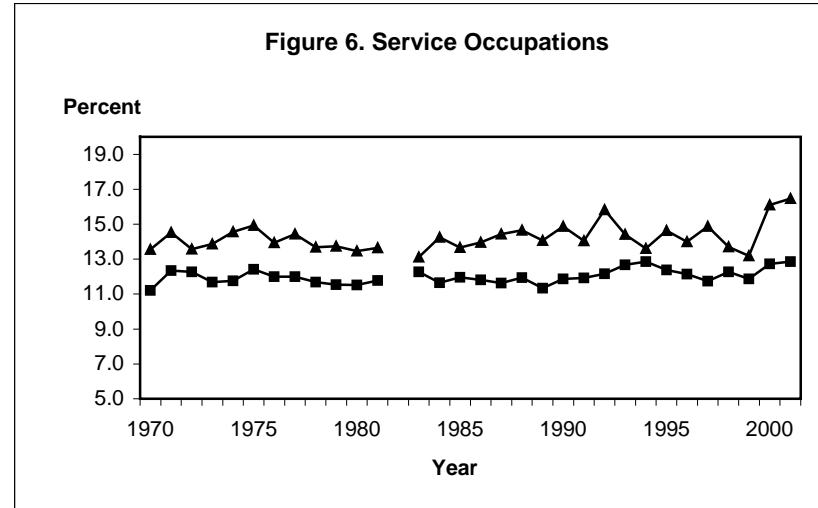
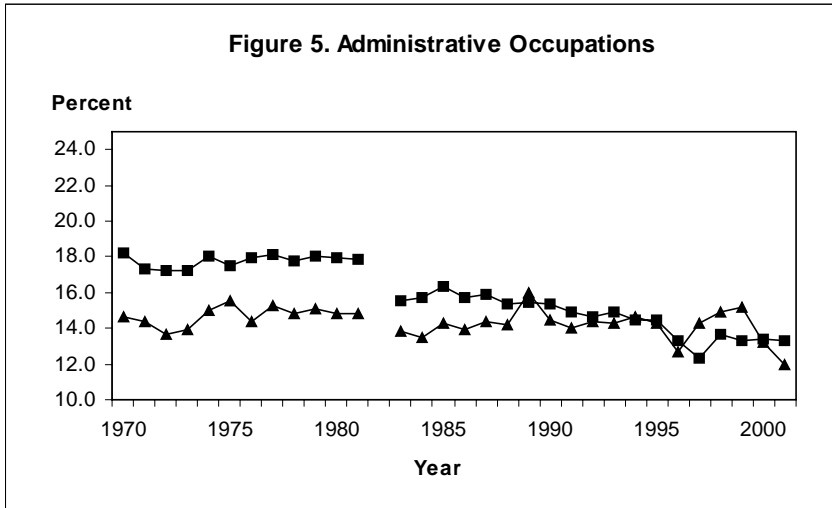
Distribution of Employment in Occupation Groups, by Disability Status, 1970-2001



- ▲ Percent of all employees with disability
- Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

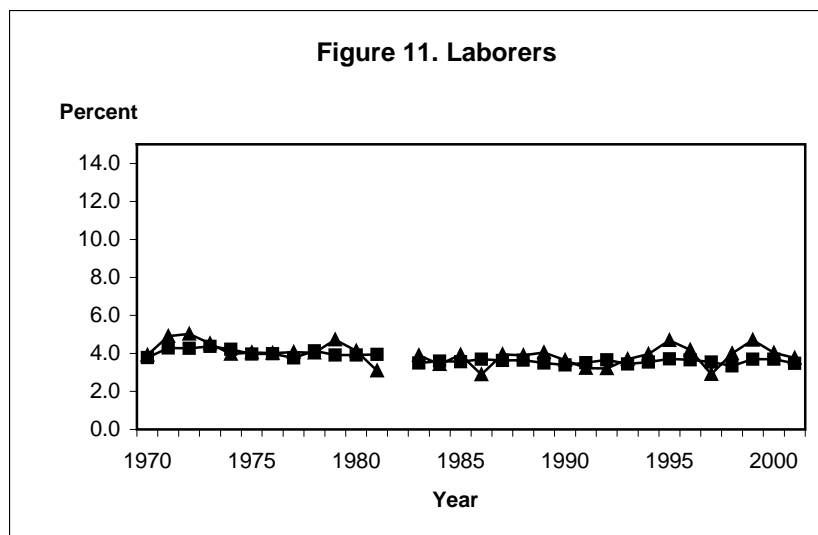
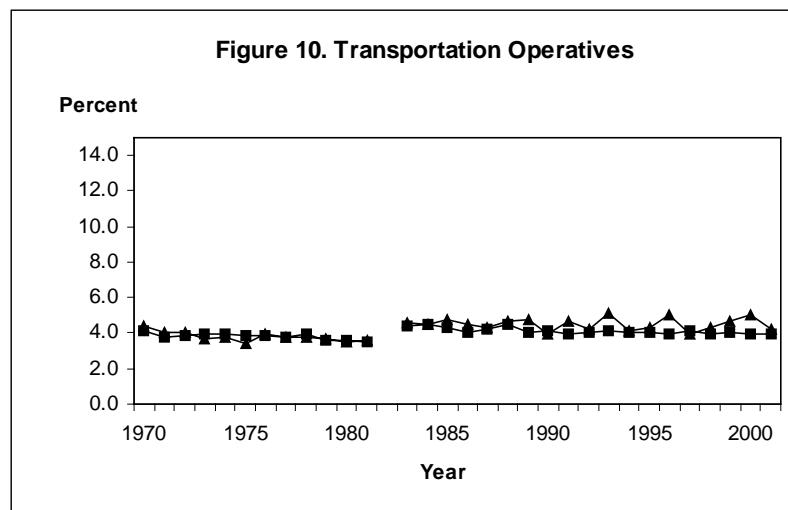
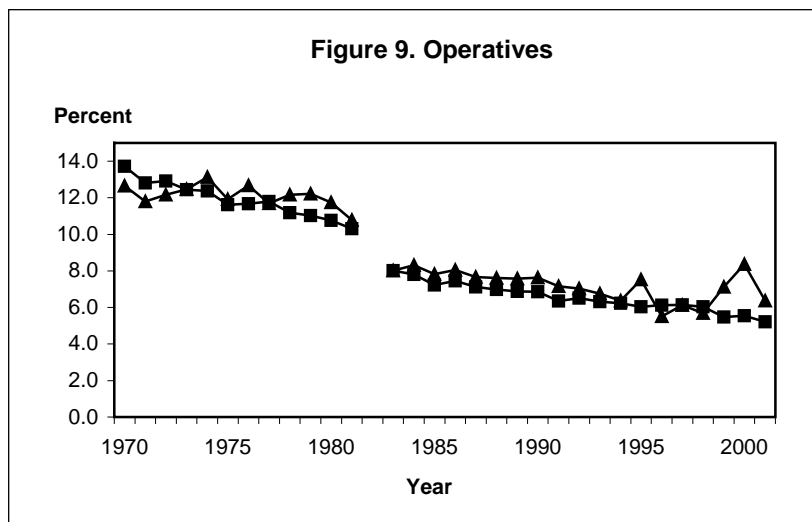
Distribution of Employment in Occupation Groups, by Disability Status, 1970-2001



- ▲— Percent of all employees with disability
- Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

Distribution of Employment in Occupation Groups, by Disability Status, 1970-2001



- ▲— Percent of all employees with disability
- Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

Distribution of Employment in Industry Groups, by Disability Status, 1970-2001

Figure 12. Extractive Industries

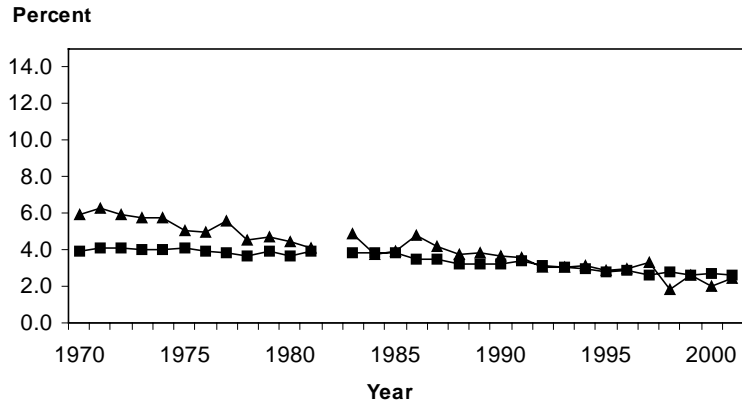


Figure 13. Construction

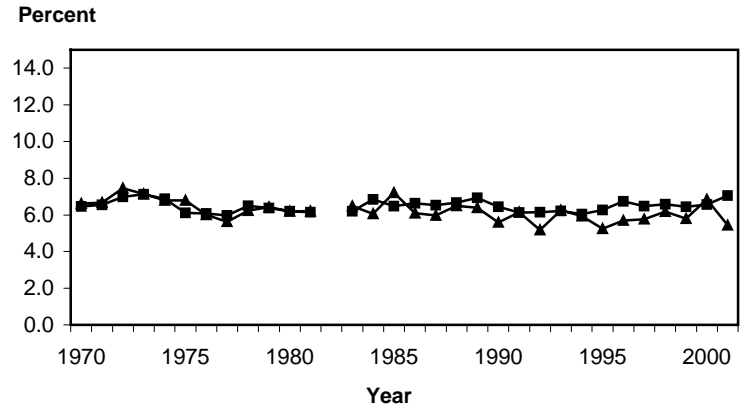


Figure 14. Manufacturing

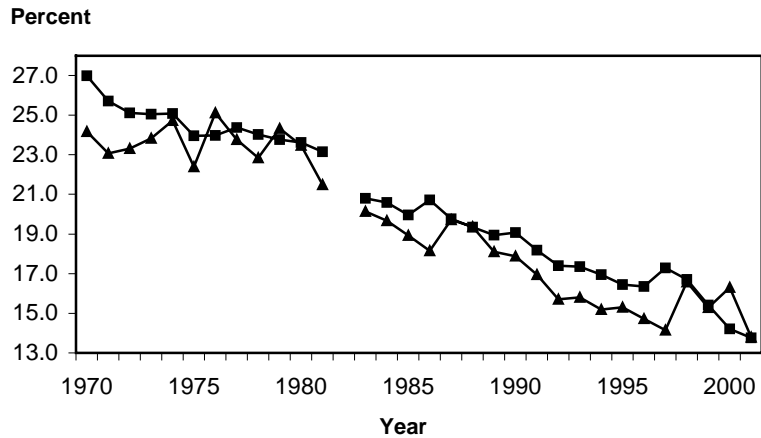
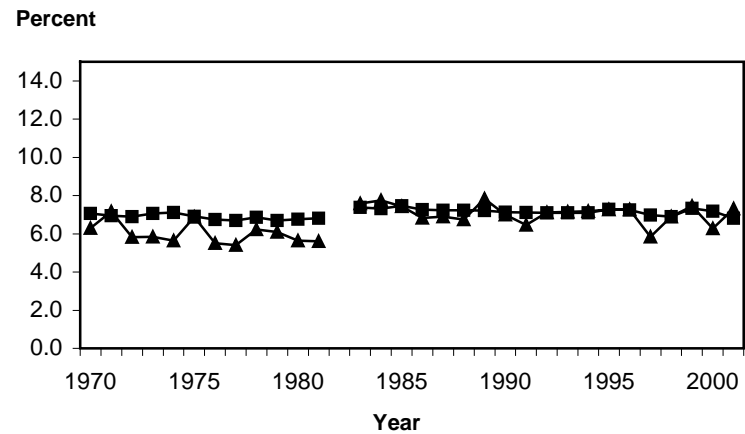


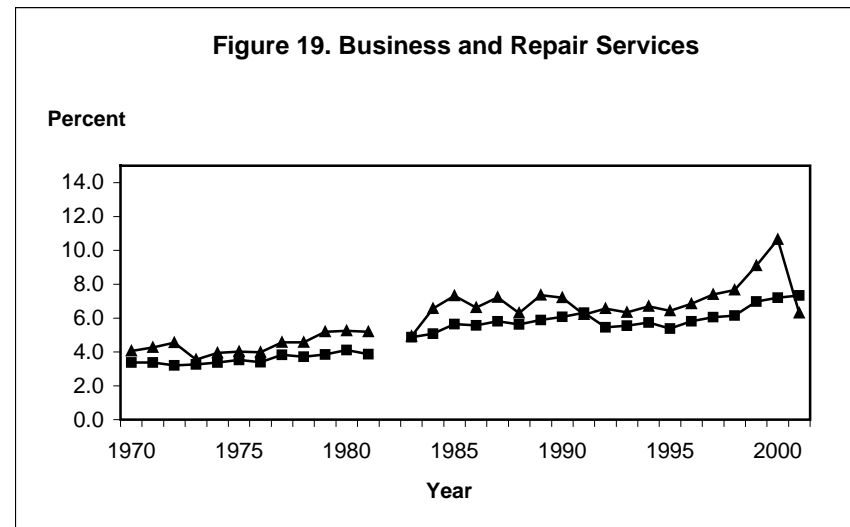
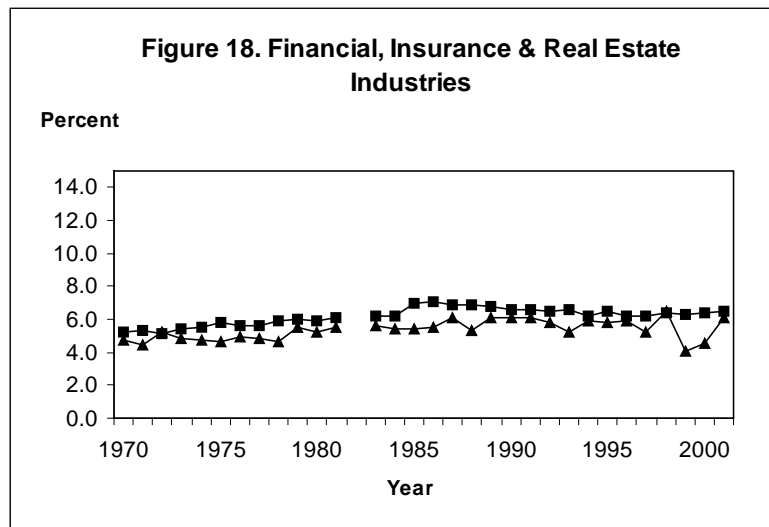
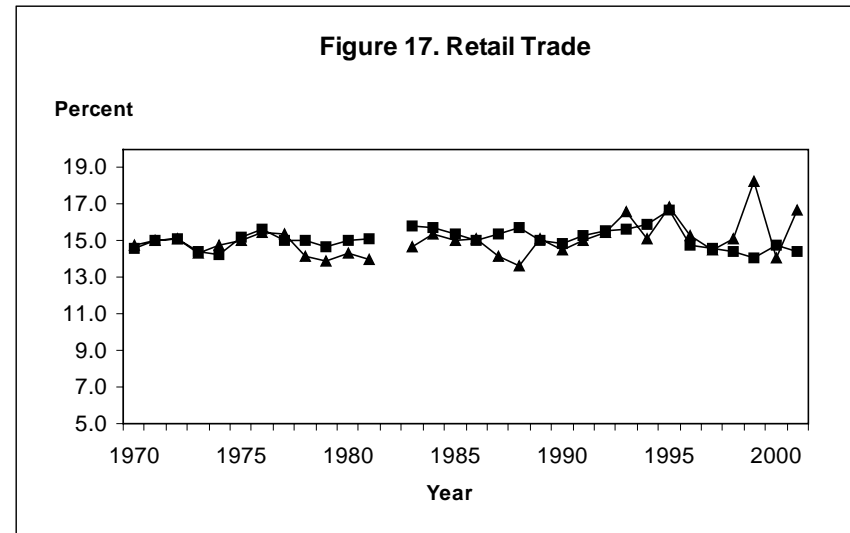
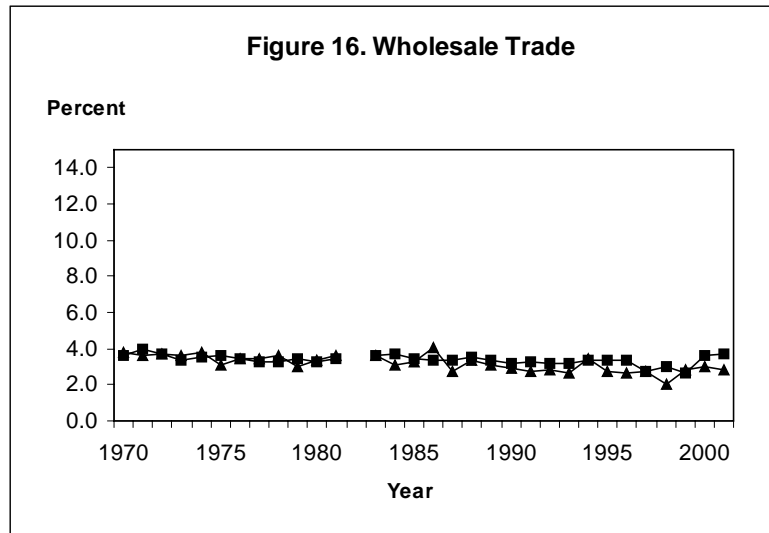
Figure 15. Transportation, Communications & Utilities Industries



- ▲— Percent of all employees with disability
- Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

Distribution of Employment in Industry Groups, by Disability Status, 1970-2001

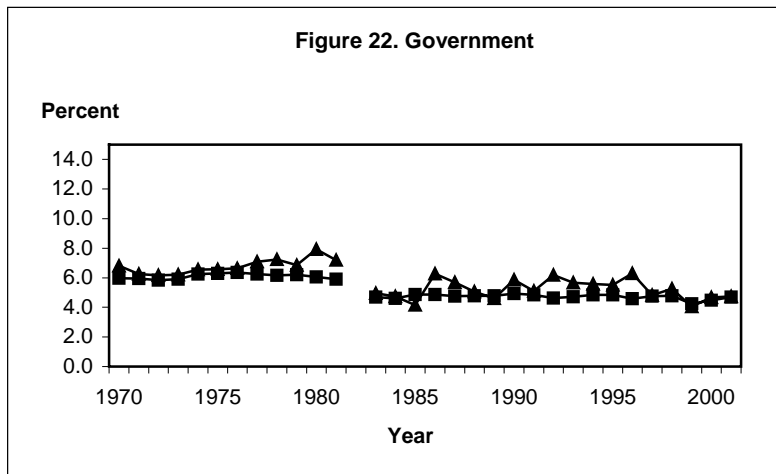
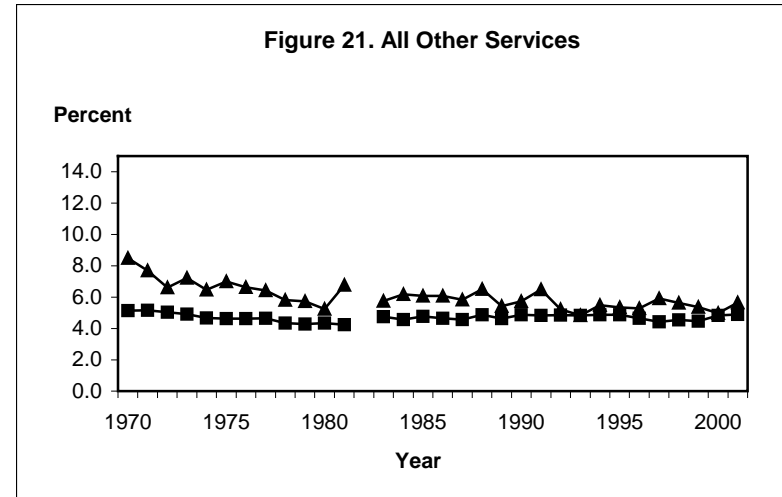
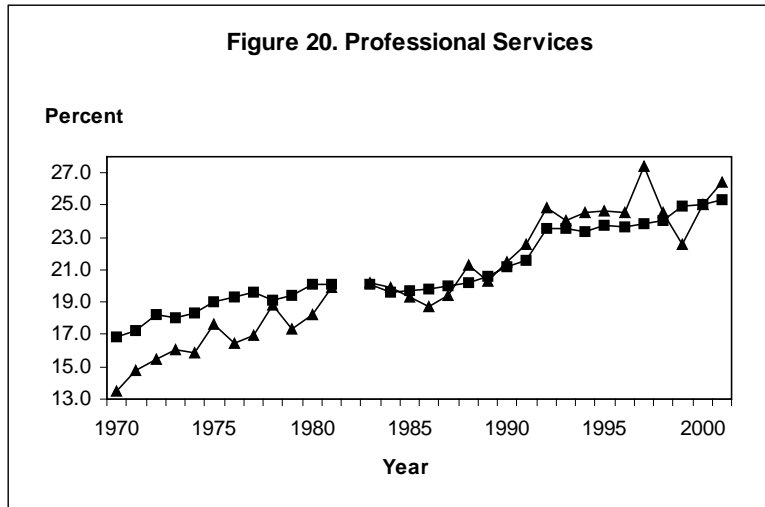


▲ Percent of all employees with disability

■ Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

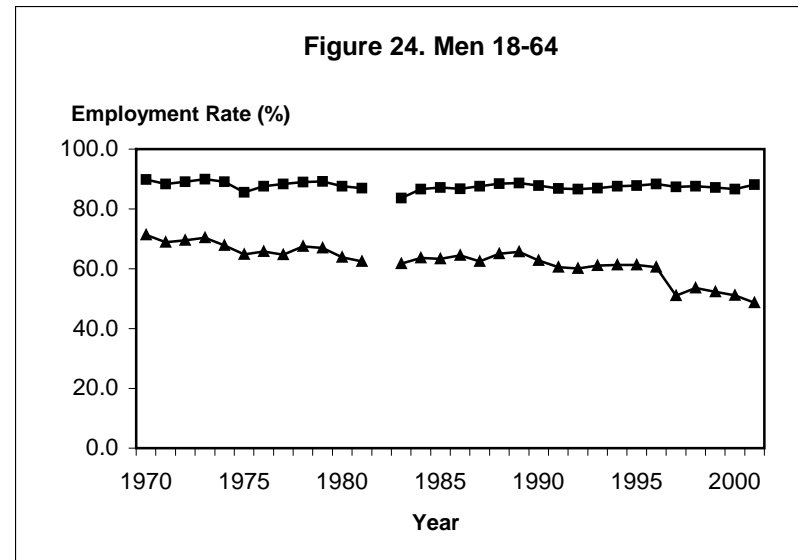
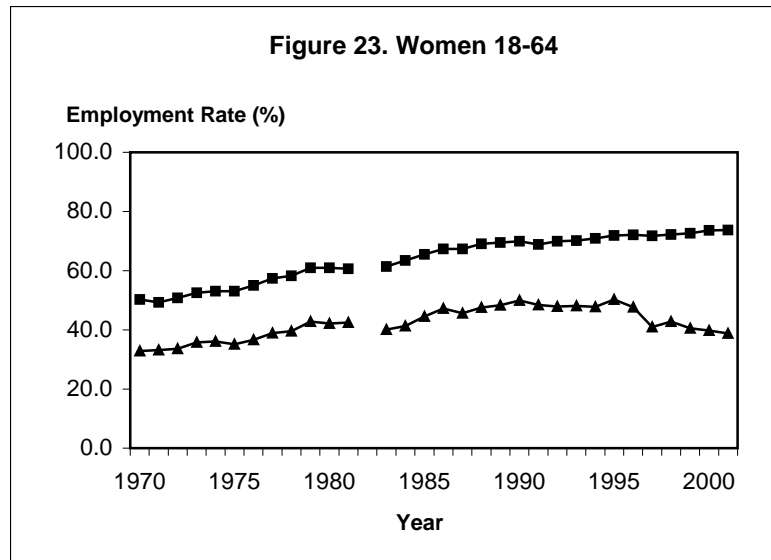
Distribution of Employment in Industry Groups, by Disability Status, 1970-2001



- ▲ — Percent of all employees with disability
- — Percent of all employees without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

Adjusted Employment Rates by Disability Status, NHIS 1970-2001



- ▲ With disability
- Without disability

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 1. Absolute and proportional change in occupation-specific employment, and disability rate by occupation, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Occupations	1971-2001	1971-1996	1996-2001	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1983	1984
All persons, age 18-64																	
Total pop (1,000s)	142,473	137,914	167,093	110,266	112,378	115,084	117,308	119,371	121,517	123,660	125,483	127,571	129,835	132,217	137,095	140,816	142,581
% with disability	13.0	13.5	10.9	12.3	12.6	13.1	14.0	14.4	14.4	14.4	13.4	13.7	14.0	13.8	13.5	13.7	13.1
All employed, age 18-64																	
Total pop (1,000s)	102,602	98,181	126,473	72,827	72,702	75,510	78,574	79,459	78,731	82,479	85,654	88,218	91,436	92,329	95,337	96,571	101,550
% with disability	8.2	8.8	5.5	9.0	9.3	9.4	9.8	10.0	9.8	9.7	8.7	9.1	9.3	9.0	8.7	8.5	8.2
Managers																	
Absolute change	9,210	9,319	251	-	877	376	434	(474)	390	747	(226)	718	1005	604	691	(2608)	879
% change	108.6	109.9	1.4	-	10.3	4.0	4.5	(4.7)	4.0	7.4	(2.1)	6.8	8.9	4.9	5.3	(18.7)	7.8
Share change	16.6	25.1	-4.4	-	10.5	0.2	0.4	(5.7)	5.0	2.5	(5.7)	3.6	5.1	3.9	2.0	(19.9)	2.5
% with disability	8.3	8.9	4.9	9.4	10.3	10.7	10.9	10.8	10.4	10.4	9.8	9.4	9.7	9.7	8.7	8.1	8.1
Professional																	
Absolute change	12,885	9,893	2,381	-	(923)	422	515	177	259	545	800	125	340	533	597	137	608
% change	142.4	109.4	12.2	-	(10.2)	5.2	6.0	2.0	2.8	5.7	8.0	1.2	3.1	4.7	5.0	1.1	4.8
Share change	35.6	24.8	5.5	-	(10.1)	1.3	1.9	0.9	3.7	1.0	3.9	(1.8)	(0.5)	3.6	1.8	(0.4)	(0.3)
% with disability	7.5	8.0	5.2	7.4	7.6	8.1	7.7	8.0	8.3	8.0	6.8	8.5	7.9	8.1	8.6	8.2	7.4
Technical																	
Absolute change	3,247	3,265	127	-	219	112	52	15	(48)	268	23	37	194	183	255	721	244
% change	258.5	259.9	2.9	-	17.4	7.6	3.3	0.9	(2.9)	16.7	1.2	2.0	10.0	8.6	11.0	30.1	7.8
Share change	101.2	115.1	-3.1	-	18.0	3.4	(0.5)	(0.5)	(1.9)	11.3	(2.6)	(0.9)	6.4	7.3	7.6	28.2	2.5
% with disability	7.4	7.8	5.1	6.2	6.3	8.4	9.4	7.9	8.0	8.2	7.3	7.4	6.5	7.9	9.0	9.2	8.5
Sales																	
Absolute change	10,088	8,948	1,599	-	(2680)	(615)	3643	(40.3)	217	200	385	76	(18)	149	305	4509	656
% change	232.8	206.4	12.5	-	(61.8)	(37.1)	350.4	(0.9)	4.7	4.1	7.6	1.4	(0.3)	2.7	5.4	74.4	6.2
Share change	86.1	82.7	5.7	-	(61.7)	(39.5)	331.9	(2.0)	5.7	(0.6)	3.8	(1.6)	(3.8)	1.7	2.1	72.0	1.0
% with disability	8.7	9.3	5.4	10.4	10.3	12.8	10.5	10.1	9.9	10.9	9.4	9.6	10.1	9.7	9.7	8.9	8.5
Administrative																	
Absolute change	4,193	3,185	1,929	-	(594)	351	478	811	(404)	881	749	123	805	94	478	(2038)	874
% change	32.2	24.5	12.6	-	(4.6)	2.8	3.7	6.1	(2.9)	6.4	5.2	0.8	5.2	0.6	2.9	(12.0)	5.9
Share change	(26.0)	(25.8)	6.0	-	(4.4)	(1.0)	(0.3)	4.9	(2.0)	1.6	1.2	(2.1)	1.5	(0.4)	(0.3)	(13.3)	0.6
% with disability	7.6	7.9	5.8	7.3	7.8	7.6	8.1	8.5	8.7	7.9	7.4	7.7	7.9	7.5	7.3	7.6	7.1
Services																	
Absolute change	8,667	6,717	2,380	-	809	235	(10)	211	397	90	406	9	274	58	584	108	118
% change	104.2	80.7	16.3	-	9.7	2.6	(0.1)	2.3	4.2	0.9	4.0	0.1	2.6	0.5	5.4	0.9	1.0
Share change	14.2	7.8	9.4	-	10.0	(1.3)	(4.0)	1.2	5.1	(3.6)	0.2	(2.9)	(0.9)	(0.4)	2.1	(0.6)	(4.0)
% with disability	9.8	10.3	6.6	10.6	10.7	10.3	11.4	12.1	11.5	11.1	10.3	10.5	10.9	10.3	9.9	9.0	9.8
Agriculture																	
Absolute change	741	583	-160	-	30	(30)	105	(14)	18	(152)	(66)	(196)	187	(155)	75	921	(37)
% change	34.9	27.4	-5.3	-	1.4	(1.4)	5.0	(0.6)	0.8	(6.8)	(3.2)	(9.7)	10.3	(7.7)	4.1	46.0	(1.3)
Share change	(24.7)	(24.3)	(10.9)	-	1.4	(5.1)	1.1	(1.8)	1.8	(11.3)	(6.7)	(12.3)	6.8	(8.6)	0.5	44.3	(6.3)
% with disability	10.8	11.7	6.1	14.0	15.3	15.1	15.3	15.0	12.7	14.0	14.0	12.5	12.6	12.1	10.9	12.1	8.8

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 1. Absolute and proportional change in occupation-specific employment, and disability rate by occupation, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Occupations	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All persons, age 18-64																	
Total pop (1,000s)	143,932	145,678	147,118	148,638	150,310	151,667	152,900	154,172	155,553	158,583	159,762	161,114	163,269	165,083	167,140	169,004	170,968
% with disability	13.1	13.1	12.6	12.8	13.1	12.8	13.2	14.2	14.6	14.2	14.1	13.8	11.4	10.8	10.8	10.1	11.1
All employed, age 18-64																	
Total pop (1,000s)	104,400	106,978	108,608	111,569	113,372	114,164	113,272	114,207	115,641	119,017	120,910	122,187	122,504	125,033	126,353	128,237	130,238
% with disability	8.2	8.6	7.9	8.2	8.5	8.3	8.5	9.0	9.4	9.0	9.0	8.5	5.9	5.7	5.7	5.0	5.3
Managers																	
Absolute change	940	856	339	321	628	408	399	(291)	3	706	368	926	(360)	205	714	(77)	(592)
% change	7.7	6.5	2.4	2.2	4.3	2.7	2.5	(1.8)	0.0	4.5	2.2	5.5	(2.0)	1.2	4.0	(0.4)	(3.2)
Share change	4.7	4.0	0.9	(0.5)	2.7	1.9	3.3	(2.6)	(1.2)	1.5	0.6	4.4	(2.5)	(0.6)	3.0	(1.9)	(4.8)
% with disability	7.9	8.6	7.9	8.0	7.2	7.7	8.2	8.3	8.7	8.5	7.7	7.1	5.5	4.9	4.5	5.0	4.8
Professional																	
Absolute change	328	708	160	493	543	607	160	304	387	380	731	895	611	493	(210)	950	1149
% change	2.5	5.2	1.1	3.4	3.6	3.9	1.0	1.9	2.3	2.2	4.2	5.0	3.2	2.5	(1.0)	4.8	5.5
Share change	(0.3)	2.7	(0.4)	0.6	2.0	3.2	1.8	1.0	1.0	(0.6)	2.5	3.9	3.0	0.4	(2.1)	3.2	3.9
% with disability	7.5	7.7	6.9	7.5	7.0	8.0	8.1	8.4	8.8	9.2	8.5	9.0	5.6	5.9	4.9	4.5	4.9
Technical																	
Absolute change	(180)	333	146	185	78	(155)	191	423	(332)	662	158	(348)	(145)	1	450	(534)	210
% change	(5.4)	10.5	4.2	5.1	2.0	(3.9)	5.1	10.7	(7.6)	16.3	3.4	(7.1)	(3.2)	0.0	10.3	(11.1)	4.9
Share change	(7.9)	7.5	2.7	2.4	0.3	(4.6)	6.1	9.7	(8.9)	13.1	1.8	(8.2)	(3.5)	(2.0)	9.1	(12.3)	3.3
% with disability	7.1	6.5	7.0	7.1	7.6	7.5	7.0	8.0	9.4	8.2	9.1	8.9	4.5	5.5	5.0	4.5	6.1
Sales																	
Absolute change	295	353	54	443	227	25	(228)	291	303	259	336	(300)	(458)	450	(182)	831	500
% change	2.6	3.1	0.5	3.7	1.8	0.2	(1.8)	2.4	2.4	2.0	2.5	(2.2)	(3.4)	3.5	(1.4)	6.3	3.6
Share change	(0.2)	0.6	(1.1)	1.0	0.2	(0.5)	(1.2)	1.7	1.1	(0.9)	0.9	(3.2)	(3.7)	1.4	(2.4)	4.8	1.9
% with disability	8.2	8.6	8.0	7.3	8.5	8.0	8.5	8.9	9.2	8.6	9.4	8.8	5.6	5.8	6.1	4.1	5.5
Administrative																	
Absolute change	1146	-215	386	(12)	475	(142)	(562)	(123)	443	76	210	(1250)	(920)	1903	(227)	163	90
% change	7.3	-1.3	2.3	(0.1)	2.8	(0.8)	(3.2)	(0.7)	2.6	0.4	1.2	(7.2)	(5.7)	12.5	(1.3)	1.0	0.5
Share change	4.3	-3.6	0.8	(2.7)	1.1	(1.5)	(2.5)	(1.5)	1.4	(2.4)	(0.4)	(8.1)	(6.0)	10.2	(2.3)	(0.5)	(1.0)
% with disability	7.2	7.7	7.2	7.6	8.8	7.9	8.1	8.8	9.1	9.1	8.9	8.1	6.7	6.2	6.4	5.0	4.8
Services																	
Absolute change	597	197	42	707	(474)	723	(117)	558	578	526	(151)	(187)	(430)	839	(364)	1457	449
% change	5.0	1.6	0.3	5.5	(3.5)	5.5	(0.8)	4.1	4.0	3.5	(1.0)	(1.2)	(2.9)	5.7	(2.4)	9.7	2.7
Share change	2.1	-0.9	(1.2)	2.7	(5.0)	4.8	0.0	3.1	2.8	0.6	(2.6)	(2.2)	(3.2)	3.6	(3.4)	8.1	1.1
% with disability	9.3	10.0	9.6	9.9	10.3	10.2	9.9	11.4	10.6	9.5	10.4	9.6	7.3	6.3	6.3	6.3	6.7
Agriculture																	
Absolute change	13	143	(126)	5	(31)	(138)	317	(172)	(250)	102	(238)	194	319	(214)	(142)	143	52
% change	0.4	4.9	(4.1)	0.2	(1.1)	(4.8)	11.5	(5.6)	(8.6)	3.9	(8.7)	7.7	11.8	(7.1)	(5.0)	5.4	1.9
Share change	(2.1)	2.2	(5.3)	(2.6)	(2.7)	(5.5)	12.4	(6.3)	(9.8)	0.9	(10.0)	6.3	11.8	(8.9)	(6.2)	3.8	0.5
% with disability	9.2	11.7	9.7	10.5	10.5	11.6	9.6	9.0	9.6	9.3	9.0	9.8	9.8	6.1	6.2	5.8	2.9

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 1. Absolute and proportional change in occupation-specific employment, and disability rate by occupation, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Occupations	1971-2001	1971-1996	1996-2001	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1983	1984
Skilled trades																	
Absolute change	4,523	2,738	1,828	-	(24)	399	484	418	(313)	192	636	646	379	92	(113)	80	794
% change	45.7	27.6	14.5	-	(0.2)	4.0	4.7	3.9	(2.8)	1.8	5.8	5.5	3.1	0.7	(0.9)	0.7	6.6
Share change	(18.5)	(23.9)	7.8	-	(0.1)	0.1	0.7	2.7	(1.9)	(2.8)	1.9	2.4	(0.6)	(0.2)	(4.0)	(0.8)	1.4
% with disability	8.2	8.8	5.2	9.7	9.4	9.1	9.7	10.2	9.7	9.8	8.5	9.5	9.3	8.6	9.1	8.4	8.1
Operatives																	
Absolute change	-2,371	-2,500	-643	-	(678)	457	71	120	(717)	534	391	(156)	230	(162)	(143)	(1572)	225
% change	(25.6)	(25.2)	(8.6)	-	(6.8)	4.9	0.7	1.2	(7.3)	5.8	4.0	(1.5)	2.3	(1.6)	(1.4)	(16.9)	2.9
Share change	(58.5)	(55.4)	(14.0)	-	(6.7)	1.0	(3.2)	0.1	(6.3)	0.9	0.3	(4.5)	(1.2)	(2.5)	(4.6)	(18.1)	(2.1)
% with disability	8.9	9.3	6.5	8.3	8.6	8.9	9.8	10.5	10.0	10.4	8.6	9.9	10.2	9.7	9.0	8.5	8.6
Transportation operatives																	
Absolute change	2,187	1,913	133	-	(296)	184	143	82	(128)	160	69	259	(192)	(23)	76	810	307
% change	72.2	63.2	2.6	-	(9.8)	6.7	4.9	2.7	(4.1)	5.3	2.2	8.0	(5.5)	(0.7)	2.3	23.6	7.2
Share change	(3.8)	(2.9)	(3.6)	-	(9.6)	2.7	0.8	1.5	(3.3)	0.5	(1.6)	5.0	(8.8)	(1.7)	(1.1)	21.7	2.1
% with disability	8.7	9.2	6.0	9.5	10.0	9.9	9.3	9.5	8.6	9.9	8.7	8.7	9.4	8.9	8.8	8.9	8.1
Laborers																	
Absolute change	1,787	1,767	254	-	401	115	165	(118)	(198)	158	(34)	395	6	(24)	72	(217)	222
% change	64.8	64.0	5.9	-	14.5	3.6	5.0	(3.4)	(5.9)	5.1	(1.0)	12.1	0.2	(0.7)	2.0	(6.0)	6.5
Share change	(7.9)	(2.4)	(0.3)	-	14.8	(0.2)	0.9	(4.6)	(5.0)	0.3	(4.8)	9.0	(3.4)	(1.5)	(1.3)	(7.3)	1.4
% with disability	8.7	9.3	6.0	9.2	10.4	10.9	10.1	9.5	9.9	9.7	9.3	8.9	11.0	9.5	6.9	9.4	7.8
Not classified																	
Absolute change	2,931	3,534	-2,342	-	2733	801	(3019)	(305)	(203)	127	39	530	5	(451)	121	528	70
% change	461.2	556.0	-39.6	-	430.1	23.8	(72.4)	(26.5)	(24.0)	19.7	5.1	65.5	0.4	(33.5)	13.5	44.8	4.1
Share change	214.9	292.0	-43.2	-	432.2	19.2	(73.4)	(27.2)	(23.4)	13.4	2.2	60.0	(3.3)	(34.0)	9.3	42.7	(1.1)
% with disability	7.3	8.0	3.6	10.4	8.5	9.6	11.7	8.5	9.3	9.0	7.6	6.3	6.9	5.3	4.5	5.6	7.3

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 1. Absolute and proportional change in occupation-specific employment, and disability rate by occupation, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Occupations	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Skilled trades																	
Absolute change	212	-388	34	446	238	(638)	(463)	(349)	502	(169)	(227)	537	(43)	711	(202)	576	742
% change	1.6	-3.0	0.3	3.5	1.8	(4.7)	(3.6)	(2.8)	4.2	(1.3)	(1.8)	4.4	(0.3)	5.6	(1.5)	4.4	5.4
Share change	(1.2)	(5.3)	(1.3)	0.8	0.2	(5.4)	(2.9)	(3.7)	3.0	(4.2)	(3.4)	3.4	(0.7)	3.5	(2.5)	2.9	3.8
% with disability	8.2	8.9	7.6	8.0	8.0	8.0	8.0	8.1	8.9	9.5	7.5	7.9	5.6	5.5	5.7	4.7	4.4
Operatives																	
Absolute change	(362)	431	(253)	77	3	52	(623)	201	(132)	71	42	(43)	95	1	(494)	273	(424)
% change	(4.6)	5.7	(3.2)	1.0	0.0	0.7	(7.9)	2.8	(1.8)	1.0	0.6	(0.6)	1.3	0.0	(6.6)	3.9	(5.8)
Share change	(7.1)	3.2	(4.7)	(1.7)	(1.6)	0.0	(7.2)	2.0	(3.0)	(1.9)	(1.0)	(1.6)	1.0	(2.1)	(7.5)	2.3	(7.2)
% with disability	8.8	9.2	8.4	8.9	9.3	9.2	9.5	9.6	10.0	9.2	10.9	7.7	5.8	5.4	7.3	7.4	6.4
Transportation operatives:																	
Absolute change	(20)	(140)	202	414	(361)	90	(163)	30	257	(65)	98	56	141	(64)	128	-26	95
% change	(0.4)	(3.1)	4.6	9.0	(7.2)	2.0	(3.5)	0.7	5.6	(1.3)	2.1	1.2	2.9	(1.3)	2.5	-0.5	1.9
Share change	(3.1)	(5.5)	3.2	6.2	(8.7)	1.2	(2.7)	(0.2)	4.2	(4.1)	0.5	0.0	2.7	(3.4)	1.5	(2.0)	0.3
% with disability	9.0	9.3	8.1	8.6	10.0	8.0	9.8	9.5	11.5	9.2	9.7	10.6	5.6	6.1	6.5	6.3	5.6
Laborers																	
Absolute change	116	137	72	133	(70)	(122)	50	187	(117)	238	351	(80)	(233)	(57)	515	9	(214)
% change	3.2	3.7	1.9	3.4	(1.7)	(3.0)	1.3	4.7	(2.8)	5.9	8.2	(1.7)	(5.1)	(1.3)	12.2	0.2	(4.5)
Share change	0.3	1.1	0.3	0.8	(3.3)	(3.9)	2.3	3.7	(4.1)	3.2	6.4	(2.9)	(5.4)	(3.1)	10.9	-1.3	(5.9)
% with disability	9.0	6.8	8.6	8.7	9.7	8.9	7.9	8.0	10.0	10.0	11.1	9.6	4.9	6.7	7.1	5.5	5.7
Not classified																	
Absolute change	(218)	163	574	(252)	547	82	147	(124)	(209)	589	215	877	1740	(1737)	1333	(1882)	(56)
% change	(12.3)	10.4	33.3	(11.0)	26.7	3.2	5.5	(4.4)	(7.7)	23.7	7.0	26.6	41.7	(29.4)	31.9	(34.2)	(1.5)
Share change	(14.9)	8.1	31.1	(13.3)	25.1	2.2	6.4	(5.2)	(8.9)	20.0	5.4	25.4	41.3	(30.7)	30.5	(35.3)	(2.8)
% with disability	11.6	9.2	6.3	9.4	6.8	7.1	9.9	8.0	10.7	6.4	6.3	6.1	4.9	2.6	3.6	2.7	4.4

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 2. Absolute and proportional change in industry-specific employment, and disability rate by industry, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Industries	1971-2001	1971-1996	1996-2001	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1983	1984
All persons, age 18-64																	
Total pop (1,000s)	142,473	137,914	167,093	110,266	112,378	115,084	117,308	119,371	121,517	123,660	125,483	127,571	129,835	132,217	137,095	140,816	142,581
% with disability	13.0	13.5	10.9	12.3	12.6	13.1	14.0	14.4	14.4	14.4	13.4	13.7	14.0	13.8	13.5	13.7	13.1
All employed, age 18-64																	
Total pop (1,000s)	102,602	98,181	126,473	72,827	72,702	75,510	78,574	79,459	78,731	82,479	85,654	88,218	91,436	92,329	95,337	96,571	101,550
% with disability	8.2	8.8	5.5	9.0	9.3	9.4	9.8	10.0	9.8	9.7	8.7	9.1	9.3	9.0	8.7	8.5	8.2
Extractive Industries																	
Absolute change	464	568	149	-	154	71	86	41	(46)	46	67	(119)	389	(193)	311	(68)	142
% change	15.6	19.1	4.5	-	5.2	2.3	2.7	1.2	(1.4)	1.4	2.0	(3.5)	11.9	(5.3)	9.0	(1.8)	3.7
Share change	(35.3)	(28.9)	(1.5)	-	5.4	(1.6)	(1.2)	0.0	(0.5)	(3.1)	(1.7)	(6.3)	7.8	(6.0)	5.3	(3.2)	(1.3)
% with disability	9.7	10.5	5.0	13.0	13.6	13.1	13.6	13.8	11.9	12.0	12.3	11.1	10.9	10.6	9.0	10.6	7.8
Construction																	
Absolute change	4,343	3,406	1,175	-	51	534	287	(135)	(591)	142	80	625	112	(102)	145	618	885
% change	92.0	72.1	14.9	-	1.1	11.2	5.4	(2.4)	(10.8)	2.9	1.6	12.3	2.0	(1.8)	2.5	11.5	14.7
Share change	7.4	2.6	8.1	-	1.2	7.2	1.3	(3.5)	(10.0)	(1.8)	(2.1)	9.1	(1.7)	(2.7)	(0.6)	9.9	9.2
% with disability	8.1	8.7	5.0	9.1	9.4	9.9	9.9	9.9	10.7	9.6	8.2	8.8	9.4	9.0	8.8	8.9	7.3
Manufacturing																	
Absolute change	(1,545)	350	(3,028)	-	(940)	318	747	310	(1158)	1132	962	259	687	18	138	(1049)	791
% change	(7.9)	1.8	(14.5)	-	(4.8)	1.7	4.0	1.6	(5.8)	6.0	4.8	1.2	3.3	0.1	0.6	(5.0)	3.9
Share change	(48.5)	(39.3)	(19.5)	-	(4.7)	(2.1)	(0.1)	0.4	(5.0)	1.2	1.0	(1.7)	(0.4)	(0.9)	(2.5)	(6.3)	(1.2)
% with disability	8.0	8.5	5.4	8.1	8.4	8.8	9.4	9.9	9.2	10.1	8.5	8.7	9.5	8.9	8.1	8.3	7.8
Transportation, Communication, Utilities																	
Absolute change	3,809	3,761	437	-	(31)	61	332	74	(91)	25	176	365	64	79	253	599	321
% change	74.7	73.8	5.2	-	(0.6)	1.2	6.5	1.4	(1.7)	0.5	3.2	6.5	1.1	1.3	4.1	9.1	4.5
Share change	(2.3)	3.6	(1.0)	-	(0.4)	(2.6)	2.4	0.3	(0.9)	(4.1)	(0.6)	3.3	(2.5)	0.3	0.9	7.6	(0.5)
% with disability	7.9	8.3	5.3	8.0	9.5	8.1	8.3	8.1	9.7	8.0	7.1	8.3	8.5	7.6	7.3	8.7	8.6
Wholesale Trade																	
Absolute change	2,066	1,354	1,361	-	160	(21)	(158)	168	14	(10)	14	64	202	(87)	309	52	239
% change	77.2	50.6	40.3	-	6.0	(0.8)	(5.6)	6.3	0.5	(0.4)	0.5	2.3	7.0	(2.8)	10.2	1.5	6.9
Share change	(0.8)	(10.1)	31.9	-	6.3	(4.6)	(9.1)	5.0	1.4	(4.7)	(3.5)	(0.6)	3.3	(3.8)	6.7	0.0	1.7
% with disability	7.9	8.5	4.8	9.3	8.5	9.3	10.5	10.7	8.4	9.7	9.1	10.1	8.3	9.2	8.9	8.5	6.9
Retail Trade																	
Absolute change	8,292	7,514	1,007	-	333	441	(47)	18	603	900	24	299	195	473	426	802	796
% change	78.1	70.8	5.6	-	3.1	4.0	(0.4)	0.2	5.3	7.5	0.2	2.3	1.5	3.5	3.1	5.6	5.2
Share change	(0.4)	1.8	(0.6)	-	3.3	0.1	(4.3)	(0.9)	6.2	2.6	(3.5)	(0.6)	(2.1)	2.5	(0.1)	4.1	0.1
% with disability	8.3	8.7	6.0	9.0	9.2	9.4	9.8	10.3	9.6	9.6	8.9	8.6	8.8	8.6	8.1	7.9	8.0

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 2. Absolute and proportional change in industry-specific employment, and disability rate by industry, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Industries	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All persons, age 18-64																	
Total pop (1,000s)	143,932	145,678	147,118	148,638	150,310	151,667	152,900	154,172	155,553	158,583	159,762	161,114	163,269	165,083	167,140	169,004	170,968
% with disability	13.1	13.1	12.6	12.8	13.1	12.8	13.2	14.2	14.6	14.2	14.1	13.8	11.4	10.8	10.8	10.1	11.1
All employed, age 18-64																	
Total pop (1,000s)	104,400	106,978	108,608	111,569	113,372	114,164	113,272	114,207	115,641	119,017	120,910	122,187	122,504	125,033	126,353	128,237	130,238
% with disability	8.2	8.6	7.9	8.2	8.5	8.3	8.5	9.0	9.4	9.0	9.0	8.5	5.9	5.7	5.7	5.0	5.3
Extractive Industries																	
Absolute change	99	(200)	13	(171)	63	(23)	191	(278)	(145)	39	(144)	169	(253)	174	(116)	109	(18)
% change	2.5	(5.0)	0.3	(4.4)	1.7	(0.6)	5.2	(7.1)	(4.0)	1.1	(4.1)	5.0	(7.2)	5.3	(3.4)	3.3	(0.5)
Share change	(0.3)	(7.3)	(1.4)	(6.8)	0.0	(1.2)	5.8	(7.8)	(5.0)	(2.0)	(5.4)	3.9	(7.6)	3.4	(4.3)	1.5	(1.9)
% with disability	8.3	11.5	9.4	9.4	10.0	9.3	8.8	8.6	9.4	9.5	9.3	8.6	7.2	3.8	5.5	3.7	5.0
Construction																	
Absolute change	(62)	223	3	380	375	(526)	(338)	(25)	277	(26)	292	660	(237)	322	(116)	343	626
% change	(0.9)	3.3	0.0	5.4	5.0	(6.7)	(4.6)	(0.4)	4.0	(0.4)	4.1	8.8	(2.9)	4.1	(1.4)	4.2	7.4
Share change	(3.7)	0.8	(1.4)	2.6	3.3	(7.4)	(3.9)	(1.1)	2.8	(3.2)	2.5	7.6	(3.2)	2.0	(2.4)	2.7	5.8
% with disability	9.0	7.9	7.3	8.0	7.9	7.3	8.6	7.7	9.5	8.9	7.6	7.2	5.3	5.3	5.2	5.2	4.2
Manufacturing																	
Absolute change	(73)	1169	(453)	114	(190)	276	(1198)	(769)	197	88	(235)	61	1133	(69)	(1409)	(1110)	(440)
% change	(0.3)	5.6	(2.1)	0.5	(0.9)	1.3	(5.5)	(3.8)	1.0	0.4	(1.2)	0.3	5.7	(0.3)	(6.7)	(5.7)	(2.4)
Share change	(3.1)	3.1	(3.5)	(2.1)	(2.5)	0.6	(4.8)	(4.5)	(0.2)	(2.4)	(2.7)	(0.7)	5.4	(2.3)	(7.7)	(7.1)	(3.9)
% with disability	7.8	7.6	7.9	8.2	8.1	7.8	8.0	8.2	8.7	8.2	8.4	7.7	4.9	5.6	5.6	5.7	5.3
Transportation, Communication, Utilities																	
Absolute change	319	(50)	92	194	223	(109)	(138)	98	117	241	337	64	(389)	152	643	(101)	(257)
% change	4.3	(0.6)	1.2	2.5	2.8	(1.3)	(1.7)	1.2	1.4	2.9	4.0	0.7	(4.4)	1.8	7.5	(1.1)	(2.8)
Share change	1.4	(2.9)	(0.4)	(0.3)	1.3	(2.1)	(0.8)	0.3	0.3	0.0	2.3	(0.3)	(4.7)	(0.1)	6.2	(2.5)	(4.3)
% with disability	8.2	8.1	7.5	7.7	9.1	8.2	7.8	9.0	9.5	9.1	9.0	8.5	5.0	5.7	5.8	4.4	5.7
Wholesale Trade																	
Absolute change	(178)	67	(12)	331	(158)	(176)	13	(28)	25	385	(5)	39	(650)	322	(315)	1259	95
% change	(4.8)	1.9	(0.3)	9.2	(4.0)	(4.7)	0.4	(0.8)	0.7	10.7	(0.1)	1.0	(16.1)	9.5	(8.5)	37.2	2.0
Share change	(7.4)	(0.6)	(1.8)	6.3	(5.7)	(5.4)	1.3	(1.6)	(0.6)	7.7	(1.8)	0.0	(16.4)	7.2	(9.5)	35.1	0.6
% with disability	7.8	10.4	6.6	7.9	7.9	7.7	7.3	8.0	8.0	9.3	7.5	6.8	5.7	4.0	5.9	4.1	4.1
Retail Trade																	
Absolute change	66	67	507	712	(251)	(151)	376	454	419	669	220	(924)	(229)	185	34	782	5
% change	0.4	0.4	3.1	4.3	(1.4)	(0.9)	2.2	2.6	2.4	3.7	1.2	(4.8)	(1.3)	1.0	0.2	4.3	0.0
Share change	(2.3)	(2.0)	1.6	1.5	(3.0)	(1.5)	3.0	1.8	1.1	0.7	3.3	(9.2)	(1.5)	(1.0)	(0.8)	2.8	(1.5)
% with disability	8.0	8.6	7.3	7.2	8.5	8.2	8.4	8.9	9.9	8.6	9.6	8.7	5.8	5.9	7.2	4.8	6.1

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 2. Absolute and proportional change in industry-specific employment, and disability rate by industry, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Industries	1971-2001	1971-1996	1996-2001	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1983	1984
Financial, Insurance, Real Estate																	
Absolute change	4,609	3,759	845	-	(3)	109	330	124	129	128	142	359	311	(51)	382	(45)	359
% change	121.4	99.0	11.2	-	(0.1)	2.9	8.5	2.9	3.0	2.8	3.1	7.5	6.1	(0.9)	7.1	(0.8)	6.1
Share change	23.8	18.6	4.5	-	0.2	(1.0)	4.3	1.7	4.0	(1.9)	(0.7)	4.5	2.2	(1.9)	3.8	(2.1)	0.8
% with disability	7.4	7.8	5.3	8.1	7.9	9.5	8.8	8.7	8.0	8.5	7.6	7.4	8.7	8.1	7.9	7.8	7.2
Business, Repair Services																	
Absolute change	6,989	4,706	1,967	-	17	(6)	78	138	94	28	485	20	268	268	(101)	437	582
% change	279.7	188.3	26.2	-	0.7	(0.2)	3.1	5.3	3.4	1.0	17.0	0.6	8.0	7.4	(2.6)	10.3	12.4
Share change	112.5	72.0	18.7	-	0.9	(4.0)	(0.9)	4.3	4.4	(3.6)	12.8	(2.3)	4.2	6.3	(5.7)	8.5	7.0
% with disability	9.9	10.5	6.6	10.6	11.4	12.8	10.5	11.5	10.9	11.2	10.2	11.0	12.2	11.2	11.3	8.6	10.3
Professional Services																	
Absolute change	20,709	16,951	3,548	-	306	1219	460	310	517	841	868	302	701	800	814	455	507
% change	167.6	140.6	12.0	-	2.5	9.9	3.4	2.2	3.6	5.7	5.5	1.8	4.2	4.5	4.4	2.4	2.6
Share change	49.4	43.4	5.4	-	2.7	5.8	(0.7)	1.1	4.5	0.8	1.6	(1.1)	0.5	3.5	1.2	1.0	(2.4)
% with disability	8.1	8.5	5.6	7.3	8.0	8.1	8.8	8.8	9.1	8.3	7.6	9.0	8.4	8.2	8.6	8.5	8.3
All Other Services																	
Absolute change	2,461	1,782	913	-	(42)	(10)	128	(194)	(17)	140	141	(169)	97	42	173	195	96
% change	62.0	44.9	16.6	-	(1.1)	(0.2)	3.3	(4.8)	(0.4)	3.6	3.5	(4.1)	2.5	1.0	4.2	4.4	2.1
Share change	(9.4)	(13.6)	9.8	-	(0.9)	(3.9)	(0.8)	(5.8)	0.4	(1.0)	(0.4)	(6.9)	(1.1)	0.2	0.9	2.8	(2.9)
% with disability	10.5	11.3	6.5	14.0	13.2	12.0	13.8	13.3	14.0	13.3	11.6	11.9	12.1	10.6	13.1	10.1	10.7
Government																	
Absolute change	1,710	1,391	277	-	(65)	83	234	321	(10)	298	149	112	190	17	7	(1137)	152
% change	38.8	31.5	4.7	-	(1.5)	1.9	5.3	6.9	(0.2)	6.0	2.8	2.1	3.4	0.3	0.1	(20.0)	3.3
Share change	(22.3)	(21.5)	(1.5)	-	(1.3)	(1.8)	1.2	5.7	0.6	1.3	(0.9)	(1.9)	0.8	(0.8)	(2.9)	(21.2)	(1.7)
% with disability	9.2	9.9	5.6	10.1	9.7	9.9	10.3	10.4	10.2	10.0	9.7	10.5	10.2	11.4	10.4	8.9	8.4
Not classified																	
Absolute change	3,198	3,819	(916)	-	(64)	8	587	(290)	(170)	78	65	449	2	(371)	153	519	93
% change	573.3	684.5	-19.6	-	(11.5)	1.5	117.1	(26.7)	(21.3)	12.4	9.1	58.3	0.2	(30.4)	18.0	44.9	5.5
Share change	274.0	364.9	-24.4	-	(11.7)	(2.9)	110.6	(28.1)	(20.0)	7.5	4.7	53.3	(2.9)	(31.3)	14.1	43.0	0.6
% with disability	7.3	8.0	3.6	10.4	10.4	9.4	10.7	8.8	9.7	10.0	7.9	7.8	6.4	5.8	4.3	6.0	7.0

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 2. Absolute and proportional change in industry-specific employment, and disability rate by industry, for persons aged 18-64, National Health Interview Survey, 1970 - 2001

Industries	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Financial, Insurance, Real Estate																	
Absolute change	871	253	23	127	137	(163)	(79)	(64)	107	(97)	403	(212)	6	382	(132)	242	354
% change	13.9	3.6	0.3	1.7	1.8	(2.1)	(1.1)	(0.9)	1.5	(1.3)	5.5	(2.7)	0.1	5.0	(1.7)	3.1	4.4
Share change	10.9	1.0	(1.2)	(1.0)	0.3	(2.8)	(0.3)	(1.7)	0.2	(4.0)	3.7	(3.7)	(0.2)	2.9	(2.7)	1.6	2.7
% with disability	6.5	6.8	7.1	6.5	6.5	7.6	7.8	8.0	8.0	7.7	8.6	8.2	8.1	4.9	5.8	3.8	3.6
Business, Repair Service																	
Absolute change	769	4	385	(97)	474	231	106	(801)	153	423	(317)	596	316	273	1177	498	20
% change	14.6	0.1	6.4	(1.5)	7.5	3.4	1.5	(11.2)	2.4	6.5	(4.6)	9.0	4.4	3.6	15.1	5.5	0.2
Share change	11.3	(2.2)	4.8	(4.2)	5.8	2.7	2.3	(11.9)	1.1	3.6	(6.0)	7.9	4.1	1.5	14.0	3.9	(1.2)
% with disability	10.4	10.0	9.6	9.1	10.4	9.7	8.4	10.6	10.6	10.4	10.6	9.8	7.1	7.0	7.3	7.3	4.6
Professional Services																	
Absolute change	613	545	600	937	570	995	294	2495	333	602	939	130	516	576	1215	820	936
% change	3.1	2.7	2.8	4.3	2.5	4.3	1.2	10.2	1.2	2.2	3.4	0.5	1.8	2.0	4.0	2.6	2.9
Share change	0.3	0.2	1.3	1.6	1.3	3.1	2.0	9.3	0.0	(0.7)	1.7	(0.6)	1.5	(0.1)	2.9	1.1	1.3
% with disability	8.0	8.1	7.7	8.6	8.4	8.4	8.9	9.4	9.6	9.4	9.3	8.8	6.7	5.8	5.2	5.0	5.5
All Other Services																	
Absolute change	330	5	(39)	528	(265)	315	(10)	(52)	5	288	70	(197)	(234)	247	(63)	500	230
% change	6.9	0.1	(0.8)	10.4	(4.7)	5.9	(0.2)	(0.9)	0.1	5.1	1.2	(3.3)	(4.1)	4.5	(1.1)	8.8	3.7
Share change	4.0	(2.2)	(2.3)	7.5	(6.4)	5.3	0.6	(1.8)	(1.2)	2.3	(0.4)	(4.3)	(4.5)	2.4	(2.2)	7.3	2.1
% with disability	10.2	10.9	9.9	10.7	9.8	9.6	11.1	9.6	9.4	10.0	9.8	9.5	7.7	6.9	6.8	5.2	6.1
Government																	
Absolute change	314	321	(82)	100	54	320	(208)	(65)	119	260	103	(140)	42	180	(669)	411	354
% change	6.7	6.4	(1.5)	1.9	1.0	5.9	(3.6)	(1.2)	2.2	4.7	1.8	(2.4)	0.7	3.1	(11.1)	7.7	6.1
Share change	3.9	3.7	(3.0)	(0.8)	(0.6)	5.2	(3.0)	(1.8)	0.8	1.7	0.2	(3.3)	0.4	1.0	(12.0)	5.9	4.7
% with disability	7.1	10.8	9.3	8.7	8.2	9.7	9.0	11.6	11.1	10.3	10.1	11.2	5.9	6.2	5.4	5.2	5.4
Not classified																	
Absolute change	(199)	175	594	(195)	670	(96)	98	(30)	(172)	505	230	1030	296	(214)	1071	(1870)	97
% change	(11.3)	11.1	34.1	(8.3)	31.3	(3.4)	3.6	(1.1)	(6.2)	19.3	7.4	30.8	6.8	(4.6)	24.0	(33.8)	2.6
Share change	(13.8)	8.7	31.9	(10.7)	29.2	(4.0)	4.2	(1.6)	(7.4)	15.9	5.7	29.2	6.4	(6.3)	22.7	(34.9)	1.1
% with disability	11.2	8.8	7.2	8.7	6.4	7.0	9.0	7.7	10.2	6.4	6.2	5.9	4.6	2.8	3.5	3.0	4.3

Note: 1982 estimates not included due to invalid activity limitation responses.

Table 3. Predictors of occupation-specific disability rates
National Health Interview Survey, 1971 - 2001

Variables in model	Parameter estimates of occupation-specific disability rates			
	Base model Estimate (SE)	Absolute change Estimate (SE)	Percent change Estimate (SE)	Share change Estimate (SE)
Population age distribution				
% age 18-24	-11.3 (12.2)	-10.2 (12.2)	-11.4 (12.1)	-11.9 (12.2)
% age 25-34	-3.7 (12.1)	-3.9 (12.1)	-4.3 (12.1)	-4.2 (12.1)
% age 35+ (referent)				
Proportion female				
In labor force, per year	-31.4 (16.7)	-32.0 (16.7)	-31.6 (16.7)	-31.4 (16.7)
In occupation (deviation from annual)	-1.4 (0.3) *	-1.4 (0.3) *	-1.4 (0.3) *	-1.4 (0.3) *
Annual employment rate	8.3 (8.3)	9.1 (8.3)	8.3 (8.3)	8.0 (8.3)
Annual disability rate among employed	53.6 (14.8) *	54.1 (14.8) *	52.7 (14.8) *	52.5 (14.8) *
Proportion non-white				
In labor force, per year	-8.6 (23.9)	-8.3 (23.9)	-9.2 (23.9)	-9.2 (23.9)
In occupation (deviation from annual)	1.8 (1.4)	1.7 (1.4)	1.7 (1.4)	1.7 (1.4)
Labor market change				
Absolute change (per 100,000 jobs)		-0.01 0.012		
Percent change			-0.29 0.236	
Share change				-0.30 0.239
Intercept	11.9 (5.8)	11.4 (5.8)	12.4 (5.8)	12.6 (5.8)
Model R-squared	0.53	0.53	0.54	0.54

* p < 0.05

Cells contain the parameter estimate of the effect of each variable on the percent of employees in an occupation who report disability. Labor market change is measured in three ways:

1. Absolute change is the difference in the number of employees in an occupation from one year to the next.
2. Percent change is the absolute change expressed as a percentage of the number of employees in the earlier year.
3. Share change is the change in the proportion of all jobs in the economy in a given occupation, expressed as a percent of the share in the earlier year.

In addition to the variables shown, all models also include variables representing the disability definition used by the NHIS in the year. The definition changed twice over the 32 year period.

Table 4. Predictors of industry-specific disability rates
National Health Interview Survey, 1971 - 2001

Variables in model	Parameter estimates of industry-specific disability rates			
	Base model Estimate (SE)	Absolute change Estimate (SE)	Percent change Estimate (SE)	Share change Estimate (SE)
Population age distribution				
% age 18-24	-14.6 (11.9)	-11.3 (12.1)	-10.8 (12.0)	-13.1 (11.9)
% age 25-34	6.7 (11.9)	6.2 (11.8)	6.0 (11.8)	6.4 (11.8)
% age 35+ (referent)				
Proportion female				
In labor force, per year	-39.3 (16.4) *	-40.9 (16.4) *	-41.3 (16.3) *	-39.9 (16.3) *
In industry (deviation from annual)	-0.4 (0.5)	-0.2 (0.5)	-0.4 (0.5)	-0.4 (0.5)
Annual employment rate	6.0 (8.1)	8.2 (8.2)	8.4 (8.1)	6.7 (8.1)
Annual disability rate among employed	56.1 (14.5) *	57.4 (14.5) *	56.9 (14.4) *	55.9 (14.4) *
Proportion non-white				
In labor force, per year	-2.3 (23.5)	-1.5 (23.4)	-1.3 (23.3)	-1.5 (23.3)
In industry (deviation from annual)	6.7 (1.9) *	6.3 (2.0) *	6.9 (1.9) *	6.9 (1.9) *
Labor market change				
Absolute change (per 100,000 jobs)		-0.03 0.018		
Percent change			-1.62 0.728 *	
Share change				-1.66 0.754 *
Intercept	14.0 (5.7)	12.5 (5.7)	12.5 (5.7)	13.5 (5.6)
Model R-squared	0.57	0.57	0.57	0.57

* p <0.05

Cells contain the parameter estimate of the effect of each variable on the percent of employees in an industry who report disability. Labor market change is measured in three ways:

1. Absolute change is the difference in the number of employees in an industry from one year to the next.
2. Percent change is the absolute change expressed as a percentage of the number in the earlier year.
3. Share change is the change in the proportion of all jobs in the economy in a given industry, expressed as a percent of the share in the earlier year.

In addition to the variables shown, all models also include variables representing the disability definition used by the NHIS in the year. The definition changed twice over the 32 year period.

Table 5. Employment rates among persons aged 18-64, by disability status, adjusted for demographic characteristics and region of residence, National Health Interview Survey, 1970 - 2001

Year	All women, aged 18-64			All men, aged 18-64		
	Employment rates		Difference in rates (95% CI)	Employment rates		Difference in rates (95% CI)
	Disability (%)	No Disability (%)		Disability (%)	No Disability (%)	
1970	32.9	50.3	17.4 (15.6, 19.3)	71.3	89.8	18.5 (16.8, 20.2)
1971	33.2	49.3	16.1 (14.3, 17.9)	68.9	88.4	19.5 (18.1, 21.0)
1972	33.6	50.8	17.2 (15.4, 19.0)	69.5	89.1	19.5 (17.8, 21.3)
1973	35.8	52.6	16.7 (14.8, 18.7)	70.4	90.0	19.5 (18.2, 20.9)
1974	36.1	53.1	17.1 (15.3, 18.8)	67.8	89.1	21.3 (19.8, 22.8)
1975	35.2	53.0	17.9 (16.1, 19.6)	64.8	85.5	20.7 (19.0, 22.4)
1976	36.7	55.0	18.3 (16.5, 20.2)	65.7	87.6	21.8 (20.5, 23.2)
1977	39.0	57.4	18.4 (16.8, 20.0)	64.7	88.4	23.7 (22.0, 25.3)
1978	39.5	58.3	18.7 (16.9, 20.5)	67.4	89.0	21.6 (19.9, 23.3)
1979	42.8	61.0	18.2 (16.4, 19.9)	67.0	89.2	22.2 (20.4, 24.0)
1980	42.2	61.0	18.8 (16.9, 20.7)	63.8	87.6	23.8 (21.9, 25.6)
1981	42.5	60.7	18.1 (16.4, 19.9)	62.5	86.9	24.4 (22.8, 26.1)
1983	40.1	61.4	21.2 (19.2, 23.3)	61.7	83.7	22.0 (20.2, 23.7)
1984	41.3	63.5	22.1 (20.2, 24.1)	63.6	86.6	23.0 (21.0, 25.0)
1985	44.5	65.5	21.0 (19.2, 22.8)	63.3	87.2	23.9 (22.0, 25.8)
1986	47.2	67.3	20.1 (17.7, 22.5)	64.5	86.7	22.3 (20.1, 24.4)
1987	45.6	67.4	21.8 (20.0, 23.6)	62.5	87.6	25.2 (23.5, 26.9)
1988	47.6	69.1	21.5 (19.8, 23.2)	65.1	88.4	23.4 (21.7, 25.1)
1989	48.4	69.5	21.2 (19.3, 23.1)	65.6	88.7	23.1 (21.5, 24.7)
1990	50.0	69.9	19.9 (18.1, 21.7)	62.7	87.8	25.1 (23.4, 26.9)
1991	48.4	68.8	20.4 (18.6, 22.2)	60.6	86.8	26.2 (24.3, 28.1)
1992	47.9	69.9	22.0 (20.4, 23.6)	60.1	86.6	26.5 (24.7, 28.3)
1993	48.1	70.2	22.0 (20.1, 24.0)	61.1	86.9	25.8 (24.0, 27.7)
1994	47.8	70.9	23.1 (21.3, 24.9)	61.3	87.5	26.2 (24.5, 28.0)
1995	50.3	71.9	21.6 (19.8, 23.4)	61.3	87.9	26.6 (24.7, 28.5)
1996	47.7	72.1	24.4 (22.1, 26.7)	60.5	88.4	27.8 (25.5, 30.2)
1997	41.0	71.8	30.8 (27.7, 33.9)	51.0	87.3	36.3 (32.9, 39.7)
1998	42.8	72.2	29.4 (26.1, 32.8)	53.6	87.6	34.0 (30.5, 37.6)
1999	40.6	72.6	32.0 (28.6, 35.5)	52.3	87.1	34.8 (30.9, 38.8)
2000	39.7	73.6	33.9 (30.5, 37.2)	51.1	86.7	35.5 (31.4, 39.6)
2001	38.8	73.8	34.9 (31.9, 37.9)	48.6	88.2	39.5 (36.0, 43.0)

All models adjusted for age, race/ethnicity, marital status, rural residence, region, and education.

Models include interaction terms for age and race/ethnicity with disability status.

1982 estimates not included due to invalid activity limitation responses.

Table 6. Average employment rates, 1971-2001, among persons aged 18-64, by disability status and gender with and without adjustments for individual-level demographic and regional characteristics, population-level characteristics, and characteristics of the labor force
National Health Interview Survey, 1971-2001

Model	Employment rates (%)			
	Women		Men	
	Disability	No Disability	Disability	No Disability
Unadjusted	37.0	65.6	54.0	87.8
Demographic and regional characteristics	43.1	65.1	61.9	87.5
Demographic, regional, and aggregate variables	41.4	65.4	59.9	87.7
Demographic, regional, aggregate, and occupation change variables	38.7	65.3	56.7	87.7
Demographic, regional, aggregate, and industry change variables	38.7	65.3	56.7	87.7

Demographic and regional covariates include age, race/ethnicity, marital status, rural residence, Census region, and education. See Methods for further explanation of variables.

Aggregate variables include population age distribution and individual deviation from the mean, population disability rate (in quartiles). See Methods for further explanation of variables.

Occupation (industry) change variables include the annual share change for 11 categories of occupation (industry). See Methods for further explanation of variables.