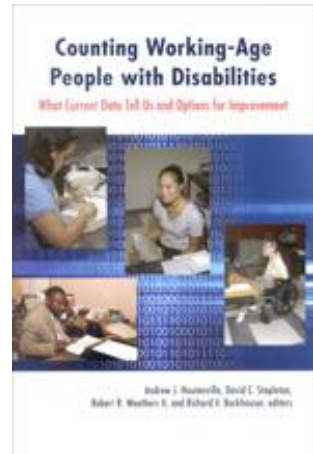

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Counting Working-Age People with Disabilities: What Current Data Tell Us and Options for Improvement

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4

Employment

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A major challenge in tracking the employment outcomes of working-age people (aged 25–61) with disabilities is that a large range of employment rate estimates exists in the literature and in government publications. The availability of multiple measures and the wide variation in employment rates across those measures creates confusion when communicating research findings on employment outcomes of people with disabilities to a broad audience.

This chapter provides a guide to interpreting and developing employment rate estimates for people with disabilities using data from four major sources: the American Community Survey (ACS), the Current Population Survey (CPS), the National Health Interview Survey (NHIS), and the Survey of Income and Program Participation (SIPP). We first describe how employment rate estimates vary when different disability concepts, employment reference periods, and data sources are used. We then show how the unique features of the ACS, CPS, NHIS, and SIPP can be used to describe different aspects of employment for various groups of people with disabilities, as defined in Weathers (2009).

Our findings demonstrate that different disability concepts, employment reference periods, and data sources result in a wide range of employment rate estimates for people with disabilities. We show that employment rate estimates are especially sensitive to the choice of disability concepts and employment reference period. Employment rates are relatively low if they are based on disability concepts that capture the interaction of an impairment with a social activity, especially work

limitations, and/or are based on full-time work or employment in the most recent reference period. They are relatively high, however, when based on impairment disability concepts or any employment definition over longer reference periods. Employment rate estimates also vary across data sources, even when based on approximately the same disability concept or employment definition, but the range of the estimates is relatively small when compared to the range of estimates across disability concepts or employment definitions.

In the next section, we present background on how the federal government constructs employment measures for the U.S. population and for various segments of the population, and describe the challenges related to measuring employment for persons with a disability. We then describe the methods that we used to examine disability employment rates in the chapter and how those methods influence employment rate estimates. Next, we use the unique features from our four data sources to present several different types of employment rate estimates that will be of interest to policymakers. These include state differences, historical trends, and findings from the 2005 calendar year. We conclude with a summary of findings and directions for future research.

BACKGROUND

The U.S. Department of Labor's Bureau of Labor Statistics (BLS) regularly collects employment data on the U.S. population and several demographic subgroups. The BLS Web site contains data on the employment situation of adults, including employment and unemployment status, hours worked, and wages for the entire U.S. population, as well as detailed statistics stratified by age, race, sex, and ethnicity (see Bureau of Labor Statistics n.d.). The BLS uses data from the CPS to generate statistics for each of these subgroups and the data are often used to assess the general health of the economy and policy initiatives that provide economic support for subgroups that face potential financial risks, especially unemployed workers.

The BLS employment tabulations do not, however, include information on people with disabilities. Although the BLS is attempting to

develop an accurate and reliable measure of the employment rate of people with disabilities in the CPS under Executive Order 13078 established in 1998, the lack of an official measure makes it difficult for policymakers to systematically track the employment progress of this population. The need for a more public reporting of employment rates for people with disabilities is particularly pressing given the large number of policies aimed at improving the employment outcomes of this population, including the Americans with Disabilities Act (ADA), the New Freedom Initiative, and several return-to-work programs and initiatives by the Social Security Administration (SSA), Center for Medicare & Medicaid Service, and the Department of Labor.

The BLS's efforts to create an official disability employment measure will be a major step forward to communicate information about the employment status of people with disabilities when it becomes available. Even when that happens, however, it will not provide a comprehensive definition that will cover the full range of potential disability measures for the diverse population of people with disabilities. Consequently, researchers and policymakers will continue to need to use alternative disability and employment concepts to address the full range of policy issues influencing the employment outcomes of people with disabilities.

One of the major challenges in estimating employment rates for people with disabilities is that both disability and employment are dynamic concepts that have several definitions. As noted in Weathers (2009), concepts of disability vary with respect to severity, duration, and effect on the ability to perform and participate in major life activities. These variations have important implications for developing employment rate measures because they require the interaction of an impairment with a social activity, especially work. They will also lead to lower employment rate estimates for people with disabilities relative to those that use broader based definitions of a person's impairment. Similarly, employment is a dynamic concept that can change over the course of a year. For example, persons who work part of the year could be defined as employed using an annual definition of work, but not employed if they were not working during the most recent reference week or month. Hence, employment rate estimates using a longer period of time and a less stringent definition of employment (e.g., part time instead of full

time) will produce relatively larger estimates as compared to those using shorter intervals or more stringent employment definitions.

An additional challenge in developing employment rate estimates for people with disabilities is that the number and types of questions on employment, health, and functional limitations vary substantially across surveys. The CPS, for example, includes detailed information on employment but, as noted in Weathers (2009), contains few questions on health and functional status. In contrast, other surveys, such as the NHIS, include detailed information on health and functional limitation status but little on employment. Even when the same questions are available across surveys, there will likely be some differences in employment rate estimates because of variation in survey methodology (see Ballou and Markesich 2009) and the role that survey context plays in influencing health and employment responses.

The previous literature has drawn on several disability and employment concepts to examine aspects of employment of people with disabilities (Burkhauser, Houtenville, and Wittenburg 2003; Kaye 2003; McNeil 2000). As discussed in Weathers (2009), the use of multiple disability concepts is necessary to characterize outcomes across different subgroups. Similarly, alternative employment measures are necessary to characterize different aspects of employment, such as part- and full-time work. Finally, the way researchers construct these measures might depend on the availability of information in existing data sources.

METHODS

To illustrate the variation that exists within employment rate estimates for people with disabilities, we generate estimates for adults aged 25–61 using the available International Classification of Functioning, Disability and Health (ICF) concept described in Weathers (2009). This group has been used in several studies of people with disabilities because the age range falls at a time when most people have completed all of their schooling (including postsecondary schooling) but before the age of early retirement. The data sources covered in this chapter include the ACS, CPS, NHIS, and SIPP. Some, like the CPS, are limited insofar

as disability is defined only as an activity limitation. For the ICF, we used an “NA” entry to indicate that information on a particular concept is not present in the survey. In developing trend estimates, we used data from the CPS covering 1980 to 2005 and from the NHIS covering 1987 to 1996.¹ In making comparisons across surveys, we used the most comparable year available across all data sources, 2002–2003. The use of a common year for employment estimates is especially important given the sensitivity of employment rates to macroeconomic conditions.

We chose the following three employment measures to represent the varying levels of attachment to the labor force:²

- Reference period employment, which counts people as employed if they had any reported hours in the most recent week in the ACS and CPS, two weeks in the NHIS, and within the last month in the SIPP;
- Any annual employment, which counts a respondent as employed if they worked at least 52 hours (one hour per week) during the previous calendar year; and
- Full-time annual employment, which counts a respondent as employed if they worked at least 35 hours per week and 50 weeks per year (including paid vacation, sick leave, and other paid leave).

The reference period represents work in the most recent period and, for the CPS, is the same one used by BLS.³ The any annual employment definition measures any work activity during the past year and therefore produces the highest employment rate estimates. Unlike the other measures, this measure will capture all people who work sporadically during the year. Finally, the full-time annual measure captures people who have the strongest attachment to the labor force and, hence, will produce the lowest employment rate estimates.

The one notable measure reported by the BLS, but excluded from our list above, is the unemployment rate for people with disabilities. Although this rate generally is a very useful measure of labor force attachment, we view its use for measuring employment outcomes of people with disabilities as problematic because the denominator only includes those in the labor force (i.e., people who are working or actively looking for work), and a large number of people with disabilities are not in

the labor force. When a person experiences the onset of a disability and leaves the labor force, the three employment rate measures discussed above go down, but the unemployment rate would be essentially unaffected because this person is no longer counted in either the numerator or denominator. The use of the unemployment rate measures is particularly problematic in evaluating how disability policies are promoting employment, including keeping people in the labor force, as well as returning people from disability programs to work (see Burkhauser, Houtenville, and Wittenburg 2003 for more details on this issue).

As summarized in Table 4.1, there is considerable variation across surveys in disability and employment information that researchers can use to examine different aspects of employment behavior across subgroups of people with disabilities. The ACS includes multiple questions on health, functional limitations, and employment, and it has the relative advantage of a large sample that can be used to track employment rates at the state level and for narrowly defined demographic groups such as Native Americans. The CPS is more limited in generating employment rates for just one subgroup (those with work limitations), but it is valuable for trend analysis because of its long history and also is sufficiently large to support state-level estimates.⁴ The NHIS contains extensive health and functional limitation information and has the relative advantage of providing trend analyses of several subgroups of people with disabilities. Finally, the SIPP includes several questions on employment, health, and functional limitations, and it has the relative advantage of being able to track longitudinal employment rates of the different subgroups.

Our analysis below draws on information from each survey to depict the general sources of variation in employment rates for people with disabilities in the literature. We also point out how researchers can utilize the unique features of these surveys to examine the full spectrum of employment outcomes of people with disabilities. Our findings are based on previous estimates generated in Cornell University's user guide series (see Burkhauser and Houtenville 2006; Harris, Hendershot, and Stapleton 2005; Weathers 2005; Wittenburg and Nelson 2006).

Table 4.1 Summary of Employment and Disability Conceptualizations and Analysis Options by Data Source

	Disability definition	Employment definitions			Analysis options				
		Full-time annual	Any annual	Reference period	Trends	Longitudinal	SSA administrative data links	State estimates	Most recent data publicly available
ACS	6 definitions	Yes	Yes	Week	Limited currently	No	Planned for future links	Yes	2006
CPS	Work-limitation only	Yes	Yes	Week	Yes	Limited sample	Yes	Yes	2006
NHIS	More than 6 definitions possible	Yes	Yes, but asked as “any employment in year”	Two weeks (before 1997) Week (since 1997)	Yes	No	Yes, but limited match rate	No	2006
SIPP	More than 6 definitions possible	Yes	Yes	Month	Limited	Yes	Yes	No	2001

NOTE: The ACS is currently limited for trend analyses because it only includes two cross-sections of data. However, the ACS should be a viable source of information for future trend analyses. The ACS also is not currently linked to SSA administrative data, but there is a potential to link these data to the records in the future. The CPS can be used to produce a limited longitudinal sample over a one-year period by matching respondents across interviews (see Burkhauser and Houtenville 2006 for more details). The SIPP can be used to develop trend estimates, but it is limited in its capacity relative to the ACS, CPS, and NHIS because of changes to the SIPP questionnaire across several panels (see Wittenburg and Nelson 2006 for more details).

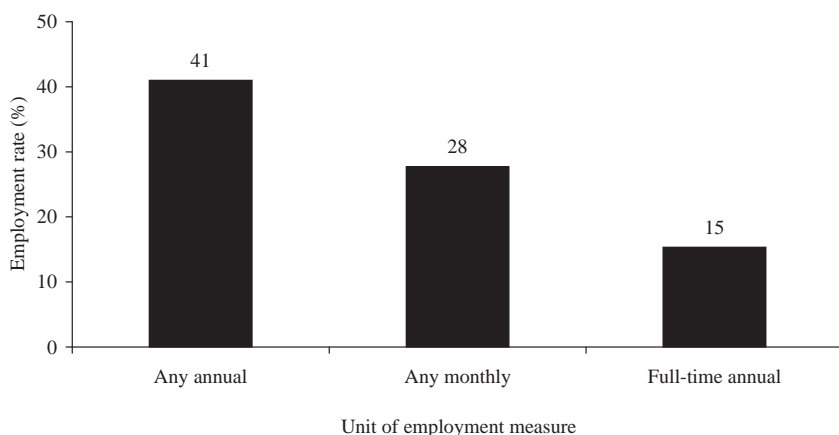
EXPLANATION OF DIFFERENCES IN REPORTED EMPLOYMENT RATES

This section demonstrates the variation that exists in employment rate estimates for people with disabilities by presenting statistics using alternative disability and employment concepts across surveys. We first present estimates across alternative disability and employment rate concepts using data from the SIPP, a useful comparison tool because it contains information that can construct multiple disability and employment concepts. Using a common disability and employment concept, we then compare annual employment rate estimates from the SIPP to those from the ACS, CPS, and NHIS to illustrate the variations that can exist across surveys. The findings provide insights on the magnitude of the difference that exists in employment rates depending on disability and employment definitions, as well as on data source.

Employment Period

Data from the 2001 SIPP show the variation that exists when three alternative employment reference periods (any annual, reference period, and full-time annual) are used to characterize the employment rates for a single subgroup—people who report work limitations (Figure 4.1). The any annual employment definition produces a much larger employment rate estimate than either the reference period (in this case May 2002) or the full-time annual measure (41 percent vs. 28 and 15 percent, respectively). Wittenburg and Nelson (2006) also reported that employment rates using any annual measures are approximately two times larger than those using the more restrictive full-time annual measures (see Table 4A.2 in Appendix 4A). By comparison, they found that employment rates also vary across reference period for people without any disabilities over the same time period from the SIPP, although the relative differences are smaller (91 percent work any annual, 82 percent work in the previous month, and 58 percent work full-time annual), especially within demographic subgroups that have high employment rates (e.g., males).⁵ These findings indicate that a relatively large number of employed people with work limitations or other disabilities work either on a part-time or part-year basis.

Figure 4.1 Differences in Employment Rates by Reference Period for Adults (Aged 25–61) with Work Limitations



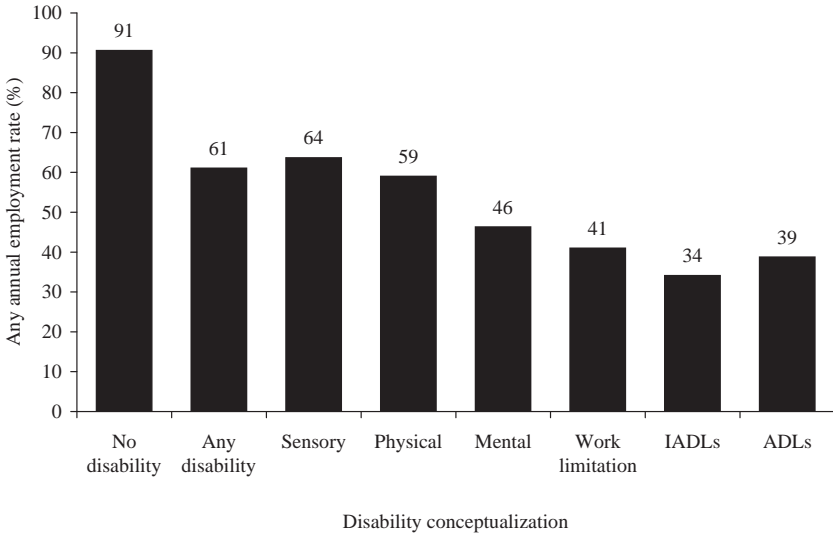
NOTE: Any annual employment includes at least 52 hours or more worked from June 2001 through May 2002. Reference period includes positive reported earnings in May 2002. Full-time annual employment includes at least 35 hours or more of work and 50 weeks or more worked from June 2001 through May 2002.

SOURCE: Authors' calculation using the 2001 SIPP.

Disability Concept

There is also substantial variation in the employment rates across disability concepts in the 2001 SIPP (Figure 4.2). These data include measures to capture impairment (sensory, physical, and mental), participation restrictions (work limitation), and limitations on activities of daily living (ADL) and instrumental activities of daily living (IADL). Also included is a rate for “any disability,” which includes any of the aforementioned disability concepts, and “no disability,” which includes people who report none of the aforementioned disability concepts. The estimates for all disability groups are much lower than the estimate for the no disability group (91 percent), but the range across the disability groups is also very large, from 34 percent (IADL limitations) to 64 percent (sensory impairment). Employment rate estimates based on disability concepts that measure the interaction of an impairment with a social activity (i.e., participation and activity restriction concepts) produce lower estimates of employment rates than those that measure just

Figure 4.2 Differences in Any Annual Employment Rates by Disability Conceptualization for Adults (Aged 25–61)



NOTE: Any annual employment includes at least 52 hours or more worked from June 2001 through May 2002. The disability conceptualizations are described in Weathers (2009). For a more detailed summary of the questions used to generate these estimates from the SIPP, see Wittenburg and Nelson (2006).

SOURCE: Authors' calculation using the 2001 SIPP.

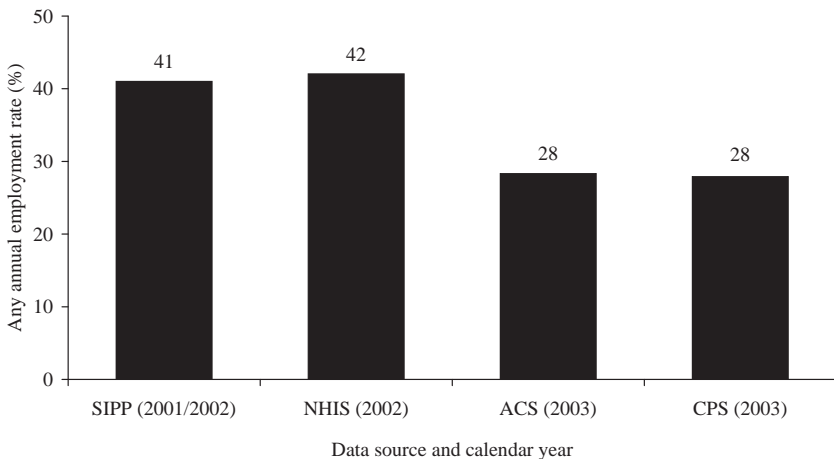
an impairment. This finding is not surprising given that the types of limitations that affect social activities would likely restrict participation in work—especially, of course, “work limitations.” Group differences in demographic composition (especially education) and health characteristics also contribute to variation in the employment rate differences across these groups (Houtenville et al. 2009).

Comparisons to Other Data Sources

Variation in employment rate estimates exists across surveys even when the same employment and disability concepts are used, probably because differences in survey methods and questionnaires influence responses to questions related to employment and disability (Figure 4.3).

Although the work-limitation concept is the same across surveys, the wording of this question varies across surveys, as does the survey design (see Weathers 2009). The annual employment rates derived from the surveys range from about 28 percent in the ACS and CPS to approximately 42 percent in the SIPP and NHIS. The differences in employment rate estimates are heavily influenced by the composition of the population reporting work limitations in each survey. As shown in Weathers (2009), the prevalence of work limitations is much higher in the SIPP and NHIS relative to the CPS and ACS, suggesting that the SIPP and NHIS surveys might capture a broader population with more work capacity. It is difficult to pinpoint the exact factors that result in different prevalence rates across surveys. We suspect the higher prevalence of work-limitation status in the SIPP and NHIS relative to the CPS and ACS exists because SIPP and NHIS respondents are more “tuned in” to reporting health difficulties because they are asked a long battery of questions on health and disability status, whereas the CPS and ACS only include a limited set of questions in this area.

Figure 4.3 Differences in Any Annual Employment Rates by Data Sources for Adults (Aged 25–61) with Work Limitations



NOTE: See Table 4A.1 for details on employment rate measures for each survey.
SOURCE: Authors' calculations using the 2001 SIPP, 2002 NHIS, 2003 ACS, and 2003 CPS.

Summary of Differences

These findings underscore the challenges in communicating employment rates for people with disabilities because these estimates are sensitive to disability concept, employment reference period, and data source. Consequently, it is difficult to identify a single employment rate for people with disabilities that would be universally agreed upon by policymakers, researchers, and disability advocates because there are multiple conceptualizations of both disability status and employment. For example, our estimates above, which represent only a limited spectrum of choices for disability concepts and employment definitions, indicate that employment estimates for people with disabilities can range from 15 percent (full-time annual employment for people with work limitations) to 64 percent (any annual employment for people with sensory impairments). Furthermore, temporal changes in the definitions can undermine comparisons across time, even from the same survey. For example, Census Bureau publications on disability employment rates using SIPP data use different definitions for disability and employment in the 2001 SIPP and the 1996 SIPP (McNeil 2000; Steinmetz 2004), making it impossible to use these two publications for comparative purposes. As will be described in more detail below, there are multiple options for tracking the multi-faceted concepts of employment rates for people with disabilities across surveys. The best choice of disability concept, employment concept, and survey depends on the policy question being asked.

ANALYSIS OF DIFFERENT ASPECTS OF EMPLOYMENT OUTCOMES OF PEOPLE WITH DISABILITIES

In addition to the differences in disability and employment rate measures, the surveys vary with respect to different features that are used to examine various aspects of the disability employment rate. To illustrate some of the aspects of employment that can be tracked across surveys, we present a brief summary of the unique features and some basic employment estimates from each of these data sources that have

been used in previous studies and/or could be used in future studies on employment outcomes. We start first by comparing employment rate estimates across the full range of disability concepts, employment reference periods, and data sources, building on our findings presented in Houtenville et al. (2009), Figures 3.1–3.3. To illustrate the potential uses of these estimates, we then examine employment rate trends (CPS and NHIS), recent employment rates for subgroups (ACS), state employment rates (ACS), estimates from longitudinal data (SIPP), and estimates from linked administrative data (CPS and SIPP). In each case, we present data on at least one of these employment rate measures from the available data.⁶

Comparisons of Employment Rates across Data Sources

Table 4.2 presents employment rate estimates across disability concepts and reference periods found in the ACS, CPS, NHIS, and SIPP. Not surprisingly, given our findings in Figure 4.1, the employment rates across all disability concepts are highest when the reference period is 52 or more hours per year. Consistent with our findings in Figure 4.2, within each of the data sets that capture all six disability concepts, employment rates are highest among those with sensory impairment, followed by those with physical impairment, mental impairment, work limitation, and finally, IADL or ADL limitations. Consistent with the findings shown in Figure 4.3, reported employment rates in the SIPP and NHIS are higher than those in the ACS and CPS. For example, among those with work limitations, the SIPP and NHIS reference period employment rates are more than 27 percent, and the ACS and CPS employment rates for the same measure are less than 20 percent.

Employment Trends from CPS and NHIS

A major advantage of the CPS and NHIS survey designs is that they represent repeated cross-sections, fielded in a consistent manner over long periods, and they can be used to track long-term trends in employment outcomes. Trend analysis is particularly important in tracking the economic progress of particular subgroups. Additionally, several studies have used constructed employment rate trends to evaluate the effects of policy changes, such as the ADA (Acemoglu and Angrist

Table 4.2 Summary of Differences in Employment Rates (%) by Employment Conceptualization, Disability Conceptualization, and Data Source for Adults (Aged 25 –61)

	No disability	Any disability	Participation restriction		Activity limitation	Impairment		
			Work limitation	IADL	ADL	Mental	Physical	Sensory
Reference period								
ACS, 2003	79.5	39.3	18.9	17.9	18.3	28.2	33.8	49.9
CPS, 2003	81.4	19.6	19.6	NA	NA	NA	NA	NA
NHIS, 2002	83.3	47.3	29.8	18.3	14.1	37.1	43.8	58.6
SIPP, 2002	82.4	48.9	27.7	20.3	22.8	37.0	46.4	53.5
Any annual								
ACS, 2003	87.1	48.9	28.3	25.8	26.2	37.2	42.8	58.1
CPS, 2003	86.2	27.9	27.9	NA	NA	NA	NA	NA
NHIS, 2002	88.3	57.9	42.0	25.7	19.9	51.9	53.8	66.6
SIPP, 2002	90.6	61.1	41.0	34.1	38.8	46.3	59.0	63.7
Full-time annual								
ACS, 2003	59.6	24.5	9.1	9.0	9.4	15.0	20.3	34.5
CPS, 2003	65.3	9.4	9.4	NA	NA	NA	NA	NA
NHIS, 2002	62.8	29.8	16.3	9.3	6.2	21.3	27.2	43.4
SIPP, 2002	58.1	31.2	15.3	12.0	15.0	20.3	29.6	35.6

NOTE: Any annual employment includes 52 hours or more worked during the previous year. The SIPP estimates represent employment estimates from June 2001 through May 2002 from the 2001 SIPP. The NHIS estimates represent any annual employment estimates for calendar year 2002 from the 2002 NHIS. The ACS estimates represent any annual employment estimates for calendar year 2002 from the 2003 ACS. The CPS estimates represent any annual employment estimates for calendar year 2002 from the 2003 CPS.

SOURCE: Authors' calculations from the 2001 SIPP, 2002 NHIS, 2003 ACS, and 2003 CPS.

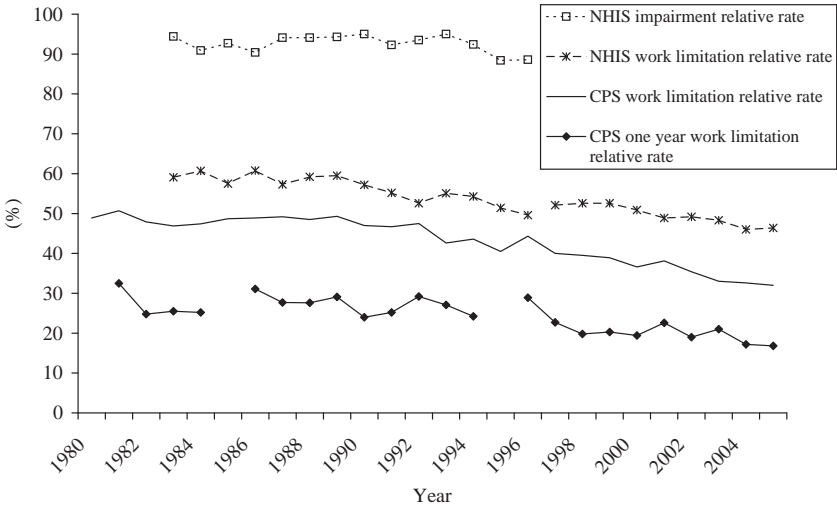
2001; Houtenville and Burkhauser 2004). The CPS has used the same work-limitation question from 1980 to the present, allowing users to construct annual estimates of employment over a 27-year period that covers almost three complete economic business cycles.⁷ The NHIS also provides generally consistent measures of health, employment, and functional measures for trend analyses, but the survey has been redesigned over time. For this reason, we do not make comparisons in the NHIS during these redesign periods, which occurred in 1982 and 1996. Despite this limitation, the NHIS does include several years of data that can be used to construct trends analyses, which can be compared to CPS findings.

In Figure 4.4, we present relative employment rates, comparing the employment rate of men with disabilities to men without disabilities over a 25-year period (1980–2005) using the alternative disability concepts that are available over this period from the CPS and NHIS.⁸ Each annual measure of the relative employment rate shows the gap in employment rates between men with and without disabilities. A relative rate of 100 would suggest that the employment rates of the two groups are the same, and any rate less than 100 suggests that employment rates are lower for men with disabilities relative to those without disabilities. By tracking trends in relative employment rates, we can measure how the gap in employment rates across men with and without disabilities is changing over time. This type of trend analysis is particularly powerful in understanding the general directions in disability policy, especially in how people with disabilities are faring relative to the general population.

Employment trends for two disability measures from the CPS are available over this 25-year period—the work limitation and one year work limitation (i.e., reported work limitation in two periods). There are also two disability measures from the NHIS (work limitation and impairment). For the NHIS comparisons using work limitations, there is a gap in the trends in 1996.

There are substantial differences in the relative employment rates across disability measures, which is consistent with the findings in the earlier tables that show the employment rates of broader disability definitions (e.g., impairment) are higher than those with more narrow definitions (e.g., longer term work limitations). The relative employ-

Figure 4.4 Relative Employment Rate for Any Annual Employment Measure (Adults Aged 21– 58)



NOTE: Relative rates are the employment rate for persons with work limitations (impairments) divided by the employment rate for those without work limitations (impairments). The NHIS impairment measure is only available from 1983 to 1996 due to the NHIS redesign. Two different series (1983–1996, 1997–2006) for the NHIS work limitation measure are used because of differences that may have occurred related to the NHIS 1996 redesign.

SOURCE: Burkhauser et al. (2002) and authors’ calculations using the CPS and the NHIS.

ment rates in 1996, a year in which comparable data exists across all measures, ranges from a high of 89 percent for the NHIS impairment measure to a low of 29 percent for the longer term work limitation in the CPS (Figure 4.4; see Table 4A.3 in Appendix 4A for detailed data).

Despite the overall differences in the level of these rates, the striking aspect of Figure 4.4 is the relative long-term decline in employment rates of people with disabilities across all comparable measures since the 1980s. The relative employment rates using the CPS work-limitation and long-term work-limitation measures dropped from 51 and 32 percent, respectively, in 1981 to 32 percent and 17 percent in 2005. In the NHIS, comparisons for work limitations and impairment

definitions are limited to 10-year intervals, but the general direction of the relative rate measures is also downward. These findings are important because they illustrate the potential for using the NHIS and CPS for trend analysis and suggest the findings for trends in relative employment outcomes are not sensitive to the disability conceptualization.

The trends in Figure 4.4 also show the importance of making comparisons of employment rates across similar points in the business cycle, a point that was emphasized by Burkhauser et al. (2002). The relative employment rates across all disability measures increased in periods immediately following the recessions of 1991 and 2001. They declined during the economic expansions of the late 1980s and late 1990s, indicating that persons with disabilities tended to lose ground relative to those without disabilities during these periods.

Recent Employment Estimates from the ACS

The ACS has several features that make it one of the best sources for up-to-date estimates of employment rates of people with disabilities. First, its large sample allows users to produce reasonable estimates of narrowly defined subgroups (e.g., Native Americans) and small area estimates (e.g., estimates created for states and counties). Second, it allows users to create a broader set of disability measures than the CPS does and a broader set of employment measures than the NHIS does. Third, the data are available relatively quickly after being collected. The Census Bureau releases a wide variety of disability employment rate tables on its American Factfinder site approximately eight months after the last month of data collection in a given calendar year, and it also releases a Public Use Microdata Sample (PUMS) that contains the individual-level data necessary to construct customized tables. PUMS data allow users to describe the employment rate for subgroups of people with a disability at the national level as well as to construct customized state-level disability tables. The timely and easily accessible data drawn from the ACS is an improvement over the SIPP, which does not collect or release disability employment rate data on an annual basis. It is also an improvement over the NHIS, which releases a public-use data file soon after the annual data collection but does not produce easily accessible estimates on the employment rate of people with disabilities.

As can be seen in Table 4.3, which uses data from the 2006 ACS, 39 percent of those aged 25–61 with a disability were employed using the past week as our reference period compared to 81 percent of those without a disability. This results in a relative employment rate of 48 percent. The employment rate results are similar to those in the previous section—among the population with a disability, the employment rate is highest for those with sensory disabilities (50 percent), followed by physical impairments (33 percent), mental impairments (29 percent), work limitations (18 percent), ADL limitations (17 percent), and IADL limitations (17 percent). The levels and relative rates are somewhat higher when the any annual employment measure is used and somewhat lower when the full-time annual measure is used. The ordering across disability types, however, is similar. The lone exception is the lower employment rate for the full-time annual measure for those with a work limitation compared to those with an ADL limitation.

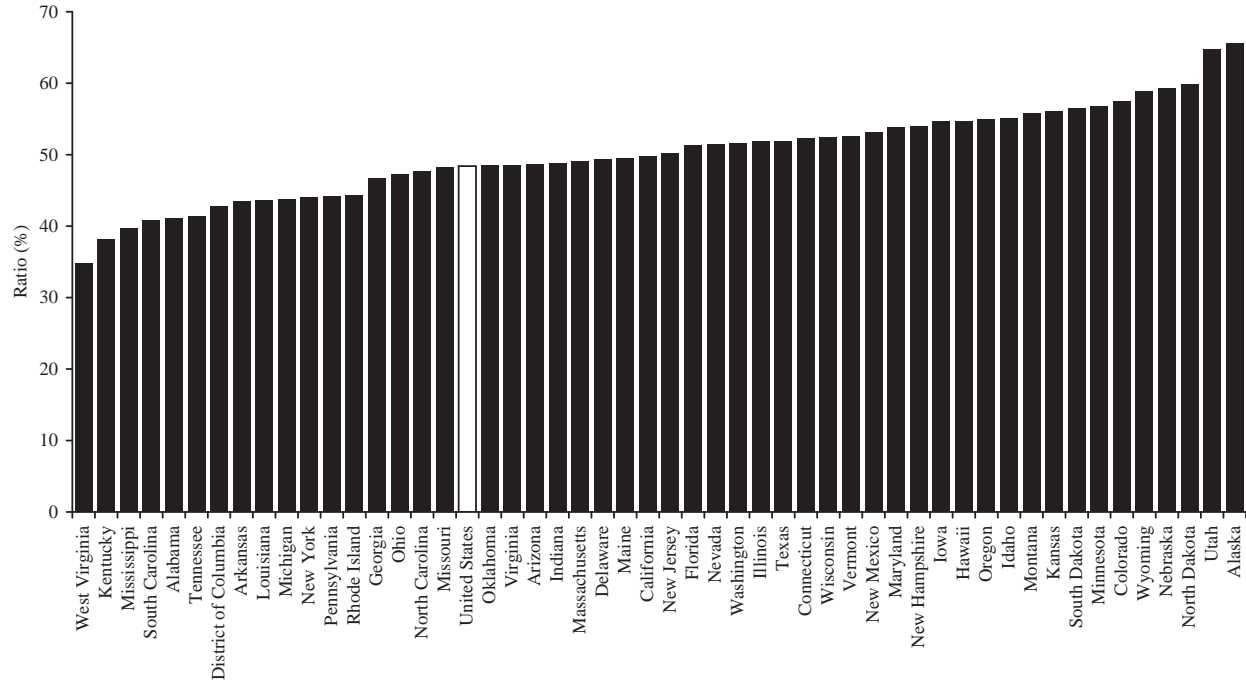
Table 4.3 also shows differences in the employment rate across sex, race, and education subgroups. Although the levels differ across sex (men have higher employment rate levels), the relative employment rate between those with and without a disability is almost identical, as shown in column 3. The employment rate ordering across the various disability types is also similar across groups.

State- and Local-Level Estimates from the ACS

Both the CPS and the ACS may be used to construct state-level estimates, but the U.S. Census Bureau recommends using the ACS for up-to-date employment rate data for all states and some smaller geographic areas. The 2006 ACS sample is large enough to produce estimates on geographic areas with a population of 65,000 or more, including 783 counties, 436 congressional districts, 621 metropolitan statistical areas (MSAs), all 50 states, and the District of Columbia. In future years, it will be able to support smaller area estimates by pooling adjacent years of data together.

A major advantage of the ACS is the ability to use broader disability concepts than are available in other sources to illustrate the substantial variation in the relative employment rates of people with disabilities to people without disabilities across states (Figure 4.5). The differences

Figure 4.5 Relative Reference Period Employment Rates of Adults (Aged 25–61), by State (2005)



NOTE: Relative reference period employment rate calculated as the ratio of the employment rate of people who report “any disability” in the ACS, which includes any sensory impairment, physical impairment, mental impairment, ADL, IADL, or work limitation, relative to people who do not report any disability.

SOURCE: Authors’ calculations using the 2006 ACS.

Table 4.3 Recent (2005) Employment Rates (%) for Demographic Groups from the ACS for the Working-Age Population (Aged 25–61)

Employment measure	No disability (1)	Any disability (2)	Relative employment rate [(1)/(2)] (3)	Sensory impairment (4)	Physical impairment (5)	Mental impairment (6)	ADL (7)	IADL (8)	Work limitation
All									
Reference week	81.4	39.4	48.4	50.3	33.5	29.0	17.8	17.3	18.4
Any annual	87.8	47.8	54.4	57.3	41.4	36.6	24.6	24.0	26.7
Full-time annual	60.1	23.6	39.3	34.3	19.6	14.7	9.1	7.9	8.0
Men									
Reference week	88.6	43.2	48.8	55.9	34.9	31.5	18.6	18.7	20.0
Any annual	94.7	51.9	54.9	63.3	43.5	39.5	25.9	25.8	28.9
Full-time annual	72.2	28.4	39.4	41.2	22.2	17.7	10.2	9.2	9.7
Women									
Reference week	74.4	35.9	48.2	42.8	32.3	26.7	17.1	16.3	17.0
Any annual	81.1	43.9	54.1	49.4	39.7	34.1	23.6	22.7	24.7
Full-time annual	48.3	19.2	39.7	25.2	17.4	11.9	8.2	6.9	6.5
White									
Reference week	82.1	39.7	48.4	51.2	33.4	29.2	17.6	17.6	18.6
Any annual	88.3	48.3	54.7	58.5	41.5	37.4	24.1	23.9	26.9
Full-time annual	60.7	23.7	39.0	35.2	19.5	14.3	8.4	7.1	7.6
Black									
Reference week	75.9	27.9	36.8	31.7	25.4	18.8	13.6	13.0	13.5

Any annual	85.5	37.8	44.2	41.0	34.7	27.5	21.3	20.0	21.6
Full-time annual	56.9	16.4	28.9	20.6	14.9	8.9	7.1	6.2	6.2
Hispanic									
Reference week	76.5	38.8	50.7	45.9	33.3	28.4	16.4	16.7	18.7
Any annual	83.6	48.4	57.9	54.7	42.0	36.6	23.0	23.6	27.7
Full-time annual	56.4	23.3	41.4	31.0	18.8	15.0	8.5	8.5	9.1
Native American									
Reference week	71.8	30.5	42.5	36.7	26.7	20.8	15.9	16.3	15.4
Any annual	81.6	41.5	50.9	47.3	35.0	31.0	24.6	23.5	24.0
Full-time annual	49.1	18.1	36.9	23.6	14.7	11.0	9.4	7.8	6.9
Asian									
Reference week	76.6	43.5	56.7	48.7	39.8	28.6	22.5	28.3	28.8
Any annual	82.9	52.7	63.6	55.9	47.4	35.6	30.6	38.2	38.5
Full-time annual	55.4	26.5	47.9	32.1	24.6	14.9	13.3	15.3	16.0
Less than high school									
Reference week	67.7	23.9	35.3	28.9	18.9	19.1	11.1	13.5	12.0
Any annual	76.8	32.5	42.3	36.6	26.8	26.4	16.1	18.3	18.6
Full-time annual	46.9	12.5	26.7	17.5	9.9	8.2	4.1	4.4	4.5
High school									
Reference week	78.7	35.6	45.3	46.5	29.9	27.0	15.1	15.7	16.5
Any annual	86.0	44.6	51.8	54.5	38.3	35.3	21.7	22.1	24.7
Full-time annual	59.3	21.1	35.5	31.7	17.1	13.3	7.4	6.4	7.0

(continued)

Table 4.3 (continued)

Employment measure	No	Any	Relative	Sensory	Physical	Mental	ADL	IADL	Work
	disability	disability	employment	impairment	impairment	impairment			limitation
	(1)	(2)	rate [(1)/(2)]	(4)	(5)	(6)	(7)	(8)	
Greater than high school									
Reference week	83.8	47.7	56.9	59.5	41.9	35.1	23.4	21.5	23.7
Any annual	89.9	57.0	63.4	67.3	50.7	44.5	32.0	29.9	33.6
Full-time annual	62.0	29.7	47.8	41.8	25.5	18.5	12.6	10.8	10.6

SOURCE: Authors' calculations using the 2006 ACS.

in relative employment rates ranged from 35 percent (West Virginia) to 66 percent (Alaska). The primary reason for the large differences in the relative rates is the large differences in the employment rates of people with disabilities in these states. As shown in Table 4A.4 in Appendix 4A, West Virginia has the lowest employment rate for the any disability group (28 percent) nationally, and Alaska had one of the highest employment rates for the any disability group (51 percent). The federal government, and states themselves, can use these measures to both target and monitor their efforts for improving employment among people with disabilities. For example, does the large variation in relative employment rates suggest a potential area for improving state programs for people with disabilities by looking at the programs and policies of states that have relatively higher employment rates? When smaller area estimates eventually become available, states can target efforts at smaller geographic areas that may need disability employment support programs. By tracking consistently defined disability employment measures over time, states may identify progress toward reaching disability employment rate goals or identify a need to improve policies aimed at improving this rate.

Longitudinal Analysis from the SIPP

The primary advantage of using SIPP data for disability research is that it can be used to track longitudinal changes in characteristics and outcomes, such as changes in health, income, and employment. Tracking these changes is especially helpful in understanding the effects of events, such as the onset of a disability, on earnings. For example, Burkhauser and Wittenburg (1996) used SIPP data to compare the income and earnings of people who had reported a work limitation over multiple periods to individuals who had either had never reported such a limitation or had done so only recently. The longitudinal data also provides information on how employment varies throughout the year for people with disabilities.

To illustrate the potential for tracking outcomes longitudinally, we present data from the 2001 SIPP on changes in the health, employment, and program participation status of people who reported a work limitation in both wave 5 and wave 8, one year apart (Table 4.4).⁹ More than 75 percent of the people who reported a work limitation in wave 5

Table 4.4 Longitudinal Analyses of Health and Employment Changes from the SIPP for Adults (Age 25–61)

	No work limitation	Work limitation
Sample size	26,587	3,145
Population estimate	112,700,000	12,540,000
Changes in work limitation status (%)		
Work limitation in wave 5	0.0	100.0
Work limitation one year later	NA	75.6
No work limitation one year later	NA	24.4
Without work limitation in wave 5	100.0	0.0
Work limitation one year later	3.2	NA
No work limitation one year later	96.8	NA
Reference period (%)		
Employed (May 2002)	82.0	28.0
Employed one year later (May 2003)	75.6	22.0
Not employed one year later (May 2003)	6.4	6.0
Not employed (May 2002)	18.0	72.0
Employed one year later (May 2003)	5.8	6.1
Not employed one year later (May 2003)	12.2	65.9

NOTE: Because of attrition, there are respondents who do not have data in both time periods (May 2002 and May 2003). The amount of attrition is larger than in previous tables, but it most likely does not have a substantive effect on the findings.

SOURCE: Wittenburg and Nelson (2006), who used data from the 2001 SIPP.

also reported a work limitation one year later (in wave 8). These results suggest that at least three-quarters of the population with a work limitation are composed of people who have had the limitation for more than one year. Only 3.2 percent of those without a work limitation in wave 5 reported a work limitation one year later, but this seemingly small incidence of disability actually represents a large number of people (approximately 3.6 million people) because the total population without a disability is so large. However, this population is still much smaller

than the overall base of all people with disabilities (approximately 12 million people).

Employment status also changes throughout the course of the year, which partly reflects the changing health status of people with disabilities. For example, 28 percent of those who report a work limitation in wave 5 were working in May 2002, and 22 percent were working in May 2003 (i.e., 78 percent of workers with a limitation who were working in May 2002 were also working a year later). Similarly, 72 percent of workers who reported a work limitation in wave 5 were not employed in May 2002, and 66 percent of those were not employed one year later. These findings underscore the dynamic nature of the disability process and how a person's health and employment status can change throughout the year.

Linked Administrative Data

Another advantage of the SIPP, CPS, and future versions of the ACS is that they include linked data to SSA records on program participation and earnings, which can be accessed on a restricted basis to examine long-term trends in program and employment outcomes.¹⁰ The primary advantage of the matched data is that they combine survey responses for a nationally representative sample of survey respondents with lifetime program and earnings information from the SSA administrative records. The SSA administrative records include information on participation in SSI and SSDI programs and annual earnings from SSA-covered employment. Hence, researchers can use these data to observe in detail the program participation and earnings before, during, and after the respondent's interviews. The combination of survey and administrative data provides detailed characteristics of Social Security disability program applicants and recipients—family characteristics, health, labor market, and other program participation information (e.g., food stamps)—that is not possible with SSA administrative data alone.

In Table 4.5, we present descriptive information on trends in program participation and earnings of people with and without work limitations who were working during their first interview for the 1990, 1991, 1992, and 1993 SIPP panels (Stapleton, Wittenburg, and Maag 2005).¹¹ They pooled data from these panels to examine transitions into SSI and

Table 4.5 Longitudinal Analyses of Employment and Program Participation Using Matched SIPP and SSA Administrative Data for Adults (Aged 25–61)

	Year relative to first SIPP interview										
	-5	-4	-3	-2	-1	0	1	2	3	4	5
Employment rates (%)											
Men without limitations	92.5	93.6	94.7	96.0	97.1	100	96.7	95.1	93.8	92.8	91.6
Men with limitations	88.5	89.3	90.8	91.0	92.4	100	93.2	87.9	84.7	81.6	78.5
Women without limitations	84.5	86.4	88.9	91.2	93.9	100	94.4	91.9	90.2	89.1	87.7
Women with limitations	78.3	78.8	80.4	85.4	88.5	100	87.2	82.8	79.2	76.3	74.6
SSI/SSDI participation rates (%)											
Men without limitations	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.7	1.0	1.4	1.7
Men with limitations	0.8	0.8	0.8	0.5	0.4	0.0	3.0	5.8	8.0	10.4	11.1
Women without limitations	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.1	1.5	1.9
Women with limitations	1.1	0.9	0.8	0.5	0.4	0.0	2.4	4.8	6.9	9.8	10.6

NOTE: Stapleton, Wittenburg, and Maag (2005) defined employment and program participation using SSA administrative data. Employment is defined as any annual earnings, and program participation is defined as any participation in SSI or SSDI during the year.

SOURCE: Stapleton, Wittenburg, and Maag (2005), who used data from restricted access matched SSA data that were linked to the 1990, 1991, 1992, and 1993 SIPP panels.

SSDI as well as entries and exits from the labor market. They identified workers as those for whom Social Security earnings were reported for their base year (i.e., earnings that appeared in SSA's administrative files) but who did not receive SSA disability benefits. "Employment exits and re-entries" and "program entries and exits" were identified solely from the administrative data. A respondent was defined as being employed during a calendar year if, and only if, he or she had earnings in that year. An exit was defined as a change from positive calendar year earnings to zero earnings in the following year, and re-entry was defined as the opposite. Similarly, program entry (exit) was marked by a change in SSDI or SSI benefits from zero to positive (positive to zero) during a year.

Stapleton, Wittenburg, and Maag (2005) showed that there are important differences in earnings and program participation between people with and without disabilities before, during, and after their SIPP interviews. For example, workers with disabilities (regardless of sex) were less likely to be employed than their counterparts without disabilities in the five years leading up to the interview. In the year after the first SIPP interview, workers with disabilities experienced a sharper employment decline relative to those without disabilities, and a large gap between the two groups emerged by the fifth year after the interview. Additionally, very few employed workers in these panels had participated in SSDI or SSI before their base year, although participation did increase in the five years following their first SIPP interview. Program participation for workers with disabilities grew substantially in the five years after the base year—to approximately 12 percent, compared to about 2 percent for those without disabilities. Although many people with disabilities who were not employed in the fifth year had entered one of the disability programs, this analysis suggests that a substantial share had not.

DISCUSSION

Based on the information in this chapter, we found substantial differences in the employment rates both within and across national data

sources. These differences may be driven by several factors, including 1) differences in the definition of disability, 2) differences in the definition of employment, and 3) differences in survey design.

Much confusion arises in the literature and public discourse about the employment of people with disabilities because of the variation in employment statistics that stems from these factors. In the absence of a common understanding of what “disability” means, or a standard for defining employment, the only way to minimize confusion is to more precisely describe the disability population referenced and the employment measure used. When CPS data are used, it is best to refer to the “population with a work limitation,” rather than the “population with disabilities.” In the ACS, when including both work and IADL limitations, it would be “the population with participation restrictions,” or more generally, when using data on participation restrictions, activity limitations, and impairment, it would be the population with “any disability.” A more precise definition of these terms and of the employment measure used should reduce confusion. In addition, information on relevant aspects of the survey design can provide context for estimates on the disability employment rate. Of course, this is burdensome. It is much easier to simply use the terms “disability” and “employment” without reference to specific definitions or a survey’s context. To do so, however, is likely to be confusing at best and misleading at worst.

We also delineated the advantages and limitations of the different national data sources used to study different aspects of employment for the population with disabilities. The primary advantages of the ACS are that it produces timely information, has substantial employment information, and uses a set of disability measures that can capture a broadly defined group of people with disabilities, as well as more narrowly defined groups. The ACS is relatively new, however, and currently is limited in its ability to measure time trends because of ongoing improvements. In addition, the ACS is a repeated cross-section and does not track sample members over time. The CPS has the most extensive measures of employment, has the longest consistently measured time series of people with a health-related work limitation, and is able to track a sample of respondents over a one-year period. The primary drawback is that the CPS has a single disability measure (work limitation). The NHIS has an extensive set of disability measures, a fair amount of em-

ployment measures, and can produce consistent time series for certain periods of time (1983–1996 and 1997–2007). It is limited, however, in that it cannot produce state-level estimates and is a repeated cross-sectional survey that does not follow sample members over time. Finally, the SIPP has the most extensive combination of disability and employment measures among the national data sources, it may be used to follow individuals over a three-year period, and it has the capability to be linked to SSA administrative data. It is limited in that it is conducted only periodically, is not well suited to produce time series estimates, and is too small to support state-level estimates. Thus, users may be limited to specific data sources depending upon the particular aspect of the disability employment characteristics that are of interest, and they must make decisions on the source of data based upon advantages and limitations of each.

Fortunately, there are new enhancements that will substantially improve the existing data on employment for people with disabilities, which are discussed in more detail in Stapleton, Livermore, and She (2009). The creation of an official disability measure in the CPS is particularly noteworthy because the BLS will be able to regularly disseminate detailed employment statistics on the population with disabilities, as they do for other subpopulations. Additionally, the inclusion of more disability measures in the CPS will allow researchers to expand beyond the employment rate estimates for the work-limitation measure and estimate employment rates for alternative conceptualizations, including those that include functional limitations. These enhancements essentially build on the advantages these data sources already have for conducting disability research and create a basis for tracking lifetime employment outcomes. Armed with these enhanced data on employment outcomes, policymakers will have better information to administer programs and to identify potentially promising new policies that will improve the employment and economic self-sufficiency of people with disabilities.

Appendix 4A

Table 4A.1 Employment Definitions from National Data Sources

Measure/data source	Definitions
Employment: current employment	
ACS	LAST WEEK, did this person do ANY work for either pay or profit? Mark the “Yes” box even if the person worked for only 1 hour, or helped without pay in a family business or farm for 15 hours or more, or was on active duty in the Armed Forces. LAST WEEK, was the person TEMPORARILY absent from a job or business? (Yes, on vacation, temporary illness, labor dispute, etc.)
CPS	(Beginning in 1994) Last week, did [person] do any work for either pay or profit?
NHIS	(Prior to 1997) During the previous two weeks, did [person] 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 [person] did not work during those 2 weeks, did [person] have a job or business? . . . “Earlier you said that [person] has a job or business but didn’t work last week or the week before. Was [person] . . . on layoff from a job?” (After 1996) Which of the following [were/was] [you/subject name] doing last week? . . . “working for pay at a job or business” or “with a job or business, but not at work.”
SIPP	The Labor Force Section of SIPP includes a summary measure of total personal earnings from all jobs. If a person has any earnings in the reference period, the respondent is considered employed.

(continued)

Table 4A.1 (continued)

Measure/data source	Definitions
Employment: any annual employment	
ACS	At least 52 hours of work during the previous year. Determined by multiplying usual hours per week by the number of weeks worked in past 12 months, which are derived from the following questions. During the PAST 12 MONTHS, how many WEEKS did this person work? <i>Count paid vacation, paid sick leave, and military service.</i> During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?
CPS	At least 52 hours of work during the previous year. Determined by multiplying usual hours per week, which are derived from the following questions, by the number of weeks worked in past 12 months. During [the previous calendar year] in how many weeks did [person] work even for a few hours? Include paid vacation and sick leave as work. In the weeks that [person] worked [the previous calendar year], how many hours did [person] usually work per week?
NHIS	Did {you/he/she} work for pay at any time in {last year in 4 digit format}?
SIPP	Usual hours worked during the month times the number of weeks worked during the month summed over the period June 2001–May 2002—if greater than or equal to 52 hours, the person worked sometime in the previous year. (Labor Force Section) Usual hours worked during the reference month includes hours at Job 1, Job 2, business 1, and business 2 and number of weeks worked during the reference month.
Employment: full-time annual employment	
ACS	At least 50 weeks during the previous year and at least 35 hours per week, as determined from the following questions. During the PAST 12 MONTHS, how many WEEKS did this person work? <i>Count paid vacation, paid sick leave and military service.</i> During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?

Table 4A.1 (continued)

Measure/data source	Definitions
CPS	At least 50 weeks during the previous year and at least 35 hours per week, as determined from the following questions. During [the previous calendar year] in how many weeks did [person] work even for a few hours? Include paid vacation and sick leave as work. In the weeks that [person] worked [the previous calendar year], how many hours did [person] usually work per week?
NHIS	Those answering 35 or greater hours and 12 months to the following questions. How many hours did {you/subject name} work LAST WEEK at all jobs or businesses? OR How many hours {do/does} {you/subject name} USUALLY work at all jobs or businesses? How many months in {last year in 4 digit format} did {you/subject name} have at least one job or business?
SIPP	If the average over the 12 month period of June 2001–May 2002 of the usual hours worked during the month is equal to or greater than 35 and the total number of weeks worked during the 12 month period was equal to or greater than 50, the person is considered to be full-time annual employed.

SOURCE: Adapted from Burkhauser and Houtenville (2006), Weathers (2005), Harris, Hendershot, and Stapleton (2005), and Wittenburg and Nelson (2006).

Table 4A.2 Employment Rates Using Alternative Employment Reference Periods and Disability Definitions for Adults (Aged 25–61) from the 2001 SIPP

Employed during	No disability	Any disability	Participation restriction		Activity limitation	Impairments		
		At least 1 of the 6	Work limitation	IADLs	ADLs	Mental	Physical	Sensory
All								
Reference period	82.4	48.9	27.7	20.3	22.8	37.0	46.4	53.5
Any annual	90.6	61.1	41.0	34.1	38.8	46.3	59.0	63.7
Full-time annual	58.1	31.2	15.3	12.0	15.0	20.3	29.6	35.6

SOURCE: Wittenburg and Nelson (2006), who used data from the 2001 SIPP.

Table 4A.3 Any Annual Employment of Working-Age Men (Aged 21–58) in the CPS and NHIS Data Using Alternative Definitions of Disability

Year	CPS Annual Socioeconomic Supplement						NHIS					
	Cross-sectional data			Matched data			Cross-sectional data ^a			Cross-sectional data		
	Work limitation		Relative rate	Two-period work limitation		Relative rate	Work limitation			Impairment		
	With	Without		With	Without		With	Without	Relative rate	With	Without	Relative rate
1980	47.1	96.3	48.9	—	—	—	—	—	—	—	—	—
1981	48.7	96.0	50.7	31.2	96.1	32.5	—	—	—	—	—	—
1982	45.3	94.5	47.9	23.5	94.6	24.8	—	—	—	—	—	—
1983	44.2	94.3	46.9	24.0	94.3	25.5	52.8	89.4	59.1	82.3	87.2	94.4
1984	45.3	95.5	47.4	24.1	95.5	25.2	55.6	91.6	60.7	81.7	89.9	90.9
1985	46.7	95.9	48.7	—	—	—	53.1	92.3	57.5	83.8	90.4	92.7
1986	47.0	96.1	48.9	29.8	95.9	31.1	55.9	92.0	60.8	81.1	89.7	90.4
1987	47.2	95.9	49.2	26.6	96.2	27.7	53.0	92.5	57.3	84.6	89.9	94.1
1988	46.6	96.1	48.5	26.5	95.9	27.6	55.1	93.1	59.2	86.1	91.6	94.1
1989	47.4	96.1	49.3	28.0	96.2	29.1	55.7	93.6	59.5	86.8	92.1	94.3
1990	45.0	95.8	47.0	22.9	95.5	24.0	52.9	92.5	57.2	86.2	90.7	95.0
1991	44.5	95.3	46.7	24.1	95.5	25.2	50.5	91.5	55.2	83.4	90.3	92.3
1992	45.0	94.7	47.5	27.5	94.2	29.2	47.9	91.1	52.6	83.1	88.9	93.5

(continued)

Table 4A.3 (continued)

1993	40.3	94.7	42.6	25.7	94.8	27.1	50.4	91.6	55.1	85.2	89.7	95.0
1994	41.4	95.0	43.6	22.9	94.5	24.2	50.0	92.2	54.3	83.0	89.8	92.4
1995	38.4	94.9	40.5	—	—	—	47.6	92.5	51.4	79.9	90.4	88.4
1996	42.1	95.1	44.3	27.4	94.9	28.9	46.1	92.9	49.6	79.6	89.8	88.6
1997	38.2	95.4	40.0	21.5	94.7	22.7	50.5	96.9	52.1	—	—	—
1998	37.6	95.3	39.5	18.9	95.4	19.8	51.1	97.2	52.6	—	—	—
1999	37.0	95.2	38.9	19.2	94.8	20.3	51.2	97.4	52.6	—	—	—
2000	34.7	94.9	36.6	18.4	94.7	19.4	49.4	97.0	50.9	—	—	—
2001	36.0	94.5	38.1	21.3	94.1	22.6	46.7	95.5	48.9	—	—	—
2002	33.1	93.4	35.4	17.7	93.3	19.0	46.6	94.7	49.2	—	—	—
2003	30.8	93.2	33.0	19.5	92.8	21.0	45.4	93.9	48.3	—	—	—
2004	30.4	93.3	32.6	15.9	92.4	17.2	43.0	93.4	46.0	—	—	—
2005	29.9	93.4	32.0	15.7	93.3	16.8	43.4	93.5	46.4	—	—	—

^a NHIS changes in 1997 make work-limitation statistics from 1997 to 2005 not comparable to earlier statistics.

SOURCE: Authors' calculations using the CPS, 1981–2006, and NHIS, 1983–1996.

Table 4A.4 2006 ACS Reference Period Employment Rate for the Working-Age Population (Aged 25–61), by State

	No disability (1)	Any disability (2)	Relative employment rate = (2)/(1) (3)	Impairment			ADL (7)	IADL (8)	Work limitation (9)
				Sensory (4)	Physical (5)	Mental (6)			
All States	81.4	39.4	48.4	50.3	33.5	29.0	17.8	17.3	18.4
Alabama	80.2	33.0	41.1	42.4	27.3	24.1	14.8	13.1	12.2
Alaska	77.7	50.9	65.5	67.0	44.7	36.9	36.2	19.2	22.7
Arizona	80.0	38.9	48.6	47.7	33.9	28.4	17.1	16.5	18.4
Arkansas	81.4	35.3	43.4	45.3	27.5	25.4	9.0	10.7	14.5
California	78.9	39.2	49.8	50.7	34.4	28.8	17.8	18.6	19.1
Colorado	82.7	47.5	57.5	60.4	41.1	36.4	24.4	20.2	23.9
Connecticut	83.1	43.5	52.3	57.3	36.4	35.0	21.7	20.9	21.9
Delaware	83.2	41.0	49.3	51.7	35.7	37.1	19.5	13.8	15.9
District of Columbia	80.9	34.5	42.7	47.2	30.9	18.5	7.7	17.7	15.9
Florida	81.2	41.7	51.3	52.7	35.5	29.2	17.8	17.3	19.7
Georgia	80.8	37.8	46.7	47.5	31.5	27.5	16.8	14.4	16.2
Hawaii	79.2	43.3	54.7	41.9	37.2	30.8	21.1	22.9	28.1
Idaho	81.7	45.0	55.1	54.5	37.2	37.5	20.5	20.2	22.5
Illinois	81.0	42.0	51.8	54.5	35.4	31.6	19.3	19.0	21.7
Indiana	82.9	40.5	48.8	53.0	33.3	29.8	16.1	17.2	19.4
Iowa	86.9	47.4	54.6	61.3	40.9	41.6	24.2	22.1	25.0

(continued)

Table 4A.4 (continued)

	No disability (1)	Any disability (2)	Relative employment rate = (2)/(1) (3)	Impairment			ADL (7)	IADL (8)	Work limitation (9)
				Sensory (4)	Physical (5)	Mental (6)			
Kansas	84.8	47.5	56.0	58.3	40.8	39.2	25.9	27.8	24.6
Kentucky	81.0	31.0	38.2	40.5	25.5	17.9	13.9	10.8	11.5
Louisiana	78.4	34.2	43.6	43.3	29.4	25.9	16.0	14.9	15.6
Maine	85.0	42.0	49.4	57.5	33.0	34.3	20.2	11.6	18.8
Maryland	84.1	45.3	53.8	55.3	40.3	35.1	18.9	21.8	21.5
Massachusetts	84.1	41.3	49.1	53.6	37.1	32.5	23.2	21.8	20.6
Michigan	79.5	34.7	43.7	46.1	28.3	26.5	15.2	13.9	15.7
Minnesota	86.3	49.0	56.8	61.7	42.1	40.2	29.6	29.4	28.6
Mississippi	79.8	31.6	39.6	40.7	26.0	20.7	13.8	9.9	11.3
Missouri	83.3	40.2	48.2	45.0	33.6	30.5	15.2	16.6	19.5
Montana	84.2	46.9	55.7	64.2	36.4	34.4	21.6	17.5	23.1
Nebraska	86.4	51.1	59.2	67.6	45.3	43.9	17.0	20.3	25.2
Nevada	81.4	41.9	51.5	55.4	34.9	35.5	21.0	20.2	19.7
New Hampshire	86.6	46.7	53.9	66.0	41.0	37.0	28.0	28.4	23.7
New Jersey	82.1	41.1	50.1	51.0	36.1	29.6	18.9	21.8	19.7
New Mexico	78.9	41.9	53.1	52.5	35.2	31.8	18.7	19.0	20.5
New York	80.6	35.5	44.0	48.3	30.6	25.4	16.3	16.0	17.4

North Carolina	81.6	38.8	47.6	45.9	33.1	27.8	15.8	17.3	17.3
North Dakota	88.1	52.7	59.8	66.7	48.0	47.0	25.3	35.8	27.9
Ohio	82.5	39.0	47.2	50.7	32.8	29.8	20.3	20.3	18.5
Oklahoma	81.8	39.7	48.5	49.6	34.2	26.6	17.7	15.9	16.4
Oregon	80.8	44.4	54.9	55.8	39.4	33.4	18.3	18.0	22.4
Pennsylvania	82.7	36.6	44.2	51.3	30.7	26.2	16.5	17.6	16.7
Rhode Island	83.8	37.1	44.3	55.5	29.1	27.7	19.2	20.7	16.7
South Carolina	81.4	33.2	40.8	45.4	27.5	23.4	16.0	14.8	14.8
South Dakota	87.1	49.1	56.4	57.1	41.8	38.2	31.2	26.3	29.9
Tennessee	81.2	33.7	41.4	41.4	28.5	21.3	14.3	12.9	15.4
Texas	79.8	41.3	51.8	50.9	35.4	29.2	17.4	16.4	18.2
Utah	81.4	52.7	64.7	67.9	44.8	42.7	32.0	26.7	29.1
Vermont	86.6	45.5	52.5	56.4	36.2	35.5	28.9	21.9	20.0
Virginia	82.9	40.2	48.5	46.0	34.6	29.9	18.8	19.4	18.9
Washington	80.8	41.7	51.6	55.6	35.9	30.3	19.8	18.1	19.5
West Virginia	79.1	27.5	34.8	29.6	23.0	16.1	9.3	9.5	12.7
Wisconsin	85.9	45.0	52.4	58.6	38.4	37.5	24.1	19.9	23.6
Wyoming	84.8	49.9	58.8	68.5	36.9	37.5	20.7	17.2	24.4

SOURCE: Authors' calculations using the 2006 ACS.

Notes

1. The redesign of the NHIS that occurred in 1997, described in Chapter 2, makes it impossible to develop an accurate and reliable time series across the 1983–1996 period and the 1997 period forward. We chose to present work limitation data from the 1983–1996 period and 1997–2005 period in this chapter to illustrate the similarity in trends across the CPS and NHIS measures.
2. For specific employment definitions from each survey, see Table A4.1 in Appendix 4A.
3. We used a weekly reference period to report work from the CPS, ACS, and NHIS and a monthly period to report work from the SIPP. We chose the monthly period for the SIPP because most SIPP-based estimates are monthly, given the design of the survey.
4. The CPS can also be used to create panel estimates by linking respondents across different waves of the survey.
5. The “no disabilities” category Wittenburg and Nelson (2006) use is the same as that documented in Weathers (2009). It includes people without any reported participation restrictions, activity limitations, or impairments.
6. We did not have access to linked administrative data from the CPS. However, we do present estimates from the linked SIPP administrative data files from one of our prior studies.
7. Although some components of the March supplement of the CPS have changed over time, the employment and work-limitation measures have remained the same, and there does not appear to be a “seam” in the CPS data for these measures.
8. We focus on employment rates of men because there was a sharper decline in the employment rate of this group that can be readily identified in the tables. Burkhauser, Houtenville, and Wittenburg (2003) also compared employment rates of women with and without disabilities and found the same relative differences as they found for men. However, the relative employment rate differences for women were caused largely by the expansion in employment by women without disabilities, whereas the relative employment rate differences for men were caused by the decline in employment of men with disabilities, as will be discussed in more detail in this chapter.
9. This table updates the earlier analysis of Burkhauser and Wittenburg (1996).
10. Researchers can apply for access to the restricted files through Census’s Center for Economic Studies program at www.ces.census.gov. The Census Bureau and the SSA are working on linking the ACS to SSA administrative data, but these linked data are not yet available to researchers. Some caution must be used in using linked files, because the match rates of survey to administrative records varies over time across both the CPS and SIPP. Finally, the NHIS data for 1994–1998 have been linked to SSA program participation data but not to earnings records. The match rate is much lower than that of the CPS and the SIPP, which substantially limits its value in conducting disability research, as described in Stapleton, Wittenburg, and Thornton (2009).

11. Stapleton, Wittenburg, and Maag (2005) also present analyses to examine specific transitions following business cycle changes that use more complex multivariate analyses.

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