PSID A national study of socioeconomics and health over lifetimes and across generations

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A Guide to Disability Statistics from the Panel Study of Income Dynamics

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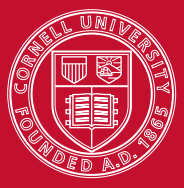

Cornell University

Rehabilitation Research and Training Center
on Disability Demographics and Statistics

Disability Statistics User Guide Series

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Introduction

The mission of the Cornell StatsRRTC is to bridge the divide between the sources of disability data and the users of disability statistics. One product of this effort is a set of *User Guides* to national surveys that collect information on the population of persons with a disability. The purpose of each User Guide is to provide data users with:

1. An easily accessible guide to the information on persons with a disability available in the major nationally representative survey;

2. A set of estimates on persons with a disability from this survey, including estimates on the size of the population, the prevalence rate, the employment rate, and measures of economic well-being;

3. A description of the unique features of the survey;

4. A set of estimates that highlight the unique features of the survey; and

5. A description of how estimates from the survey compare to those from other national surveys used to estimate characteristics of persons with a disability.

This User Guide provides information on the Panel Study of Income Dynamics (PSID). The 2003 PSID is a nationally representative sample of over 7,000 families. The PSID began in 1968 with a sample of 4,800 families and re-interviewed these families on an annual basis from 1968-1997. Since then, it has re-interviewed them biennially. Following the same families and individuals since 1968, the PSID collects data on economic, health, and social behavior. (See http://psidonline.isr.umich.edu/ for detailed information on the PSID).

Initially, the PSID identified disability by asking the head of the household whether he, or she when no adult male is present, had a physical or nervous condition that limits his or her ability to work. In 1981 the PSID began asking the head this question with respect to his spouse. Additional questions that provide an opportunity to expand this definition of disability were included in 2003. Our User Guide makes use of these new questions to estimate the size of the population with disabilities and the prevalence rate of disability in the population, as well as the employment rate and level of economic well-being.

The major strength of the PSID for those interested in disability research is its long-running information on families. No other nationally representative survey has captured such detailed information on the same families over such a long time. Such longitudinal data allows researchers to better understand the dynamics of the disability process and its consequences. Here we demonstrate the comparative advantage of the PSID over traditional cross-sectional data sets. Using the PSID, we identify persons with disabilities of various lengths and show the sensitivity of alternative definitions of the population with disabilities based on the duration of a disability. We also measure how the employment and economic well-being of individuals changes following the onset of a disability. Finally, we provide examples of how the PSID has been used with the German Socio-Economic Panel (GSOEP) to compare the employment and economic well-being of working-age people with disabilities in the United States and Germany. This analysis uses the equivalized data from these longitudinal datasets contained in the Cornell University Cross-National Equivalent File (CNEF).

The PSID has limitations that are relevant for some disability topics. It has historically had relatively little information on the health of its population. Prior to 2003, the only data available to capture a disability was information on work limitations. And, even that information was limited to the head of the family and, if married, his wife, as reported by the head. While the PSID does collect information on current location, its annual sample size is too small to support estimates at the State level. Thus, it is not a useful dataset to study specific types of disability (e.g., sensory disabilities or physical disabilities), to study children with disabilities, or to do State-specific analysis of the population of persons with a disability. In addition, its relatively small sample size and its lack of data on the disability status of other family members makes it less useful than repeated, nationally representative cross-sectional datasets in capturing trends in the overall population with disability over time. For instance, researchers interested in examining annual estimates of the population of working-age people to measure trends in employment or economic well-being with a work-limitation based disability should use the Current Population Survey (CPS).

Conceptual Model of Disability

Our User Guide series describes the information available on the working-age population with disabilities in six national surveys. To make comparisons of the values found across these datasets, it was necessary to develop a consistent operational definition of disability and the factors that determine disability. Unlike age and gender, that are for the most part readily identifiable individual attributes, disability is usually defined as a complex interaction between a person's health condition and the social and physical environment.

The two most common conceptual models of disability used in the United States are the World Health Organization's (WHO, 2001) International Classification of Functioning, Disability and Health (ICF) and the disability model developed by Saad Nagi (1965, 1976). Both definitions explicitly recognize disability as a dynamic process involving the interaction of a person's health condition and personal characteristics, as well as the physical and social environment. Changes in any of these factors can impact a person's ability to function and participate in socially expected activities. Jette and Badley (2000) provide a detailed description and comparison of these models.

Our User Guides adopt ICF concepts to create operational definitions of disability. The concepts used include *impairment*, *activity limitation, participation restriction,* and *disability* (see WHO, 2001). A prerequisite for each of these concepts is the presence of a health condition. Examples of health conditions are listed in the International Classification of Diseases, Tenth Edition (ICD-10) and they encompass diseases, injuries, health disorders, and other health-related conditions.

An *impairment* is defined as a significant deviation or loss in body function or structure. For example, a loss of a limb or a loss of vision may be classified as an impairment. In some surveys, impairments are defined as long lasting health conditions that limit a person's ability to see or hear, limit a person's physical functions, or limit a person's mental capabilities.

An *activity limitation* is defined as a difficulty an individual may have in executing activities. For example, a person who experiences difficulty dressing, bathing, or performing other activities of daily living due to a health condition may be classified

as having an activity limitation. In some surveys, activity limitations are identified based on a standard set of activities of daily living questions (ADLs).

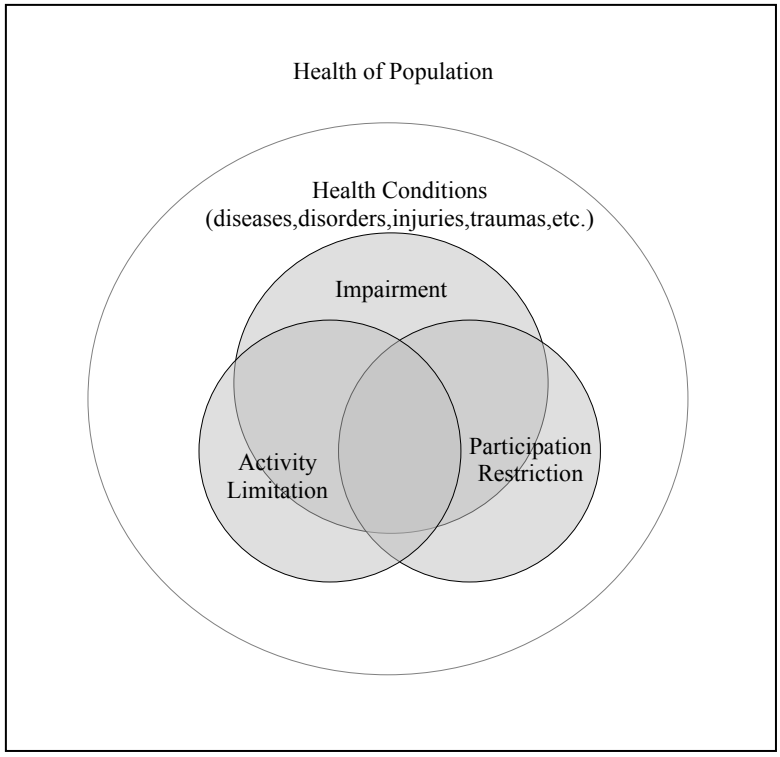
A *participation restriction* is defined as an inability to engage in an expected activity. For example, a working-age person with a severe health condition may have difficulty participating in employment as a result of the physical (e.g., lack of reasonable employer accommodations) or social (e.g., discrimination) environment. In some surveys, participation restrictions are identified by questions that ask whether the person has a long lasting health condition that limits his or her ability to work, or whether a health conditions affects his or her ability to go outside his or her home to go shopping, to church, or to the doctor's office.

The final ICF concept that we use is *disability*. The term disability is used to describe the presence of a health-based impairment, an activity limitation, and/or a participation restriction. This concept is similar to the definition used in the Americans with Disabilities Act of 1990 (ADA). The ADA defines a disability as "a physical or mental impairment that substantially limits one or more of the major life activities, a record of such an impairment, or being regarded as having such an impairment."

While these concepts may seem to follow a progression—that is, an impairment leading to an activity limitation leading to a participation restriction—this need not be so. A person may have a participation restriction without an activity limitation or impairment. For example, someone diagnosed HIV positive with no impairment or activity limitation may be unlawfully refused employment based on their health condition. Similarly, a person with a history of mental illness, but no current loss in capacity or activity limitation, may also be unlawfully refused employment based on their past history.

Figure 1 provides a summary of ICF concepts. It shows that while these concepts overlap, one can occur without another. The ICF universe is the health of the entire population. The shaded area in Figure 1 contains the population with disabilities using ICF concepts.

Figure 1. Simplified Conceptual Model of Disability Using ICF Concepts



Operational Issues

Translating questions on currently available surveys into ICF concepts of disability — impairment, activity limitation, and participant restriction — is not a straightforward task. No well-defined rules exist for doing so. In some cases, the classification is straightforward. In others it is less so. For example, some survey questions may be interpreted as both an activity limitation and a participation restriction. Our approach in these cases is to make consistent judgments. In doing so, we attempt to provide an ICF-based framework for comparing disability populations across surveys.

PSID Background, Methodology, and Definitions

The Survey Research Center, Institute for Social Research, University of Michigan started the PSID in 1968. The PSID has been funded by a number of government agencies, foundations, and other organizations over the years. The PSID was originally developed to study the dynamics of poverty. Thus, its nationally

representative sample of approximately 4,800 families in 1968 included an over-sample of approximately 2,000 low-income families drawn from the U. S. Census Bureau's 1966 Survey of Economic Opportunity (SEO).

The original PSID core sample is representative of the population of U. S. households in 1967. The sample has remained representative of the non-immigrant population over time by including new family members and following old family members as they leave to form new families. In 1997, to make the PSID representative of the entire U.S. population, the PSID added a sample of immigrant families who arrived after 1967.

Sample Units

The PSID interviews family units within a household. It defines a family unit as a group of individuals living together who are related by blood, marriage, or adoption. The PSID definition also includes unmarried couples who live together. The inclusion of unmarried couples who live together as part of the definition of family differs from the U. S. Census Bureau definition of a family.

Sample Design.

The original 1968 PSID core sample of 4,800 families was based on two independent samples. The first sample was designed as an equal probability sample of 3,000 families living in the continental U.S. It was drawn by the University of Michigan's Survey Research Center and is referred to as the SRC sample. Because some of the families chose not to participate, only 2,930 interviews were completed. The second sample was designed to select 2,000 low-income families drawn from the U. S. Census Bureau's Survey of Economic Opportunity (SEO). It is referred to as the SEO sample. Because of non-response in the original SEO survey and in the first PSID interview only 1,872 families participated.

The SRC/SEO combined core sample is a probability sample with unequal probability of selection. Sample weights are included to adjust descriptive statistics to make them representative of the population. Appendix A describes how PSID weights can be used to construct unbiased population estimates.

In addition, the core sample is a stratified multi-stage sample. It is stratified in that certain segments of the population are more likely to be selected (e.g., low-income households from the SEO sample) relative to the general population. It is multi-stage in that primary sample unit areas from the U. S. are first defined and selected, then defined areas within the primary sampling units are selected, and then families within these geographic areas are selected for participation. While these clusters are systematically chosen to be representative of the United States, families within each cluster are likely to be more alike than a randomly selected set of U. S. families. Both of these features of the sample design have implications for the sampling error, or degree of confidence, associated with PSID estimates. Appendix A describes methods that should be used to construct confidence intervals around PSID estimates that account for the PSID sample design.

As noted above, the PSID following rules are such that when a member of an original 1968 family forms a new family, that new family is interviewed. Thus, as new families are formed, the PSID includes information on family members who were not related to the original PSID family. For example, if a child of an original PSID family leaves the household to form a new family, his or her spouse would be included in the survey. The spouse, if not from an original PSID family, is referred to as a non-sample family member. A person is referred to as a sample PSID family member if he or she was a member of a family interviewed in the first wave, was born after 1968 into an original PSID family, or moved out of a first wave family and formed a new family. A person is referred to as a non-sample family member if he or she joined the panel study through marriage, cohabitation, or co-residency as an adult, or joined the panel study as the child of a non-sample adult. Non-sample family members are no longer interviewed if they leave a sample family. Original family members may leave the survey over time due to death, institutionalization, or other forms of attrition.

By 1996, the original core sample grew to almost 8,500 families. In 1997, three major changes were made to the PSID. First, the core sample was reduced to 6,168 families due to funding limitations, and some of the families from the SEO sample were dropped. Second, a sample of 441 immigrant families was added in order to keep the

sample representative of the U. S. population. Third, the timing of interviews was changed from once a year to once every two years.

Data Collection Methods

Between 1968 and 1972, the survey was administered in person using a paper and pencil questionnaire. Between 1973 and 1992, the survey was mostly administered over the telephone using paper and pencil. A small percentage of in-person interviews were conducted if the family did not have a phone or if there were other special circumstances. In 1993, the survey changed from paper and pencil to the use of computer assisted telephone interviewing (CATI) technology. The small percentage of in-person interviews are currently administered using computer-based instruments.

The survey is usually completed by the head of the family, who provides information on himself/herself as well as information on all members of the family unit. The PSID always identifies the head as the male in a married-couple family. Only in an unmarried female family is the head female. The family unit (FU) is defined as a group of people living together as a family. They are usually related by blood, marriage, or adoption, but unrelated persons can be part of the unit if they are permanently living together and share both income and expenses. Families can change from year to year. The household unit (HU) is defined as the physical boundary, such as a house or apartment, where members of the PSID FU reside. Not everyone living in a HU is automatically part of the FU.

Definitions

Table 1 contains descriptions of the survey questions in the PSID and how to use them to produce information on four sets of variables: disability, demographics, employment, and economic well-being. Below we discuss these four categories of variables. We will use them in our estimation of the disability population and its employment and economic well-being, based on the 2003 wave of the PSID, and use our ICF categories of disabilities to compare our PSID results with those from other major U.S. datasets.

Disability. Since 1968, the PSID has contained questions that allow one to create a work-limitation-based definition of disability. In almost all years, the PSID asked the head of the family:

> "Do you have a physical or nervous condition that limits the type of work or the amount of work you can do?"

Between 1969 through 1971, the question was split into the following two questions:

> "Do you have a physical or nervous condition that limits the type of work you can do?"
>
> "Do you have a physical or nervous condition that limits the amount of work you can do?"

In 1981, the PSID expanded the question it asked the head to include his wife. In terms of our conceptual model of disability based on the ICF classifications, if the head or wife is reported to have such a condition, we consider them to have a participation restriction.

In 2003, the PSID expanded its disability-related questions to include specific medical conditions, Activities of Daily Living (ADLs), and Instrumental Activities of Daily Living (IADLs). The wording of the ADL and IADL questions is also shown in Table 1. If a person reported difficulty with at least one ADL then, in terms of our conceptual model of disability, the person is classified as having an activity limitation. If the person reported difficulty with at least one of the IADLs then, in terms of our conceptual model of disability, the person is classified as having an IADL participation restriction. Mental impairments were identified using three questions from the 2003 PSID. These questions identify whether a doctor has ever told the person that they have or had: (1) any emotional, nervous, or psychiatric problems; (2) permanent loss of memory or loss of mental ability; or (3) a learning disorder. The PSID does not include the questions necessary to identify ICF-based disabilities with the categories of sensory impairments or physical impairments.

Using data from the 2003 PSID, we are able to create five definitions of disability in this User Guide that can be compared with similarly constructed definitions from other datasets and link them to the ICF concepts in Figure 1. They include the following four separate measures: (1) a "Mental Impairment" that we define as a loss of mental functioning and put in the Impairment category in Figure 1; (2) a "Self-Care Limitation" that we define as difficulty with at least one of the ADLs and put in the Activity

Limitation category in Figure 1; (3) an "Instrumental Activities of Daily Living Limitation" that we define as difficulty with at least one IADL and place in the Participation Restriction category in Figure 1; and (4) a "Work Limitation" that we define as a health or nervous condition that limits the kind or amount of paid work that a person can perform and place in the Participation Restriction category in Figure 1. The fifth is "Any Disability" that we define as including any person in at least one of the other four categories of disabilities.

Demographics. The next section of Table 1 describes the PSID data on the age, sex, race, and education level of all family members. Age is defined as the actual age of the individual reported in years on his or her most recent birthday. The PSID identifies the sex of the head of the household. By definition, the spouse in a PSID family is female. Race is determined by the following question:

> "In order to get an idea of the different races and ethnic groups that participate in the study, I would like to ask you about your background. Are you white, black, American Indian, Aleut, Eskimo, Asian, Pacific Islander, or another race?--FIRST MENTION"

The head may respond up to four times to this question, identifying four different types of racial background. The head may do so for each member of the family. Finally, the PSID includes questions on the educational background of the head and all other family members. The PSID uses these data to construct a variable that represents the number of years of education completed for each family member. In our User Guide, the "less than high school" variable is constructed as less than 12 years of school completed, "high school" variable is constructed as 12 years of school completed, and the "greater than high school" variable is constructed as more than 12 years of school completed. The questions used to create the years of education completed variable in the PSID are shown in Table 1.

Employment. The PSID may be used to construct several different employment measures. Three measures are used here. The first is the currently employed measure. It is based on the following question: "We would like to know about what you do—are you working now, looking for work, retired, keeping house, a student, or what?" The list of

possible responses to this question are: (1) working now; (2) only temporarily laid off, sick or maternity leave; (3) looking for work, unemployed; (4) retired; (5) Disabled, Permanently or Temporarily; (6) Keeping House; (7) Student; or (8) other (specify). Those who are reported as (1) working now, are considered employed using the reference period employment measure. The second definition is referred to as some employment in the previous calendar year. It is based on the annual hours of work measure from the PSID, and a person is considered to have some employment in the previous year if they work at least 52 hours over the course of the calendar year. The third measure is full-time, full-year employment. It is defined as being on a job for at least 50 weeks and working on average at least 35 hours per week. If a person was with a regular job, but absent from work for a period of time due to vacation or temporary illness, the weeks that they were away from work due to vacation or temporary illness were included in the 50 weeks of work measure. This inclusion makes the PSID measure comparable to the full-time, full-year measure used by the Census Bureau.

Economic Well-Being. The PSID may be used to create a large number of economic well-being measures. We use four measures. At the core of each is family income. Family income in the PSID is the sum of total family income from labor earnings, asset flows, private transfers, private pensions, public transfers, and social security pensions. Each of these measures is described in more detail in Table 1.

Our first measure of economic well-being is the percentage of people living in poverty. The poverty measure we use is based on the standards defined in Directive 14 from the Office of Management and Budget (OMB). These standards use poverty thresholds created in 1982 and adjusted to 2002 price levels based on the Consumer Price Index (CPI-U). The family is the income sharing unit. Family income is the sum of total income from each family member living in the family. The poverty threshold depends on the size of the family, the age of the householder (i.e., the PSID head) and the number of adult and related children under the age of 18 in the family. Appendix Table 5 shows the 2002 poverty threshold values for various family types. Family income is compared to the relevant poverty threshold to determine the family's poverty status. It is assumed that

all members of the family equally share total income so that every member of the family is either in poverty or not.

However, some members of the household may not be related to the head of the family by blood or marriage (or long-term cohabitation). The poverty threshold for these household members is based on their own total income. That is, they form separate families who are assumed to live independently from the primary family in the household. As shown in Appendix Table B-1, the poverty threshold for a member of a household who is unrelated to the householder is different from the threshold used for the householder's family.

The second measure used to examine economic well-being is the median family income-to-needs ratio. The family income-to-needs ratio is defined as a family's income divided by the poverty threshold for the family. It is referred to as the income-to-needs ratio because the income level associated with the poverty line represents the amount required to purchase the basic needs of the family. A value above 1 represents family income that is greater than the poverty line. For example, a value of 1.5 represents family income that is 1.5 times the income level associated with the poverty line for the family. A value below 1 represents family income that is less than the poverty line. For example, a value of 0.5 represents family income that is half of the income associated with the poverty line for the family. Lower values are associated with lower levels of economic well-being. The median family income-to-needs ratio sorts persons in a defined group by their family income-to-needs ratio from the lowest value to the highest value, and uses the value of the middle person (i.e., at the 50^{th} percentile). While the poverty measure shows the percentage of the distribution below the poverty line (i.e., the percentage in the lower tail of the distribution), the median family income-to-needs ratio shows how the middle person in the distribution is doing relative to the poverty line. It therefore provides another way to characterize the family-size-adjusted economic well-being of different groups.

Poverty statistics and the income-to-needs ratio do not adjust for expenses that are the result of a health condition or a disability (e.g., personal assistance, equipment, medications, etc.). They also do not adjust for in-kind benefits, such as health insurance, food stamps, housing, transportation, child-care, etc. For both reasons, family income

relative to the poverty line and poverty status have been criticized as a relatively crude indicator of economic well-being for a family with a member who has a disability. Further research is needed to compare poverty estimates based on the official poverty line to estimates based on alternative measures of poverty that incorporate disability related expenses.

Two other measures of economic well-being are included. The first measure is total family income. It does not adjust for family size. The second measure is family size-adjusted income. It assumes, for instance, that the total income required to achieve a given level of economic well-being for two people who live together is lower than if they lived separately. That is, by sharing housing and other resources, less income is required to achieve a given level of economic well-being then if they lived apart. A common measure of family size-adjusted income in the literature is:

$$Family\ \ Size\ \ Adjusted\ \ \ Income = \frac{Total\ \ Family\ \ Income}{(Family\ \ Size)^{e}}$$

Where *e* is a parameter, with a value between 0 and 1, representing the economies of scale of living together. For instance, it requires the same amount of electricity to heat a given house no matter how many people live in it. Hence, there are economies of scale with respect to heating expenditures when more than one person lives in a house and all members of the family share this common resource. At one extreme, when e equals 0, it is assumed that there are perfect economies of scale in all activities. That is, literally that "two can live as cheaply as one" and that the same amount of income will equally satisfy the needs of any size family. For this to be true, the two would have to love each other sufficiently that they would, for instance, feel equally satisfied whether they ate a meal or their partner did so. Even love has its limits, so it is unlikely that e would ever equal 0.

At the other extreme, when e equals 1, it is assumed that there are no economies of scale. Hence, not only can two people not live as cheaply as one, but they require twice as much income as a single person to reach the same level of individual economic well-being.

While there is no universal agreement on the value of the e parameter, e=0.5 is often used in the international literature and is also used in the United States literature. (See Ruggles 1990 p. 77; and Burkhauser, Smeeding, and Merz 1996). See Citro and

Michael (1995) for a more general discussion of the relative strengths and weaknesses of current poverty measures.

This paper uses a value of e equal to 0.5 in the computation of family size-adjusted income. Note that the United States poverty thresholds have an implicit value of e since they must compare the economic well-being of families of different sizes. Burkhauser, Smeeding, and Merz (1996) estimate the value of e implicit in the United States poverty thresholds to be 0.56, relatively close to the measure we use here.

Important Changes to the PSID Over Time

Burkhauser and Schroeder (2004) identify several important changes to the PSID over time that may affect estimates of the population with disabilities. These issues are discussed below.

Changes in the type of interview. As mentioned above, the interviews in the early years (1968-1972) were mostly conducted in person. The fraction of telephone interviews was less than 3 percent over these years. Since 1973, the PSID has used telephone interviews as the primary means of data collection and about 97 percent have been by phone. This change may affect disability estimates since respondents may behave differently when questioned in person rather than by phone. The fact that PSID in-person interviews took longer to complete than in subsequent years suggests that this may be the case.

Changes in the question. In 1969, 1970, and 1971, the work limitation question was asked in a slightly different way, which may make comparisons with later years problematic. Specifically, the question was split into three parts asking (a) whether the individual had an inability to do some kinds of work, (b) whether there were limitations to the amount of work, and (c) whether there existed health restrictions affecting housework only. Although the original question is included in spirit, it is difficult to combine the three parts to obtain a consistent measure of work limitation. As a result, it is likely that, to some degree, disability estimates may differ because of differences in the question rather than true differences in disability.

Changes in the procedure. In 1973, 1974, and 1975, the PSID did not ask the work limitation question of those who were in the sample in 1972, assuming that the answer would not change. For new entrants, the question was asked only at entry into the sample. In fact, we now know from later waves of the PSID and other panel data sources that there can be substantial changes in the work limitation responses of individuals over time. Hence the above assumption is not valid, and not asking the work limitation question of all respondents will result in a failure to capture the true duration of given spells of disability over a person's life. Another change in procedure occurred in 1997 when the PSID moved to a biennial interviewing scheme, i.e., since 1997 interviews have not been conducted in 1998, 2000, 2002 and 2004. This could influence the attrition rates in the survey, and therefore could lead to systematic changes in sample composition.

Inclusion of the spouses and other family members. It was not until 1981 that the PSID began to ask the head, if married, about his wife's work limitations. Since, if possible, the PSID defines the family's head as the adult male living in the family, this is the first year that reasonable inferences are possible for the female population. Furthermore, the PSID provides no information on work limitations for any other family members.

Changes in the placement of the question. The work limitation question's placement has varied over the years. This could have an independent response effect, similar to that found by Maag and Wittenburg (2004) for the SIPP. For example, the response to the same work limitation question may differ if asked as part of a health supplement rather than as a single question in the context of income and work-related topics. Until 1984, the PSID work limitation question was part of the income section. From 1985 to 1991, the question was part of a section containing 10 to 15 health-related questions. In 1986, the PSID conducted a health supplement (including the work limitation question), where the family head was asked several questions about his and his wife's health. This extended the health part of the questionnaire to 67 questions.[1] Since 1992, with the exception of

[1] These figures are the maximum number of questions possible. Individuals may answer fewer due to filtering in the process of the interview.

1997, the work limitation question has been part of more than 50 questions. Thus multiple changes in placement and context of the PSID work limitation question may influence the levels and trends in a non-random, time-dependent way.

Changes in the population interviewed. In 1992 and 1993 the follow-up procedure changed. In 1993, more than 1,000 individuals were re-contacted. If the re-contacted families were in better health than those that were already in the sample, this could bias the disability prevalence downward.[2]

Changes in data collection methods. The technology employed to impute and code PSID data has become much more elaborate and accurate over time. If data collection is a part of the measurement error, then even if the individual misreporting did not change over time, the improvement in the coding procedures could have an impact on the levels and trends observed.[3]

Immigrant Population. The PSID drew a nationally representative sample of families in 1967 and has remained representative of families who lived in the United States by including new members born into these families and continuing to follow all members who leave to form their own families. This design does not capture families who have entered the United States since 1968, and thus was not representative of the immigrant population after 1968. In 1997, the PSID addressed this data limitation by introducing a random sample of immigrants.

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[2] However, comparing self-assessed health status of individuals entering the sample and those already present, Burkhauser and Schroeder (2004) show that there is no observable difference.

[3] This probably does not affect yes"/ "no" variables like a work limitation. It might be more important for the accuracy of continuous measures, e.g. hours of work. Specifically, the PSID uses the so-called "event dating" procedure since 1984, which allows for a detailed employment history. This leads to more accuracy: "[…] the work hours and employment histories were cross-checked for inconsistencies and interviews were returned to the field for the resolution of the discrepancies. Thus, information on annual work hours is probably slightly more accurate than in the past." (PSID 1986)

Consequences of these Changes

Changes in PSID collection methods over time, and especially the lack of information on family members other than the head (and beginning in 1981 his wife), limit the ability of the PSID data to capture the overall trends in the United States working-age population with disabilities. Researchers interested in constructing time series of the U. S. non-institutionalized population with a work-limiting disability should use the Current Population Survey (CPS), which provides a more accurate measure of trends over time (for an example of the value of the CPS in capturing such trends, see Burkhauser, Daly, Houtenville, Nargis, 2002). The PSID does a much better job of capturing disability trends for men than women. Burkhauser and Schroeder (2004) compare time series estimates from the PSID and CPS and find that the trends for working-age males are similar, but this is not the case for working-age females.

PSID Estimates of Prevalence and Demographic Characteristics

As discussed above, time series measures of disability in the PSID are limited to a work-limitation-based measure of disability. But in 2003 the PSID expanded its information to include data on IADLs, self-care, and mental impairments. This allows researchers to construct broader measures of the population with disabilities. We will now use data from the 2003 PSID to look at the prevalence, employment, and economic well-being of working-age people with disabilities.

In Table 2, we first identify different age groups that reflect differences in expected social activities— children are aged 0-18, those making the transition from school to work are aged 18-24, working-age persons are aged 25-61, early social security eligible persons are 62-64 and normal retirement persons are aged 65 and older. The PSID restricts the questions used to identify disability to heads and wives of a family unit. Thus, it is not possible to use the PSID to construct estimates of the population under the age of 18 years old. For the other age groups we report the estimated population of heads and wives, their disability prevalence rate, and the sample size. The rows of the table describe the type of disability.

The first column of the first section of Table 2 shows that approximately 138,976,000 respondents (72.9 percent) ages 18-99 do not report a disability of any type in 2003. The second column shows that 51,167,000 persons (26.8 percent) report that they have a disability. The two percentages do not sum to 100 because there are a small number of persons, approximately 1.1 percent of the sample, who do not respond to the disability questions. The remaining columns show that 33,885,000 persons (17.8 percent) report a work limitation; 25,933,000 (13.6 percent) report difficulty with at least one IADL; 19,869,000 (10.4 percent) report difficulty with Self Care (i.e., an ADL); and 19,454,000 (10.2 percent) report that they have at least one of the three mental impairments.

The remaining sections of Table 2 provide the estimates for each of the age groups. The prevalence of any disability (those reporting any of the ICF-based disabilities captured in the PSID) is similar between those in the 18 to 24 age group and those in the 25 to 61 age group, with rates of 21.7 percent and 21.4 percent, respectively. However, the type of disability that contributes to the overall disability rate differs as shown in the subsequent columns. For those 18-24, mental impairments are the most prevalent disability — 14.9 percent. For those 25-61, work limitations are the most prevalent — 13.5 percent.

Table 2 also shows that those aged 62–64, and aged 65 and older, have significantly higher disability prevalence rates than the two younger age groups. An estimated 38.2 percent of those 62-64 report a disability, as do 51.5 percent of those ages 65 and older. The columns describing prevalence rates for each type of disability show that as the age of the group increases, there is a higher prevalence rate for three of the four disability types as well as the indicator for any disability. The one exception is the report of a mental impairment. Persons 18-24 are most likely to report this impairment.

Table 3 shows the composition of demographic characteristics using the same population described in Table 2 for those with and without a disability, and for each of the specific disability types reported in the PSID. Comparisons across the columns in this table show that persons with disabilities are more likely to be older than age 55, female, and have less than a high school education.

The first section of the table shows that persons who report a disability tend to be older that persons who don't. This is evident by examining the share of persons in each of the age categories described in the age section. Among persons without a disability, an estimated 13.3 percent are ages 55 to 64, 7.3 percent are between the ages of 65 and 74, 3.2 percent are between the ages of 75 and 64 and 0.4 percent are over the age of 85. By comparison, the percentage of persons with a disability is higher for each of these age categories, with an estimated 17.6 percent between the ages of 55 and 64, 14.1 percent between the ages of 65 and 74, 13.5 percent between the ages of 75 to 84, and 3.9 percent ages 85 and older. Table 3 shows that the age distribution within each of the five disability types is also more concentrated among those ages 55 and older than is the age distribution of those without a disability. The age distribution among persons with a mental impairment shows that there is also a relatively high concentration of persons in the younger age categories, with 7.6 percent in the 18 to 24 year old age group and 21.8 percent in the 25 to 34 year old age group.

The next section of the table shows that women form a disproportionate share of the disability population. While 51.9 percent of those without a disability are women, 61.2 percent of those with a disability are women. Women also make up a higher share of each of the four specific disability types.

The next section shows differences by race. Blacks and Whites make up a greater share of each disability group. The share of the population without a disability who report they are Black (White) is 10.9 (77.6) percent. These shares are both smaller than the corresponding estimates of 11.4 percent and 80.3 percent of the group who report a disability. In contrast, Hispanics make up a larger share of persons without a disability. An estimated 6.5 percent of persons without a disability report that they are Hispanic compared to only 4.0 percent of persons with a disability who report that they are Hispanic. However, both Blacks and Hispanics are less likely to report a mental impairment than are Whites.

The final section of the table shows that among working-age people, those who have not completed high school make up a disproportionate share of those reporting any disability. The share of persons without a disability who report that they have not completed high school is 11.6 percent. The share of persons with a disability who have

not completed high school is 19.3 percent. In some of the specific disability types, the share of persons who report that they have not completed high school is more than twice the size of the share without a disability. An estimated 24.3 percent of persons with an IADL and 29.3 percent of persons with a Self-Care disability report that they have not completed high school.

PSID Estimates of Employment and Economic Well-Being

Table 4 focuses on working-age persons who are likely to have completed their education and who are not yet eligible for Social Security retirement payments, i.e. those aged 25-61. It shows estimates for all three measures of employment — in the reference period, sometime in the previous year, and full-time in the previous year — by disability type and by demographic characteristics. Like Tables 2 and 3, we are only able to look at heads and wives.

The first section of the table shows that 85.4 percent of working-age people without a disability are working at the time of the survey while only 62.5 percent of those with a disability are working. These same differences are found using our other two employment measures. An estimated 91.5 (73.8) percent of those without (with) a disability worked sometime in the previous calendar year. The corresponding estimates for full-time employment in the previous year were 67.8 (43.4) percent. Among the six disability types, persons with an ADL have the lowest employment rates. An estimated 45.1 percent report that they are currently employed, 58.3 percent report that they were employed sometime in the previous calendar year, and 30.0 percent report that they were employed full-time full-year during the previous calendar year.

The rest of Table 4 shows differences in the employment rates for the various demographic groups. Employment rates are lower for persons with disabilities across all demographic groups. Blacks and those who did not complete high school who also have a disability have the lowest employment rates. Blacks with disabilities have employment rates of 36.9 percent using the currently employed measure, 53.5 percent using the sometime in the previous calendar year measure, and 27.1 percent for the full-time, full-year measure. Similarly, for those who have not completed high school the employment rates are 38.7 percent using the current employment measure, 52.6 percent using the

sometime in the previous calendar year measure, and 27.1 percent using the full-time, full-year measure.

Table 5 shows that the families of working-age heads and wives with disabilities have lower levels of economic well-being than the families of heads and wives without disabilities. The first section of Table 5 shows results based on four economic well-being measures — percentage below the poverty line, median income-to-needs, median family income, and family size-adjusted income. The first row shows that the poverty rate for those without a disability is 4.9 percent, much less than: the 13.2 percent poverty rate for those with a disability, the 16.6 percent poverty rate for those with a work limitation, the 18.0 percent for persons with a IADL, the 18.6 percent with an ADL, and the 14.4 percent with a mental impairment.[4]

The next row shows the median income-to-needs ratio for each group. The median person without a disability has family income that is 4.4 times the poverty line, much higher than the median value of: 3.1 for those with a disability, 2.8 for those with a work limitation, 2.7 for those with an IADL, 2.7 for those with an ADL and 2.8 for those with a mental impairment.

The final two rows of the section show median family income and median family size-adjusted income. The median family income for persons without a disability is $64,000, larger than the $40,788 median family income for persons with a disability. The differences between these two groups are smaller once income is adjusted for household

[4] Note that the poverty rate for each disability type is higher than the poverty rate for the "any disability" category. The reason is that the disability types are not mutually exclusive groups and so the aggregate column is not a weighted average of each disability type. People can report multiple disabilities, and it is likely that those who do so have the fewest resources (highest poverty rate, etc). To illustrate this point, suppose that we have five people, one person reports "yes" to each disability type and happens to be in poverty. The other four, who only have one type of disability, are not in poverty. In this case the aggregate disability category will consist of 5 people (4 not in poverty, 1 in poverty) with a poverty rate of 20 percent. While each of the four disability types will consist of two people (one in poverty, one not) with a poverty rate of 50 percent. Because the disability types are not mutually exclusive, it is also possible for the opposite to occur with the any category having a smaller poverty rate than each of the individual categories.

size—$39,202 for persons without a disability verses $27,365 for persons with a disability.

The rest of the table shows how these measures differ across demographic groups. Blacks with disabilities have the lowest level of economic well-being across all four of the measures. Like Blacks, Hispanics with disabilities are substantially less well off than Whites with disabilities across all four measures.

Unique Features of the PSID

The PSID's comparative advantage over other datasets is that it has continuously re-interviewed a nationally representative sample of families drawn in 1968, and these re-interviews allow researchers to examine dynamic aspects of disability. In this section, we use information from these re-interviews to identify persons who report a work-limiting disability in several consecutive interviews. The use of a multi-period measure of disability provides a very different picture of the demographics, employment, and economic well-being of persons with a work-limiting disability. We also use the re-interviews to describe events that occur after the onset of a disability. The estimates show that many disability-related events that do not occur immediately after onset do occur over the next few years. This highlights the importance of following persons over time in order to better understand the dynamics of disability and its consequences.

PSID Estimates of the Duration of a Work-Limiting Disability

Researchers have used the PSID to identify persons who report a work-limiting disability over consecutive interviews. Such persons are referred to as persons with a long-term disability. Persons who have experienced disability over a longer time period may differ from persons who have either temporary disabilities or who have recently experienced the onset of a long-term disability. Most major surveys interview persons at one point in time and are therefore unable to differentiate between persons with these different disability experiences.[5]

[5] The Census 2000, the American Community Survey, and the National Health Interview Survey are examples of such surveys. The Current Population Survey (CPS) interviews sample members at two points in time. See Burkhauser, Houtenville and Wittenburg (2003) for information on how this is done. It is also possible to use the Survey of Income and Program Participation (SIPP) to construct multi-period measures of disability. See Wittenburg and Nelson (2006) for information on how this is done.

Unfortunately, the work limitation definition must be used to construct a long-term disability measure in the PSID. It is the only disability question that has been asked over most PSID waves. Typically, researchers using the PSID identify persons who report a work limitation in at least two consecutive interviews as persons with a long-term disability (Bound and Burkhauser, 1999; Burkhauser and Daly, 1996). Some have also used a report of a work limitation in at least three consecutive interviews (Burkhauser and Schroeder, 2004)[6]. We use both a report of a work limitation in at least two consecutive interviews (two years apart) and a report of a work limitation in at least three consecutive interviews (four years apart) to examine how the duration of a disability affects employment and economic well-being. In the future, it will be possible to construct long-term measures for the other disability definitions identified in Table 1 that were introduced in the 2003 PSID.

Like Tables 4 and 5, in Tables 6 and 7 we focus on heads and wives aged 25 to 61 in 2003. The first row of Table 6 shows that 123,908,000 persons reported that they did not have a work limitation in 2003 and the corresponding prevalence rate is 86.5 percent. The next row shows that 19,304,000 people report a work limiting disability in 2003 and that the prevalence rate is 13.5 percent. The rest of the table shows the population and prevalence rates for the multiperiod definitions. It shows that 7.9 percent report a disability in "At Least Two [consecutive] Periods" and 5.6 percent report a disability in "At Least Three Periods." Hence, by expanding the duration of the work limitation required to be considered disabled, the sample size becomes smaller and short spells of disabilities are ignored.

The PSID data show that the use of multi-period definitions results in differences in the distribution of demographic characteristics, employment rates, and measures of

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[6] The two-period measure used in Bound and Burkhauser (1999) and Burkhauser and Daly (1996) is based on a one-year interval. Because the PSID now interviews families once every two years, the measures in this paper are based on two-year intervals.

economic well-being. Table 7 illustrates these differences. The first column shows the characteristics for the 86.5 percent of the working-age population who report that they do not have a work limitation in 2003. This column is followed by columns that show estimates using the "At Least Three [consecutive] Periods" measure, the "At Least Two [consecutive] Periods" measure, and the report of a work limitation in 2003 PSID measure. In Tables 3, 4, and 5, we effectively compared column 1 values with column 4 values. Here we show in columns 2 and 3 that people with long-term disabilities are even older, less educated, less likely to be employed, and in worse economic shape than working-age people without disabilities.

The first section of the table shows the age distribution for each group identified in the columns. Persons with longer term disabilities in the PSID are older. While only 13.7 percent of people without disabilities are aged 55 to 61, they make up 23.7 percent of those with a disability, 27.5 percent of those whose disability has lasted at least two years, and 30.2 percent of those whose disability has last at least four years.

The sex and race distributions show differences between those who report a work limitation and those who do not, but there do not appear to be any notable trends by the duration of the work limitation. The share of persons with a work limitation who report that they are female, who report that they are White, or who report that they are Black, is larger than the corresponding shares of persons who report that they do not have a work limitation.

There do appear to be trends by educational attainment. As the duration of disability increases, the share of persons who have not completed high school increases. Only 11.9 percent of those without disabilities have not completed high school, whereas 21.9 percent of those with disabilities have not completed high school. But the percentages increase to 22.2 and 24.6 percent for those with work limitations of at least two years and four years, respectively.

The next section of Table 7 shows the employment rates for each of the disability measures. The employment rate declines as the number of consecutive periods that a person reports a work limitation increases. Persons who reported a work limitation in at least three consecutive periods have the lowest employment rates for each measure. For the reference period measure, the employment rate is 36.3 percent for persons with a

three consecutive period work limitation, 44.9 percent for persons with at least a two consecutive period work limitation and 51.9 percent for all persons who report a work limitation in 2003. The employment rate based upon some work effort in the prior calendar year is 47.8 percent for persons with a three period work limitation, 57.0 percent for persons with at least a two period work limitation, and 64.3 percent for all persons who report a work limitation in 2003. Finally, the full-time full-year employment rate is 26.8 percent for persons with a work limitation for at least three consecutive periods, 32.8 percent for persons with a work limitation for at least two consecutive periods, and 34.3 percent for all persons who report a work limitation in 2003.

The final section of Table 7 shows how the economic well-being measures change as the consecutive period that a work limitation is reported changes. Persons who reported a work limitation in 2003 and who reported the work limitation in three consecutive periods have the lowest levels of economic well-being across the set of disability definitions. The poverty rate is 19.3 percent for persons who report a work limitation in at least three consecutive periods compared to 15.9 percent for persons who report a work limitation in at least two consecutive periods and 16.6 percent for all persons who report a work limitation in 2003. The median income-to-needs ratio for a person with a three period work limitation is 2.5, indicating that the person in the middle of the income-to-needs distribution has a family income level that is 2.5 times larger than the needs standard for the family. The estimate is lower than the estimate of 2.6 for persons with a work limitation in at least two consecutive periods and 2.8 for persons who report a work limitation in 2003. The final two rows show that median family income for the group, and median family size-adjusted income is $36,288 and $21,882 for persons who report a work limitation in at least three consecutive periods. These levels are lower than the corresponding estimates of $36,540 and $23,132 for persons who report a work limitation in at least two consecutive periods, and the estimates of $37,900 and $24,447 for all persons who report a work limitation in 2003. The overwhelming evidence is that those with longer durations of work limitation have lower levels of economic well-being.

The Use of the PSID to Estimate Changes over Time

The periodic re-interviews of PSID families also may be used to examine how the onset of a disability affects employment and economic well-being in the periods after onset. Burkhauser and Daly (1996) use the PSID to examine the occurrence of employment and economic events following the onset of a long-term disability. Charles (2003) uses the PSID to examine how the onset of a work-limiting disability affects a person's subsequent employment and earnings. Both of these studies suggest that the full consequences of the onset of a work limitation play out over many years. Unlike most of the other national data sources that only interview a person at one or two points in time, the PSID is able to identify both the short-term and the long-term consequences of the onset of a disability.

Table 8, taken from Burkhauser and Daly (1996), illustrates how the PSID may be used to examine how the onset of a long-term, work-limiting disability affects employment and economic well-being. They define a long-term work disability as a report of a work limitation in at least two consecutive years. The rows of the table show the number of years since the first year of a work limitation. The columns describe outcomes, including: (1) stop working; (2) return to work; (3) fall into poverty; (4) economic recovery; (5) recovery from a work-limiting disability; and (6) the receipt of transfers. They show the estimated cumulative occurrence rate of each outcome for up to five years after onset and show separate estimates for two different age groups—persons aged 25-50 and persons aged 51-61. The final row of the table describes the year after onset at which the cumulative rate exceeds 0.5, or 50 percent.

The first two columns show the cumulative risk that a person will stop working for at least one full year following the onset of a work limitation, given that they were working before the onset. For persons aged 25-50, there is a 15 percent chance that they will stop working within one year following onset, a 26 percent chance that they will stop working within two years of onset, a 32 percent chance that they will stop working within 3 years following onset, a 38 percent chance that they will stop working within four years after onset and a 44 percent chance that they will stop working within 5 years following onset. The last row indicates that the probability exceeds 50 percent at some point after the fifth year. Thus, the onset of a work-limiting disability does not necessarily result in

an immediate exit from work. The risk that a person will stop working increases with age, as can be seen by comparing the results for those aged 51-61. The cumulative probability that a person will stop working is larger for those aged 51-61 for each time period after onset compared to persons aged 25-50. The last row indicates that the risk of stopping work exceeds 50 percent within 5 years following onset. However, even for older persons the onset of a work-limiting disability does not necessarily result in an immediate exit from work. It is only in year five that the majority of workers who experience a longer-term work limitation exit the labor force.

The columns that follow show cumulative occurrence of the other events. The return to work columns show that the cumulative probability that a person will return to work following the onset of a disability is larger for younger persons for each period. Within five years following onset, there is a 61 percent chance that persons aged 25-50 will return to work compared to a 28 percent chance that persons aged 51-61 will do so. The next columns show that for both groups there is a 22 percent chance that they will fall into poverty within 5 years following onset of a disability. Economic recovery, on the other hand, differs across the age groups. For younger persons, there is an 84 percent chance that they will return to the their pre-disability income level while for older persons there is a 75 percent chance that they will do so. Younger persons are more likely to recover from a work-limiting disability, where recovery occurs when a person reports that they do not have a work limitation in the PSID. Within five years following onset, there is a 13 percent chance that younger persons will recover and only a 7 percent chance that older persons will do so. The final columns show the cumulative occurrence of the receipt of transfers, where transfers include Social Security Disability Insurance, Supplemental Security Income, Veteran's Benefits, Workers Compensation, and Social Security Retirement Insurance. For younger persons, there is a 45 percent chance that they will begin to receive transfer payments within five years following onset. There is a 70 percent chance that older persons will receive such payments within five years following onset, which may not be particularly surprising given that some may be eligible for early Social Security Retirement benefits.

Burkhauser and Daly (1996) conclude from their analysis that the time between disability onset and either exit from the labor market or admittance to the disability

retirement rolls is longer than expected. Thus, datasets that are only able to estimate the likelihood of a return to work one year following disability onset (e.g., the CPS) or that are only able to estimate the likelihood of a return to work two years following onset are unable to estimate the substantial change in the likelihood of events that occur over a longer time horizon. Estimates that do not identify the likelihood of longer-term outcomes can provide a misleading picture of the consequences of disability onset.

The Use of the PSID for Cross-National Research

The PSID has been used to examine disability in a cross-national context. For example, Burkhauser and Daly (1998) used the PSID along with the German Socio-Economic Panel (GSOEP) to compare the employment and economic well-being of men with work-limiting disabilities in the United States and Germany. Both of these datasets are part of the Cornell University Cross-National Equivalent File (CNEF), which contains employment and economic well-being measures derived from the PSID and GSOEP that are designed to be comparable across the United States and Germany. It has been expanded to include comparable measures for Canada and Great Britain. For further information on the CNEF, see Burkhauser, Butrica, Daly and Lillard (2001) or go to the CNEF website at http://www.human.cornell.edu/che/PAM/Research/Centers-Programs/German-Panel/Cross-National-Equivalent-File_CNEF.cfm

Table 9, Table 10a and 10b are taken from Burkhauser and Daly (1998). They illustrate the strength of the PSID in cross-national analysis. The authors use the data to show how, given similarities in the prevalence of disability across the two countries, the consequences of a disability can differ in important ways. They focus on how these differences may be related to differences in the social institutions developed in the two countries.

Table 9 shows that the prevalence of disability is similar for working-age men in the two countries. Disability is defined as a report of a work-limiting disability in at least two consecutive PSID interviews. Burkhauser and Daly construct a similar measure using data in the GSOEP. The 1988 disability prevalence rate for working-age men (25-59) is 9.0 percent in the United States and 10.2 percent in Germany. The prevalence of a work-limiting disability is higher among younger men and lower among older men in the

United States compared to Germany. These findings are found to be consistent with the German disability policy of targeting employment-related policies toward younger workers with work-limiting disabilities and income transfer policies to older persons with work-limiting disabilities.

Burkhauser and Daly (1998) use two other comparison tables, summarized in Tables 10a and 10b of this guide, to make two important points. First, while the employment rate of men with disabilities relative to men without disabilities is similar in the two countries, men with disabilities in Germany who are employed are more likely to work full-time. The higher rate of full-time work is shown to result in mean labor earnings for men with disabilities that is closer to that of men without disabilities in Germany compared to the U. S. This point is illustrated in Table 10a by comparing the columns under the heading U. S. and under the heading Germany. The bottom row of the first columns under each heading shows that the employment rate of men with disabilities is 73 percent of that of men without disabilities in the U. S. compared to the estimate of 72 percent in Germany. The second column under each heading shows that full-time employment is more prevalent in Germany. The full-time employment rate of men with disabilities is 55 percent of that of men without disabilities in the U. S. compared to 72 percent in Germany. The fourth column under each heading shows that mean labor earnings of men with disabilities is relatively closer to that of men without disabilities in Germany compared to the United States. In the U. S., mean earnings of men with disabilities is only 49 percent of that of men without disabilities compared to 65 percent in Germany. Thus, the higher prevalence of full-time employment in Germany appears to reduce differences in labor earnings between men with and without disabilities when compared to the U. S.

Second, when one considers differences in labor earnings and government transfers, men with disabilities in Germany have income levels that are closer to the income levels of men without disabilities compared to working-age men with disabilities in the U. S. Table 10b is used to make this point. It shows that when one compares the relative income of persons with disabilities to those without disabilities in the two countries, in Germany working-age men have mean income levels closer to those of men without disabilities. Before accounting for government income, working-age men in the

U. S. with a disability have mean income that is 65 percent of that of working-age men without disabilities, while in Germany the estimate is 78 percent. While government income tends to reduce differences, as shown by the mean after-government income of persons with disabilities that is 73 percent of men without disabilities in the U. S., a substantial difference still remains. In Germany on the other hand, the after-government income for persons with a disability is 88 percent of that of men without a disability.

Taken together, these two tables suggest that the social institutions in Germany, which promote full-time employment for persons with disabilities and provide income support, tend to reduce disparities in economic well-being between persons with and without disabilities. They also illustrate the power of the use of the PSID in combination with similar data collection efforts in other countries to shed light on how social institutions may reduce disparities between persons with and without disabilities. Users interested in cross-national comparisons will find the CNEF to be a valuable resource.

Comparing the PSID to Other Datasets

The PSID is one of several nationally representative datasets that may be used to estimate the number and the prevalence of persons with disabilities, as well as their employment rate and economic well-being. Different surveys use different methods to collect information on persons with disabilities and these differences can lead to differences in estimates. This section shows how the PSID estimates of the population with disabilities compare to estimates from other nationally representative surveys.

The national datasets used for the comparison include: the 2003 American Community Survey (ACS), the 2000 Decennial Census, the March 2004 Current Population Survey (CPS), the 2002 National Health Interview Survey (NHIS), and the 2002 Survey of Income and Program Participation (SIPP). The year associated with each dataset represents the actual year that the survey was administered. The disability concepts are measured at the time of the interview. Annual measures, such as full-time full-year employment, poverty, and family income, are generally based on the year prior to the survey. For example, the March 2004 CPS collects annual income and annual labor supply information for the 2003 calendar year. Details on the methods used to

collect information on persons with disabilities in each of these surveys may be found in the corresponding Cornell StatsRRTC User Guides.

The PSID sample differs from other nationally representative data on persons with disabilities in several ways. First, the PSID only contains information on working-age adults who are either the head or the wife in the family unit. It also may not capture changes to the immigrant population over time. These differences may lead to differences in estimates of the prevalence and economic well-being measures in the PSID over time. Thus, differences across datasets may not be completely due to differences in the questions used to identify each disability.

Differences within the PSID may also be due to differences in the questions used to identify each disability concept. Appendix Table 1 provides estimates from each question used to identify a disability concept in the PSID. It shows specific questions in the PSID that may be contributing to higher population and prevalence rates for each of the disability concepts defined in this guide. For the mental impairment concept, the question, "Has a doctor ever told you that you have or had any emotional, nervous or psychiatric problems?" shows relatively high prevalence rates compared to the other questions used to estimate the presence of a mental impairment. For the self-care concept that is measured using the PSID ADL questions, the PSID includes the following, "The next questions are about your ability to do certain activities — by yourself and without special equipment. Because of a health or physical problem, do you have any difficulty walking?" Appendix Table 1 shows that the prevalence of this PSID ADL is higher than any of the other PSID ADL questions within each age group. This question is not used to identify an ADL in any of the other national surveys. The PSID IADL questions include the following, "The next questions are about doing other activities by yourself. Because of a health or physical problem, do you have any difficulty doing heavy housework, like scrubbing floors or washing windows?" Appendix Table 1 shows that the prevalence of this IADL is relatively larger than any of the other PSID IADL questions. Users must consider the differences in questions used to identify a disability concept when making comparisons across survey estimates of each disability concept identified in this guide.

Differences in estimates may be related to differences in the population over time. Thus, it is important to pay special attention to the survey year when comparing estimates

across the surveys. The 2000 Decennial Census Long Form, for example, is representative of the year 2000. Changes in the population, the labor market and the economic environment between the year 2000 and the year 2003 can affect population estimates, prevalence estimates, employment estimates, and economic well-being estimates.

It is important to note that some datasets contain limited information and do not identify a disability based upon all of the concepts identified in section 2 of this User Guide. This is evident in table 11 by looking across the columns that identify the ICF disability concepts. A "N/A" entry indicates that specific information on the particular ICF concept is not available in the survey. Disability is defined in these cases only based upon the information that is available in the survey. For example, the CPS only contains information on a work limitation. The definition of disability in the CPS is therefore based solely on whether the person has a work limitation. As can be seen in Figure 1, this definition only captures a portion of persons who fall within the participation restriction circle.

Finally, the comparisons are made across the working-age population. There are two reasons for this decision. First, most of the nationally representative surveys focus on the working-age population. Second, among the subset of surveys that identify children with disabilities, there are relatively large differences in the methods used to define and identify disability, and it is difficult to make meaningful comparisons. Further research on methods used to identify children with disabilities is needed.

Population and Prevalence Comparisons

Table 11 shows population estimates for each dataset by age groups. The first section shows estimates for persons between the ages of 18 to 24. Because the PSID questions on disability are restricted to heads and wives of the family, the sum of the first two columns for the PSID row is 9,812,000, which is much smaller than the total for all the other datasets which have estimates that exceed 25,000,000. Despite the smaller estimate for the overall population, the estimates for each disability type are relatively high compared to the other datasets. An estimated 2,152,000 report a PSID disability, 1,131,000 report a work limitation, 416,000 report an IADL, 157,000 report an ADL, and

1,477,000 report a mental impairment. The estimates are comparable to the SIPP which contains the highest population estimates for each disability concept among persons ages 18 to 24. Table 11 shows the SIPP estimates for persons ages 18 to 24 of 2,426,000 persons with a disability, 1,210,000 persons with a work limitation, 366,000 persons with an IADL, 146,000 persons with an ADL, and 1,077,000 persons with a mental impairment. The smaller estimated number of persons in the 18 to 24 year old age category in the PSID (due to its restriction to heads and wives) together with the similar number of persons with a disability in the PSID, results in much higher PSID prevalence rates for persons ages 18 to 24 relative to the other datasets, as will be shown in Table 12.

The next section shows population estimates for working-age persons. The sum of the first two columns for the PSID row is 143,222,000, which is comparable to estimates from other datasets and suggests that the restriction to heads and wives does not have the same impact on estimates of working-age persons as it does for persons ages 18 to 24. An estimated 30,656,000 report a PSID disability, 19,303,000 report a work-limiting disability, 12,375,000 report a PSID IADL, 9,395,000 report a PSID ADL, and 13,896,000 report a mental impairment. These estimates are higher than estimates from each of the other datasets. The higher estimate of persons with a work limitation is consistent with findings from other studies using the PSID work limitation measure (Bound and Burkhauser, 1999) and is the reason that many researchers use the report of a work limitation in at least two consecutive periods from the PSID. The higher estimates for the other disability concepts are likely due to the particular questions used to identify the disability concept. As noted above, and illustrated in Appendix Table 1, certain questions used to identify each concept have relatively high prevalence rates and these questions are likely contributing to higher population estimates in the PSID compared to the other national surveys.

The differences between the PSID and the other datasets appear to decline at older ages. The third section of Table 11 illustrates this result. The PSID disability estimate is 2,276,000, which is lower than the corresponding estimate based upon the SIPP. This likely is the result of the high prevalence of physical impairments in the SIPP. The PSID does not contain questions that identify the physical impairment concept. Estimates of the other disability concepts in the PSID remain higher than corresponding estimates

from the other surveys. Again, the higher estimates are consistent with other studies that have used the PSID to examine work-limiting disabilities, and the questions used to identify the other three disability concepts are likely to contribute to the higher population estimates in the PSID for these three measures.

The higher population estimates result from the higher estimated prevalence rates in the PSID, as shown in Table 12. The PSID disability prevalence rate is 21.7 percent for persons aged 18-24, more than 2.5 times higher than the 8.9 percent estimate in the SIPP. The prevalence rate measures are higher among each disability concept. An estimated 11.4 percent report a work limitation, 4.2 percent report an IADL, 1.6 percent report a PSID ADL and 14.9 percent report a mental impairment. Each of these estimates is well over twice the size of the next highest prevalence rate estimate for the particular disability type.

For the working-age population, the PSID disability prevalence rate is 21.4 percent, which is 2.7 percentage points higher than the next highest estimate of 18.7 percent in the SIPP. One reason the estimates may be closer is that the PSID does not include questions that identify the physical impairment measure or the sensory impairment measure. Prevalence estimates for each disability concept are higher in the PSID compared to the other national surveys, but the differences are not as large in relative terms as for those aged 18-24.

The third section of the Table shows prevalence rates for persons aged 62-64. The PSID disability prevalence rate is 38.2 percent, slightly lower than the 39.5 percent estimate from the SIPP. The PSID still has the highest prevalence rate estimates for the work-limiting disability concept with an estimate of 31.5 percent, the IADL concept with an estimate of 25.8 percent, the ADL concept with an estimate of 21.0 percent, and the mental impairment concept with an estimate of 7.9 percent. The PSID does not contain questions that identify physical or sensory impairments, which is likely contributing to the lower overall prevalence rate in the PSID compared to the SIPP for persons aged 62-64.

The fourth section of the Table shows prevalence rates for the entire population 18-61. Once again, PSID is highest.

Employment Rate Comparisons

Differences in the employment rate between persons with and without disabilities across datasets may be due to the method used to measure the employment rate or may be due to differences in the methods used to identify persons with a disability. Table 13 examines differences in employment rates and it shows a tendency for datasets that have higher disability prevalence rate estimates to also have higher disability employment rate estimates. This tendency shows that the larger prevalence rates consist of persons with a disability who are more likely to be employed.

The PSID has the highest prevalence rate estimates among the datasets and also has the highest estimates of the employment rate for each of the three employment measures. The highlighted row in the first section of Table 12 shows that the PSID employment rate estimate using the reference period measure is 85.4 percent for those who do not report a PSID disability and 62.5 percent for those who report a PSID disability. These estimates are both higher than the corresponding estimate of 82.4 percent and 48.9 percent in the 2002 SIPP, and 83.3 percent and 47.3 percent in the 2002 NHIS. While there is a sizeable gap between those with and without a disability in all of the datasets, the gap is much smaller in the PSID. Table 12 shows that similar differences exist using the other two employment rate measures. Thus, broadening the definition of disability tends to reduce the reported employment gap, regardless of the employment measure.

The table also compares employment rates among the specific disability concepts that are used to identify a disability. For both the reference period employment measure and the full-time full-year measure, the PSID estimates are twice the size of estimates from other datasets for the work limitation disability, IADL disability, and ADL disability. The PSID estimates are also substantially higher than estimates from other datasets using the "Some Work in Previous Year" measure. The employment rate estimates for the mental impairment disability are also higher than those from the other data sources, but the differences are relatively smaller compared to differences across other disability measures.

Economic Well-Being Comparisons

Differences across economic well-being measures may be due to the method used to measure economic well-being or they may be due to the method used to identify persons with a disability. Table 14 shows a tendency for the datasets with higher estimates of the prevalence of disability to have lower poverty rates, higher family income, and higher family/household size-adjusted income.

The first section of Table 14 shows that the PSID has lower estimates of the poverty rate for both persons with and without a disability compared to all of the other datasets. The lower poverty rate has been noted by other researchers and may be due to a more comprehensive measure of family income in the PSID (Stevens, 1999; Citro and Michael, 1995).[7] According to the PSID, the poverty rate for working-age persons without a disability is 4.9 percent and the poverty rate for persons with a PSID disability is 13.2 percent. These estimates are considerably lower than estimates based upon the SIPP, which produces estimates of the poverty rate of 6.5 percent for persons without a disability and 18.8 percent for persons with a disability. The poverty rates for those without and with a disability are higher in all other datasets.

The next section of the table shows that the estimates of family income are also higher in the PSID. As noted, this is due in part to the more comprehensive measure of family income in the PSID. The estimate of median family income for working-age persons in the PSID is $64,000 for persons without a PSID disability and $40,788 for working-age persons with a disability. These estimates are higher than estimates from the corresponding estimates of $60,000 and $34,600 in the ACS. The ACS uses a broader definition referred to as household income, defined as income from all household members.

The final section of the table shows estimates of median family size-adjusted income in the PSID, and median household size-adjusted income in the ACS, Census 2000, and CPS. The PSID median family size-adjusted income measure is $39,202 for

[7] In appendix B p. 402-406 of Citro and Michael (1995), the authors state that the PSID and SIPP obtain more complete reporting in the lower tail of the income distribution compared to the March CPS.

persons without a disability and $27,365 for persons with a PSID disability. The measure is larger than the measures that use the more comprehensive income and household size measures.

Comparisons Using Multiperiod Measures.

The relatively high disability prevalence rates in the PSID have led researchers to use a two-consecutive-year report of a work limitation as a definition of disability. For men, Burkhauser and Schroeder (2004) show that the trends based on this multiperiod measure are much closer to estimates from the Current Population Survey. We update their findings on the prevalence and employment of working-age men to demonstrate that the multiperiod measures provide estimates that are relatively closer to those from other sources.

Figure 2 compares work-limiting disability prevalence rates in the PSID and the CPS over time. It illustrates two major points. First, it shows that prevalence rate *levels* differ across datasets and by the duration of a disability. Second, it shows that the *trends* across the PSID definitions track the *trends* using the CPS contemporaneous measure. This is consistent with the findings of Burkhauser, Daly, Houtenville and Nargis (2002) who show that CPS trends track trends found in the National Health Interview Survey. Thus, for men the PSID provides comparable information on trends over time.

The prevalence rates are highest for PSID men who report a disability in a single interview, which we refer to as the contemporaneous measure. In 1976, approximately 10.7 percent of men report a work limitation. The prevalence rate steadily increases to 14.6 percent in 1980, declines to 11.8 percent in 1983, rises to 15 percent in 1990, and then declines throughout the 1990s to 12.4 percent in 2003. The PSID one-year measure and PSID two-year measure show lower prevalence rates over time and as expected show that the prevalence of disability declines as the time frame used to define a disability increases. However, the *trend* over time for these measures is similar to the *trend* based on the PSID contemporaneous measure. Figure 2 also shows that the PSID two-year disability measure yields prevalence rates that are similar to the CPS contemporaneous measure of disability. In 1981, the PSID two-year measure hits a peak of 7.8 percent compared to the CPS contemporaneous measure peak in that year of 7.4 percent. Both

decline to a trough in the mid-1980s, with the PSID two-year disability measure hitting a trough of 6.5 percent in 1987 and the CPS contemporaneous disability measure hitting a trough of 6.6 percent in 1988. The prevalence rates of these two populations then steadily rise into the early 1990s, when they hit a peak of about 8.0 percent in the PSID and 7.6 percent in the CPS, and then track each other relatively closely throughout the rest of the period. The lone exception is the spike in the PSID prevalence rate in 1996. The lowest prevalence rates are for the CPS one-year disability measure. They fluctuate between 4 percent and 4.5 percent over the entire period.

Employment rate comparisons across the PSID and the CPS for men with a disability are shown in Figure 3. As described in comparison Table 13, PSID-based employment rates are higher than CPS-based employment rates. The trends over 1981-1996 are similar across the three PSID measures and the CPS contemporaneous measure. Throughout the early 1980s, the PSID employment rates as well as the CPS employment rates rise. They level off over the rest of the decade and then decline from 1989 to 1995. In 1996, employment rates in both the PSID and the CPS increase. This increase coincides with the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. Both the similarity in trends across these datasets, and the evidence that the CPS tracks the employment trends for persons with disabilities from other national data sources (Burkhauser, Daly, Houtenville, Nargis, 2002), provide evidence that the PSID measure of employment rate trends during this period is reliable.

The employment data based on the 1999, 2001, and 2003 interviews are based on the new two-year interview system for the PSID. They are higher than those estimates for the 1997 interview. Their levels are also higher than those found in the CPS. While this increase may be real, it may also be a function of the changes to the reporting period of the PSID. With only three years of data from the new PSID, it is difficult to make comparisons to trends from other data sources.

The CPS one-year measure differs somewhat in that it shows that a decline in employment rates began in 1986, earlier than the start of the employment decline based on the PSID disability population measures and the one period CPS disability population measure. Note that the one-year CPS measure also shows an increase in employment

around the time the ADA was implemented. For more formal tests of differences in trends across these datasets, see Burkhauser and Schroeder (2004).

Summary and Conclusions

The PSID is one of several national datasets that has been used to perform research and policy analysis related to persons with a disability. It is based upon a nationally representative sample of the population of U. S. households in 1967, and has remained representative of the non-immigrant population over time by following family members as they leave the household to form their own families.[8] It initially included a question that asked the head of the family, who by definition is the male in married couple families, whether they have a physical or nervous condition that limits his or her ability to work. Beginning in 1981, the PSID also asked the head, if married, to report whether his wife had such a condition. In 2003, the PSID incorporated a large set of new questions that may be used to identify disability concepts derived from the International Classification of Functioning, Disability and Health (ICF) as defined in the second section of this User Guide. The ICF provides a framework that is used to assess the disability information in the PSID as well as the disability information in other surveys.

A description of the methods used by the PSID to collect data from a nationally representative sample is described in the third section of the guide. This section describes how the sample was constructed, how information is collected, how key disability concepts are defined, and how demographic, employment, and economic well-being measures are constructed. There are three important points users should focus on in this section. First, users must be aware of the unique features of the PSID sample. In particular, the PSID does not ask the disability questions to all family members. In addition, the PSID is not representative of the immigrant population for most interview years.[9] These are unique features of the PSID sample that users must consider when

[8] In 1997, the PSID introduced a new sample of immigrant families who moved into the country after 1967 in order to make the PSID representative of the entire population of U.S. households.

[9] In 1997, the PSID did make changes that included a sample of immigrants to address this issue.

using the data. Second, some of the questions used to identify disability concepts differ across surveys. The guide describes the exact questions from the PSID used to identify disability concepts. Users must pay special attention to the questions used to identify disability when conducting research and policy analysis on persons with a disability. Third, methods used to collect information on demographics, employment, and economic well-being differ across surveys. Users must be aware of the methods used to identify these items in the PSID and how the construction of these measures may influence their analysis.

Changes within the PSID over time are important to consider when using multiple years of data. The guide describes important changes that have occurred within the PSID over time. The exact impact of these changes to the PSID on estimates of persons with disabilities is not known. However, users should be aware of the specific years that changes took place and understand that it is possible that these changes may affect PSID estimates.

The 2003 PSID data is used in this guide to estimate the size, the prevalence, and the characteristics of the heads and wives of PSID families. The estimates are consistent with findings in other datasets. Disability prevalence rates increase with age and the prevalence of mental impairments is relatively high among young persons. Compared to the share of persons without a disability, there are a larger share of women and a larger share of persons with education less than high school among persons with a disability. Finally, persons with a disability have lower employment rates, higher poverty rates, and lower levels of family income compared to persons without a disability.

The major advantage of the PSID over other datasets is that since 1968 it has regularly re-interviewed its families. Most other national datasets only interview sample members once and are unable to describe the dynamic aspects of disability. Researchers have used the PSID re-interviews to separately consider the subset of persons who have long-term disabilities by examining the responses to the work limitation question in consecutive PSID interviews. This User Guide describes how this is done using persons who report a work limitation in the 2003 PSID interview. In addition to the set of persons who report a work limitation in 2003, a subset that reported a work limitation in the 2001 and 2003 interview are identified, and another subset that reported a work

limitation in the 1999, 2001, and 2003 interview are identified. The guide shows how differences in characteristics are related to these different work limitation definitions. In particular, when the time period used to identify a disability increases, persons tend to be older, have lower employment rates, lower family income, and higher poverty rates.

Researchers have also used the PSID to examine the consequence of the onset of a work-limiting disability. The PSID is one of the few datasets that is able to identify the probability that events will occur within specific time intervals after the onset of a disability.[10] Burkhauser and Daly (1994) show that disability-related events do not occur immediately following the onset of a disability and that some events take longer than others to occur. For example, Table 8 shows that there is a 28 percent chance of a return to work within the first year following onset for persons between the ages of 25–50. The likelihood increases to a 46 percent chance within two years following onset, and it increases to a 61 percent chance within five years following onset. Thus, datasets that are only able to estimate the likelihood of a return to work one year following disability onset (e.g., the CPS) or that are only able to estimate the likelihood of a return to work two years following onset are unable to estimate the substantial change in the likelihood of a return to work that occurs after the second year following onset. Estimates that do not identify the likelihood of longer term outcomes can provide policymakers with a misleading picture of the likelihood of a return to work following disability onset.

Another strength of the PSID is that it has been used along with similar data collection efforts in other countries to form the Cornell University Cross-National Equivalent File (CNEF). The PSID data contained in the CNEF allows researchers to make inferences on how differences in social institutions in different countries may affect employment and economic outcomes for persons with disabilities. The guide summarizes research by Burkhauser and Daly (1998) that illustrates how the CNEF can be used to make comparisons between the U. S. and Germany. Expansions to the CNEF will allow researchers to include Canada and Great Britain in their analyses.

[10] The SIPP may also be used to examine the consequences of the onset of a disability. See Wittenburg and Nelson (2005).

The final section of this paper examines how the PSID estimates of persons with a disability compare to estimates from other datasets. The key finding is that estimates of the number of persons with a disability and the disability prevalence rate tend to be higher in the PSID than estimates from other datasets. The differences may be related to differences in the PSID sample design. They may also be related to the questions used to identify a particular disability concept. The implications of the higher disability prevalence rates are: (1) the PSID estimates of the employment rate for persons with a disability are higher than estimates in other datasets, (2) the PSID estimates of the poverty rate for persons with a disability are lower compared to other datasets, and (3) the PSID estimates of family income for persons with a disability are higher than estimates from other datasets.

Ultimately, the choice of a data source depends upon the specific needs of the user. The PSID provides a valuable source, and in some cases the only source, to understand the affect of disability over the life course. However, it also has limitations related to the sample and in the breadth of questions used to identify disability. For estimates of persons with disabilities that do not require re-interviews of sample members, users are encouraged to investigate other data sources described in the StatsRRTC User Guide series.

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Tables

Table 1. Definition of Disability and other Key Characteristics in the PSID Sample

Term	Question	Sample
Impairment: Sensory Disability	No Questions in PSID	
Impairment: Physical Disability	No Questions in PSID	
Impairment: Mental Disability	Has a doctor ever told [you/HEAD] that [you have/he has] or had… Any emotional, nervous, or psychiatric problems? Has a doctor ever told [you/HEAD] that [you have/he has] or had… Permanent loss of memory or loss of mental ability? Has a doctor ever told [you/HEAD] that [you have/he has] or had… A learning disorder?	PSID Heads and Wives
Activity Limitation: Self-Care Disability	Because of a health or physical problem, [do you/does he] have any difficulty…bathing or showering? Because of a health or physical problem, [do you/does he] have any difficulty…dressing? Because of a health or physical problem, [do you/does he] have any difficulty…eating? Because of a health or physical problem, [do you/does he] have any difficulty…getting in and out of a bed or a chair? Because of a health or physical problem, [do you/does he] have any difficulty…walking? Because of a health or physical problem, [do you/does he] have any difficulty…getting outside? Because of a health or physical problem, [do you/does he] have any difficulty…using the toilet, including getting to the toilet?	PSID Heads and Wives
Activity/Participation Restriction: Instrumental Activity of Daily Living (IADL)	Because of a health or physical problem, [do you/does HEAD] have any difficulty preparing [your/his] own meals? ([Do you/Does HEAD] have any difficulty) shopping for personal toilet items or medicines? ([Do you/Does HEAD] have any difficulty) managing [your/his] own money, such as keeping track of expenses or paying bills? ([Do you/Does HEAD] have any difficulty) using the telephone? ([Do you/Does HEAD] have any difficulty) doing heavy housework, like scrubbing floors or washing windows? ([Do you/Does HEAD] have any difficulty) doing light housework, like doing dishes, straightening up, or light housecleaning?	PSID Heads and Wives
Participation Restriction: Employment Disability	Do you/Does HEAD] have any physical or nervous condition that limits the type of work or the amount of work [you/he] can do?	PSID Heads and Wives
PSID Disability	A person is identified as a person with a disability if they report a mental impairment, difficulty with an Activity of Daily Living (ADL), difficulty with an Instrumental Activity of Daily Living (IADL) or an employment disability.	PSID Heads and Wives

Source: 2003 Panel Study of Income Dynamics Questionnaire.
Note: The full list of health/disability questions are described in Appendix B.

Table 1b. Demographic, Employment, and Economic Well-Being Definitions

Term	Question/Definition	Sample
Demographic Definitions		
Gender	The sex of each individual in the household is reported by the head of the household.	All Individuals in HH
Age	The age of each individual in the household is reported by the head of the household. Age equals the age of the individual on his or her most recent birthday.	All Individuals in HH
Race	The race of an individual is identified for any individual who was a head of a household at least once since 1968 or a wife at least once since 1985. Individual race is missing for all others. Responses include: white; black; american indian, aleut, eskimo; asian, pacific islander; hispanic; or other.	All Individuals in HH
Education	The education level is reported by the household head for all members of the household. It is based upon years of education completed and takes on values from 1 to 17 and is constructed by the PSID staff.	All Individuals in HH
Education Recode: Less than High School	Less than high school education is defined as education less than 12 years.	All Individuals in HH
High School	High school education is defined as education equal to 12 years.	All Individuals in HH
Greater than High School	Greater than high school education is defined as education greater than 12 years.	All Individuals in HH
Employment Measures: *Employment Status Questions*		
Currently Employed	We would like to know about what [you do/your wife does/your ("WIFE") does/Q56] -- [are you/is she/is he] working now, looking for work, retired, keeping house, a student, or what? Responses include: working now; only temporarily laid-off, sick or maternity leave; looking for work, unemployed; retired; disabled permanently or temporarily; keeping house; student; or other (Specify)	Head of Household, Spouse of Head
Weeks Worked	B78/C70. Then, how many weeks did [you/she/he] actually work on [your/her/his] main job in 2002?	Head of Household, Spouse of Head
Hours Worked/Week	B&D 79/C&E 71 And, on the average, how many hours a week did [you/she/he] work on [your/her/his] main [job/jobs] in 2002?	Head of Household, Spouse of Head
Employment Definitions		
Employed: Reference Period	If response to currently employed question is (1) working now.	Head of Household, Spouse of Head

Continued

Table 1b (continued). Demographic, Employment, and Economic Well-Being Definitions

Term	Question/Definition	Sample
Employment Definitions		
Employed: Sometime in Previous Year	If annual hours worked in previous year is greater than 52 hours.	Head of Household, Spouse of Head
Employed: Full-time year round	At least 50 weeks during the previous year and at least 35 hours per week. Determined by condition that weeks worked is greater than or equal to 50 and usual hours per week is greater than or equal to 35 hours.	Head of Household, Spouse of Head
Economic Well-Being Measures		
Income	Sum of total family income from labor earnings, asset flows, private transfers, private pensions, public transfers, and social security pensions.	Family
	Labor earnings include wages and salary from all employment including self employment (farming, business, market gardening, and roomers and boarders), professional practice or trade, and bonuses, overtime and commissions.	Family
	Asset flows include income from interest, dividends and rent.	Family
	Private transfers include child support, alimony, and income from non-household members.	Family
	Private pensions include retirement income from private pension plans, Veterans Administration pensions, and annuities.	Family
	Public Transfers include welfare payments, supplemental security income (SSI), unemployment compensation, worker's compensation, and the face value of food stamps.	Family
	Social Security pensions include social security payments received by the head, partner, and other family members.	Family
Poverty	The PSID uses information on the family income and household composition, along with standard poverty thresholds, to construct a poverty measure. The poverty thresholds are based upon OMB directive 14 and are described on the Census Bureau website http://www.census.gov/acs/www/UseData/Def/Poverty.htm for details.	Family
Family Income	The sum of all income of family members in the household.	Family
Family Adjusted Income	Household income adjusted for sharing within the housing unit based upon the method described in the paper(e=0.5). See Citro and Michael (1995) page 176 for further information.	Family

Source: 2003 Panel Study of Income Dynamics (PSID) Questionnaire.

Table 2. 2003 Population and Prevalence Estimates by Disability Concept, Heads and Wives

	Types of Disabilities					
	No Disability	**Any Disability**	**Work Limitation**	**IADL**	**Self-Care**	**Mental Impairment**
All, Age 18-99						
Population Estimate (in thousands)	138,976	51,167	33,885	25,933	19,869	19,454
Prevalence Rate (percent)	72.9	26.8	17.8	13.6	10.4	10.2
Sample Size	4819	1788	1195	960	739	645
Ages 18 to 24						
Population Estimate (in thousands)	7,661	2,153	1,132	417	158	1,478
Prevalence Rate (percent)	77.1	21.7	11.4	4.2	1.6	14.9
Sample Size	359	90	48	21	9	57
Ages 25 to 61						
Population Estimate (in thousands)	112,566	30,656	19,304	12,375	9,395	13,897
Prevalence Rate (percent)	78.5	21.4	13.5	8.6	6.6	9.7
Sample Size	3814	989	629	410	316	420
Ages 62 to 64						
Population Estimate (in thousands)	3,677	2,277	1,874	1,537	1,252	472
Prevalence Rate (percent)	61.8	38.2	31.5	25.8	21.0	7.9
Sample Size	123	77	64	53	38	20
Ages 65 and older						
Population Estimate (in thousands)	15,072	16,082	11,576	11,605	9,064	3,608
Prevalence Rate (percent)	48.2	51.5	37.0	37.1	29.0	11.5
Sample Size	523	632	454	476	376	148

Source: Author's calculation from 2003 PSID data files.

Table 3. 2003 Demographic Characteristics by Disability Concept, Heads and Wives Ages 25-61

	Types of Disability (percentages)					
Characteristic	**No Disability**	**Any Disability**	**Work Limitation**	**IADL**	**Self-Care**	**Mental Impairment**
Age						
18 to 24	5.5	4.2	3.3	1.6	0.8	7.6
25 to 34	20.3	12.0	8.0	5.3	4.3	21.8
35 to 44	26.0	15.3	14.2	11.7	11.2	17.7
45 to 54	24.0	19.4	21.3	19.2	19.4	21.0
55 to 64	13.3	17.6	19.0	17.4	18.7	13.4
65 to 74	7.3	14.1	15.8	17.3	17.7	7.7
75 to 84	3.2	13.5	14.2	20.5	21.0	7.4
85 and older	0.4	3.9	4.2	6.9	6.9	3.5
Total:	100	100	100	100	100	100
Sex						
Male	48.1	38.8	40.8	29.9	33.0	36.6
Female	51.9	61.2	59.2	70.1	67.0	63.4
Total:	100	100	100	100	100	100
Race						
Black	10.9	11.4	12.2	13.5	14.9	9.4
White	77.6	80.3	80.4	78.0	77.8	83.4
Hispanic	6.5	4.0	3.4	4.2	3.2	2.6
Asian, Pacific Islander	2.1	1.5	1.3	1.7	1.0	1.9
Native American	0.4	0.9	0.5	0.7	0.8	1.2
Other	1.5	1.0	1.2	1.1	1.6	0.8
Don't Know/Refusal	1.1	0.8	1.0	0.8	0.7	0.6
Total:	100.0	100.0	100.0	100.0	100.0	100.0
Education (aged 25 to 61)						
Less than High School	11.6	19.3	21.9	24.3	29.3	16.6
High School/GED	29.0	28.3	27.7	28.3	27.8	27.3
Some College	24.0	23.4	23.7	22.8	21.0	24.6
Four Year College Graduate or more	29.0	24.3	21.7	20.0	17.6	26.2
Missing Education	6.4	4.7	5.1	4.7	4.4	5.3
Total:	100	100	100	100	100	100

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Table 4. 2003 PSID Employment Rate Estimates By Disability Concept, Ages 25 to 61

	Types of Disability (percentages)					
Employment Period	**No Disability**	**Any Disability**	**Work Limitation**	**IADL**	**ADL**	**Mental**
All						
Reference Period	85.4	62.5	51.9	47.9	45.1	61.7
Sometime in Previous Year	91.5	73.8	64.3	58.8	58.3	72.2
Full-Time in Previous Year	67.8	43.4	34.3	32.2	30.0	41.7
Men						
Reference Period	92.0	67.7	58.4	42.4	39.5	69.1
Sometime in Previous Year	97.2	77.6	68.6	57.4	54.6	77.2
Full-Time in Previous Year	73.6	45.9	37.1	30.5	23.5	43.5
Women						
Reference Period	79.0	58.9	46.8	50.9	48.3	57.2
Sometime in Previous Year	86.1	71.1	60.9	59.5	60.4	69.2
Full-Time in Previous Year	62.1	41.6	32.2	33.2	33.8	40.6
White						
Reference Period	86.7	67.5	58.5	51.4	47.8	64.3
Sometime in Previous Year	92.0	77.7	69.2	60.9	59.9	74.9
Full-Time in Previous Year	70.2	46.5	38.8	34.9	30.1	44.0
Black						
Reference Period	84.0	36.9	24.1	26.4	33.3	38.2
Sometime in Previous Year	92.7	53.5	42.4	45.6	54.2	47.3
Full-Time in Previous Year	62.3	27.1	14.9	20.7	25.7	22.0
Hispanic						
Reference Period	77.4	57.4	36.2	48.1	44.9	68.8
Sometime in Previous Year	87.4	72.1	58.6	56.0	48.1	74.9
Full-Time in Previous Year	53.2	41.8	24.1	23.3	28.4	49.9
Less Than High School						
Reference Period	77.5	38.7	25.8	26.4	32.4	36.5
Sometime in Previous Year	89.2	52.6	41.9	38.4	42.5	44.6
Full-Time in Previous Year	55.7	27.0	16.7	16.1	17.2	24.9
High School						
Reference Period	85.4	61.1	51.1	44.2	40.6	62.6
Sometime in Previous Year	90.6	72.5	63.1	57.6	59.8	73.0
Full-Time in Previous Year	66.8	48.7	36.5	34.8	32.6	50.7
More Than High School						
Reference Period	88.3	72.7	64.7	62.3	58.4	68.3
Sometime in Previous Year	93.1	83.1	75.9	71.0	70.2	79.9
Full-Time in Previous Year	71.4	46.5	41.3	40.7	39.1	41.0

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Table 5. Economic Well-Being Measures, Ages 25 to 61

	Types of Disability (percentages)					
	No Disability	Any Disability	Work Limitation	IADL	ADL	Mental
All						
% Below Poverty Line	4.9	13.2	16.6	18.0	18.6	14.4
Median Income-to-Needs Ratio	4.4	3.1	2.8	2.7	2.7	2.8
Median Family Income	$64,000	$40,788	$37,900	$36,000	$35,192	$36,240
Family Size Adjusted Income	$39,202	$27,365	$24,447	$23,430	$23,132	$25,525
Men						
% Below Poverty Line	4.2	12.8	16.0	20.6	24.9	14.1
Median Income-to-Needs Ratio	4.6	3.4	3.1	3.1	2.5	3.2
Median Family Income	$65,020	$45,880	$42,344	$36,698	$32,320	$39,000
Family Size Adjusted Income	$40,472	$30,000	$28,214	$25,949	$21,400	$27,299
Women						
% Below Poverty Line	5.6	13.5	17.1	16.6	15.0	14.6
Median Income-to-Needs Ratio	4.3	2.8	2.5	2.6	2.7	2.7
Median Family Income	$63,000	$38,785	$35,589	$35,192	$36,540	$34,911
Family Size Adjusted Income	$38,042	$25,000	$21,882	$23,187	$23,430	$23,688
White						
% Below Poverty Line	2.7	9.4	11.4	13.5	14.4	11.2
Median Income-to-Needs Ratio	4.9	3.5	3.2	3.2	2.9	3.0
Median Family Income	$71,000	$46,630	$44,800	$40,400	$37,362	$37,202
Family Size Adjusted Income	$43,210	$30,830	$28,214	$27,731	$26,000	$25,949
Black						
% Below Poverty Line	12.5	33.1	40.3	36.2	34.3	41.3
Median Income-to-Needs Ratio	3.0	1.7	1.4	1.6	1.7	1.2
Median Family Income	$40,216	$21,400	$16,000	$19,000	$21,400	$16,900
Family Size Adjusted Income	$27,294	$14,500	$12,240	$14,087	$14,434	$11,768
Hispanic						
% Below Poverty Line	15.0	27.4	37.7	34.9	36.2	40.0
Median Income-to-Needs Ratio	2.1	1.5	1.1	1.3	1.3	2.1
Median Family Income	$38,700	$28,699	$22,000	$28,346	$23,200	$28,699
Family Size Adjusted Income	$20,393	$15,105	$11,572	$12,247	$11,900	$18,783
LT High School						
% Below Poverty Line	16.0	28.4	32.2	31.5	27.0	34.6
Median Income-to-Needs Ratio	2.3	1.7	1.6	1.4	1.7	1.4
Median Family Income	$35,000	$25,304	$23,573	$23,000	$23,814	$20,550
Family Size Adjusted Income	$21,281	$15,624	$13,941	$13,400	$16,000	$13,320

Continued

Table 5 (continued). Economic Well-Being Measures, Ages 25 to 61

	Types of Disability (percentages)					
	No Disability	**Any Disability**	**Work Limitation**	**IADL**	**ADL**	**Mental**
High School						
% Below Poverty Line	4.8	14.9	18.8	23.9	25.4	13.2
Median Income-to-Needs Ratio	3.7	2.5	2.3	2.3	1.9	2.3
Median Family Income	$54,248	$34,911	$33,050	$30,500	$27,544	$33,000
Family Size Adjusted Income	$32,750	$21,920	$20,563	$20,250	$17,500	$20,518
More Than High School						
% Below Poverty Line	2.7	7.0	9.2	8.3	9.0	9.9
Median Income-to-Needs Ratio	5.5	4.1	4.0	4.0	4.0	3.8
Median Family Income	$79,000	$53,946	$51,070	$53,138	$50,500	$48,243
Family Size Adjusted Income	$48,500	$37,052	$35,565	$35,192	$36,172	$33,550

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Note that the rate for each disability type is higher than the rate for the "any disability" category. The reason is that the disability types are not mutually exclusive groups and so the aggregate column is not a weighted average of each disability type. People can report multiple disabilities, and it is likely that those who do so have the fewest resources (highest poverty rate, etc). To illustrate this point, suppose that we have five people, one person reports "yes" to each disability type and happens to be in poverty. The other four, who only have one type of disability, are not in poverty. In this case the aggregate disability category will consist of 5 people (4 not in poverty, 1 in poverty) with a poverty rate of 20 percent. While each of the four disability types will consist of two people (one in poverty, one not) with a poverty rate of 50 percent.

Table 6. Development of Multi-Period Disability Measures for Heads and Wives ages 25 to 61, by 2003 Work Limitation Status

	Interview Year			Total Estimate		Disability Estimates		
	1999	2001	2003	Population (Thousands)	Percentage	Population (Thousands)	Percentage	Sample Size
No Work Limitation in 2003 Survey			No	123,908	86.5	****	****	4,174
At Least One Period			Yes	19,304	13.5	19,304	100	629
At Least Two Periods		Yes	Yes	11,370	7.9	11,370	58.9	366
At Least Three Periods	Yes	Yes	Yes	7,980	5.6	7,980	41.3	254

Source: Authors' Calculations from the 1999,2001, and 2003 Panel Study of Income Dynamics.

Table 7. 2003 PSID Demographic, Employment and Economic Well Being Estimates by Number of Consecutive Reports of a Work Limitation (%)

Characteristic	No Work Limitation in 2003	At Least Three Periods	At Least Two Periods	At Least One Period
Total Population	123,908	7,980	11,370	19,304
Total Population Percentage *	86.5	5.6	7.9	13.5
Age Distribution				
25 to 34	25.6	7.3	9.8	14.0
35 to 44	31.6	21.3	23.3	24.9
45 to 54	29.2	41.2	39.4	37.4
55 to 61	13.7	30.2	27.5	23.7
Total:	100.0	100.0	100.0	100.0
Gender Distribution				
Male	48.17	42.77	45.02	43.77
Female	51.83	57.23	54.98	56.23
Total:	100	100	100	100
Race Distribution				
Black	11.2	13.3	12.83	13.47
White	76.7	77.6	78.15	77.05
Hispanic	7.0	4.1	4.89	4.84
Asian, Pacific Islander	2.2	1.7	1.36	1.27
Native American	0.4	0.5	0.51	0.54
Other, Don't Know, Refuse	2.6	2.8	2.3	2.8
Total:	100.0	100.0	100.0	100.0
Education Distribution				
Less than High School	11.9	24.6	22.2	21.9
High School/GED	29.0	26.6	27.6	27.7
Some College	23.9	23.6	24.5	23.7
Four Year College Graduate or more	29.0	19.9	20.9	21.7
Missing Education	6.2	5.3	4.8	5.1
Total:	100.0	100.0	100.0	100.0
Employment Rates				
Reference Period	85.0	36.3	44.9	51.9
Some Time In Previous Year	91.4	47.8	57.0	64.3
Full Time Full Year	66.9	26.8	32.8	34.3
Economic Well-Being Measures				
% Below Poverty Line	5.2	19.3	15.9	16.6
Median Income-to-Needs Ratio	4.3	2.5	2.6	2.8
Median Household Income	62,276	36,288	36,540	37,900
Household Size Adjusted Income	38,500	21,882	23,132	24,447

Source: Authors' Calculations from the 1999,2001, and 2003 Panel Study of Income Dynamics.

*Note: Percentages across will not sum to one hundred since populations in the last three columns overlap.

Table 8. Cumulative Occurrence of Economic Consequences Following the Onset of a Disability

	Stop working[a]		Return to work[a]		Fall into poverty [b]		Economic Recovery[c]		Recovery from disability[d]		Receive transfers[e]	
	Age		Age		Age		Age		Age		Age	
Years since onset of a disability	**25-50**	**51-61**	**25-50**	**51-61**	**25-50**	**51-61**	**25-50**	**51-61**	**25-50**	**51-61**	**25-50**	**51-61**
1	0.15	0.24	0.28	0.14	0.08	0.08	0.46	0.46	NA	NA	0.14	0.19
	(0.013)	(0.023)	(0.025)	(0.021)	(0.019)	(0.012)	(0.016)	(0.022)	NA	NA	(0.016)	(0.021)
2	0.26	0.35	0.46	0.19	0.13	0.13	0.63	0.57	0.02	0.01	0.22	0.29
	(0.016)	(0.026)	(0.029)	(0.025)	(0.012)	(0.016)	(0.016)	(0.022)	(0.005)	(0.003)	(0.019)	(0.024)
3	0.32	0.42	0.52	0.22	0.17	0.17	0.72	0.64	0.04	0.02	0.3	0.4
	(0.017)	(0.027)	(0.03)	(0.027)	(0.013)	(0.018)	(0.016)	(0.023)	(0.007)	(0.006)	(0.022)	(0.027)
4	0.38	0.49	0.58	0.24	0.2	0.2	0.77	0.69	0.13	0.07	0.36	0.53
	(0.019)	(0.028)	(0.031)	(0.028)	(0.015)	(0.019)	(0.016)	(0.023)	(0.013)	(0.012)	(0.024)	(0.029)
5	0.44	0.53	0.61	0.28	0.22	0.22	0.84	0.75	0.13	0.07	0.45	0.7
	(0.019)	(0.028)	(0.032)	(0.031)	(0.016)	(0.02)	(0.016)	(0.024)	(0.013)	(0.013)	(0.027)	(0.029)
Median years to outcome	5+	5	3	5+	5+	5+	2	2	5+	5+	5+	4

Source: Panel Study of Income Dynamics (PSID).

Note: Values represent the probability that an outcome has occurred by time I. Values in parentheses are standard errors assuming simple random sampling. Sample is based upon data from the 1970-1989 waves of the PSID. Sample includes household heads and spouses who reported two consecutive periods of no disability followed by two consecutive periods of disability and who were between the ages of 25 and 61 at onset. A period of disability is one in which the respondent reported that a physical or nervous condition limits the type of work or the amount of work that he/she can do.

a. Excludes individuals who were not working one year before onset. Stop working means not working for one full year.

b. Poverty calculated using the U.S. poverty thresholds and the official income definition.

c. Includes individuals who experience no loss of income at the onset of a disability.

d. Recovery occurs when a respondent reports that he/she does not have a physical or nervous condition that limits work.

e. Excludes individuals who receive transfers in the year before onset. Transfers include Social Security Disability Insurance, Supplemental Security Income, Veterans Disability Benefits, Workers' Compensation, and Social Security Retirement Insurance.

Table 9. Percent of Working-Age Males In the United States and Germany with Disabilities

Ages	United States	Germany
Aged 25 to 59	9	10.2
Aged 25 to 34	6.5	3.7
Aged 35 to 49	8.5	8
Aged 50 to 59	15	22.2

Source: 1989 Response-Nonresponse File of the Panel Study on Income Dynamics and the Syracuse University Public Use File of the German Socio-Economic Panel.

Table 10a. Employment, Earnings, and Transfer Receipt Among Working-Age Men with and without Disabilities in the United States and Germany

	United States					Germany				
	Percent Employed					Percent Employed				
	Total	Full-Time	Part-Time	Labor Earnings	Receiving Transfers	Total	Full-Time	Part-Time	Labor Earnings	Receiving Transfers
Men										
with disabilities	71.8	45.9	25.9	19,369	48.7	67.8	58.2	9.6	34,252	65.6
without disabilities	97.8	84.2	13.6	39,819	15.2	95	81.4	13.6	53,226	60.4
Ratio	0.73	0.55	1.9	0.49	3.2	0.72	0.72	0.71	0.65	1.1

Source: 1989 Response-Nonresponse File of the Panel Study on Income Dynamics and the Syracuse University Public Use File of the German Socio-Economic Panel.
All amounts are reported in 1991 dollars and 1991 DM for the United States and Germany, respectively.

Table 10b. Economic Well-being of Working-Age Men with and without Disabilities in the United States and Germany

	United States (Mean 1991 Dollars)		Germany (Mean 1991 DM)	
	Before-Government Income	**After-Government Income**	**Before-Government Income**	**After-Government Income**
Men				
with disabilities	25,419	23,968	40,562	34,382
without disabilities	38,851	32,434	51,789	39,186
Ratio	0.65	0.73	0.78	0.88

Source: 1989 Response-Nonresponse File of the Panel Study on Income Dynamics and the Syracuse University Public Use File of the German Socio-Economic Panel

Table 11. Estimates of Population (in Thousands) of Persons with Disabilities Across Datasets, By Age

			Participation Restriction		Activity Limitation	Impairment		
	No Disability	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Ages 18 to 24								
American Community Survey, 2003	24,194	1,667	714	399	188	953	536	357
Census 2000	24,791	1,443	NA	NA	208	884	457	327
Current Population Survey, 2004[a]	26,804	817	817	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	25,226	2,126	927	228	148	786	859	78
Panel Study on Income Dynamics, 2003[b]	**7,660**	**2,152**	**1,131**	**416**	**157**	**1,477**	**NA**	**NA**
Survey of Income and Program Participation, 2002	24,820	2,426	1,210	366	146	1,077	983	534
Ages 25 to 61								
American Community Survey, 2003	126,650	17,147	9,854	4,227	2,926	5,746	10,820	3,944
Census 2000	124,494	14,006	NA	NA	2,628	5,218	9,448	3,346
Current Population Survey, 2004[a]	132,650	12,102	12,102	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	115,934	23,192	13,726	3,169	1,351	4,628	14,546	2,730
Panel Study on Income Dynamics, 2003[b]	**112,566**	**30,656**	**19,300**	**12,375**	**9,395**	**13,896**	**NA**	**NA**
Survey of Income and Program Participation, 2002	115,900	26,620	14,420	4,931	3,363	4,394	18,790	6,490
Ages 62 to 64								
American Community Survey, 2003	4,942	1,796	1,112	405	294	394	1,292	455
Census 2000	4,807	1,413	NA	NA	258	348	1,135	374
Current Population Survey, 2004[a]	5,482	1,279	1,279	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	4,240	2,045	1,281	300	128	144	1,466	311
Panel Study on Income Dynamics, 2003[b]	**3,677**	**2,276**	**1,873**	**1,536**	**1,252**	**472**	**NA**	**NA**
Survey of Income and Program Participation, 2002	3,959	2,582	1,497	568	377	252	2,166	672

Continued

Table 11 (continued). Estimates of Population (in Thousands) of Persons with Disabilities Across Datasets, By Age

			Participation Restriction		Activity Limitation	Impairment		
	No Disability	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Ages 18 to 64								
American Community Survey, 2002	155,786	20,610	11,680	5,032	3,407	7,093	12,648	4,757
Census 2000	154,091	16,862	NA	NA	3,093	6,450	11,039	4,047
Current Population Survey, 2004[a]	164,935	14,197	14,197	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	145,400	27,364	15,934	3,697	1,626	5,558	16,871	3,119
Panel Study on Income Dynamics, 2003[b]	**123,903**	**35,084**	**22,304**	**14,327**	**10,804**	**15,845**	**NA**	**NA**
Survey of Income and Program Participation, 2002	144,679	31,628	17,126	5,865	3,885	5,723	21,938	7,696

Source: Authors' Calculations from various data sources.

[a]The 2004 Current Population Survey March Supplement collects 2003 calendar year information on Poverty, Median Household Income, and Household Size-Adjusted Income. Population and prevalence estimates are collected in March 2004.

[b]The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Table 12. Estimated Prevalence of Persons with Disabilities, By Age

		Participation Restriction		Activity Limitation		Impairment	
	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Ages 18 to 24							
American Community Survey, 2003	6.5	2.8	1.5	0.7	3.7	2.1	1.4
Census 2000	5.5	NA	NA	0.8	3.4	1.7	1.2
Current Population Survey, 2004[a]	3.0	3.0	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	7.8	3.4	0.8	0.5	2.9	3.1	0.3
Panel Study on Income Dynamics, 2003[b]	**21.7**	**11.4**	**4.2**	**1.6**	**14.9**	**NA**	**NA**
Survey of Income and Program Participation, 2002	8.9	4.4	1.3	0.5	4.0	3.6	2.0
Ages 25 to 61							
American Community Survey, 2003	11.9	6.9	2.9	2.0	4.0	7.5	2.7
Census 2000	10.1	NA	NA	1.9	3.8	6.8	2.4
Current Population Survey, 2004[a]	8.4	8.4	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	16.7	9.9	2.3	1.0	3.3	10.5	2.0
Panel Study on Income Dynamics, 2003[b]	**21.4**	**13.5**	**8.6**	**6.6**	**9.7**	**NA**	**NA**
Survey of Income and Program Participation, 2002	18.7	10.1	3.5	2.4	3.1	13.2	4.6
Ages 62 to 64							
American Community Survey, 2003	26.7	16.5	6.0	4.4	5.8	19.2	6.8
Census 2000	22.7	NA	NA	4.1	5.6	18.2	6.0
Current Population Survey, 2004[a]	18.9	18.9	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	32.5	20.4	4.8	2.0	2.3	23.3	4.9
Panel Study on Income Dynamics, 2003[b]	**38.2**	**31.5**	**25.8**	**21.0**	**7.9**	**NA**	**NA**
Survey of Income and Program Participation, 2002	39.5	22.9	8.7	5.8	3.9	33.1	10.3

Continued

Table 12 (continued). Estimated Prevalence of Persons with Disabilities, By Age

		Participation Restriction		Activity Limitation	Impairment		
	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Ages 18 to 64							
American Community Survey, 2003	11.7	6.6	2.9	1.9	4.0	7.2	2.7
Census 2000	9.9	NA	NA	1.8	3.8	6.5	2.4
Current Population Survey, 2004[a]	7.9	7.9	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	15.8	9.2	2.1	0.9	3.2	9.8	1.8
Panel Study on Income Dynamics, 2003[b]	**22.1**	**14.0**	**9.0**	**6.8**	**10.0**	**NA**	**NA**
Survey of Income and Program Participation, 2002	17.9	9.7	3.3	2.2	3.2	12.4	4.4

Source: Authors' calculations from various public use microdata files.

[a]The 2004 Current Population Survey March Supplement collects 2003 calendar year information on Poverty, Median Household Income, and Household Size-Adjusted Income. Prevalence and population estimates are collected in March 2004.

[b]The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Table 13. Estimates of the Employment Rate Across Datasets, Ages 25-61

			Participation Restriction		Activity Limitation	Impairment		
	No Disability	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Reference Period, Ages 25 to 61								
American Community Survey, 2003	79.5	39.3	18.9	17.9	18.3	28.2	33.8	49.9
Census 2000	78.8	41.8	NA	NA	21.7	30.2	35.6	52.1
Current Population Survey, 2003[a]	81.4	19.6	19.6	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	83.3	47.3	29.8	18.3	14.1	37.1	43.8	58.6
Panel Study on Income Dynamics, 2003[b]	**85.4**	**62.5**	**51.9**	**47.9**	**45.1**	**61.7**	**NA**	**NA**
Survey of Income and Program Participation, 2002	82.4	48.9	27.7	20.3	22.8	37.0	46.4	53.5
Some Attachment to Labor Force, Ages 25 to 61								
American Community Survey, 2003	87.1	48.9	28.3	25.8	26.2	37.2	42.8	58.1
Census 2000	86.3	51.9	NA	NA	31.9	40.4	45.4	61.1
Current Population Survey, 2003[a]	86.2	27.9	27.9	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	88.3	57.9	42.0	25.7	19.9	51.9	53.8	66.6
Panel Study on Income Dynamics, 2003[b]	**91.5**	**73.8**	**64.3**	**58.8**	**58.3**	**72.2**	**NA**	**NA**
Survey of Income and Program Participation, 2002	90.6	61.1	41.0	34.1	38.8	46.3	59.0	63.7
Full-Year Full-Time, Ages 25 to 61								
American Community Survey, 2003	59.6	24.5	9.1	9.0	9.4	15.0	20.3	34.5
Census 2000	58.8	27.1	NA	NA	13.1	16.7	22.6	37.4
Current Population Survey, 2003[a]	65.3	9.4	9.4	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	62.8	29.8	16.3	9.3	6.2	21.3	27.2	43.4
Panel Study on Income Dynamics, 2003[b]	**67.8**	**43.4**	**34.3**	**32.2**	**30.0**	**41.7**	**NA**	**NA**
Survey of Income and Program Participation, 2002	58.1	31.2	15.3	12.0	15.0	20.3	29.6	35.6

Source: Authors' calculations from various public use microdata files.

[a]The 2004 Current Population Survey March Supplement collects 2003 calendar year information on Poverty, Median Household Income, and Household Size-Adjusted Income. Prevalence and population estimates are collected in March 2004.

[b]The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Table 14. Estimates of Economic Well-Being Across Datasets, Ages 25-61

			Participation Restriction		Activity Limitation	Impairment		
	No Disability	Disability	Work Limitation	IADL	Self-Care	Mental	Physical	Sensory
Poverty Rates, Ages 25 to 61								
American Community Survey, 2003	7.7	23.7	29.6	29.7	28.9	30.8	25.0	20.8
Census 2000	7.9	23.2	NA	NA	30.0	30.6	24.2	20.1
Current Population Survey, 2003[a]	8.0	28.8	28.8	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	7.5	21.2	26.5	32.3	30.1	29.8	22.1	20.7
Panel Study on Income Dynamics, 2003[b]	**4.9**	**13.2**	**16.6**	**18.0**	**18.6**	**14.4**	**NA**	**NA**
Survey of Income and Program Participation, 2002	6.5	18.8	26.0	26.3	25.1	24.9	19.1	17.6
Median Household/Family Income, Ages 25 to 61								
American Community Survey, 2003	$60,000	$34,600	$28,000	$28,600	$28,000	$27,400	$32,100	$38,000
Census 2000	$56,860	$33,600	NA	NA	$27,200	$26,170	$32,000	$37,400
Current Population Survey, 2003[a]	$61,999	$27,955	$27,955	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	NA	NA	NA	NA	NA	NA	NA	NA
Panel Study on Income Dynamics, 2003[b]	**$64,000**	**$40,788**	**$37,900**	**$36,000**	**$35,192**	**$36,240**	**NA**	**NA**
Survey of Income and Program Participation, 2002	$53,313	$33,895	$25,664	$24,989	$26,735	$26,218	$33,490	$33,776
Median Adjusted Household/Family Income, Ages 25 to 61								
American Community Survey, 2003	$35,796	$21,304	$17,487	$17,615	$17,667	$17,321	$20,207	$23,415
Census 2000	$33,234	$20,412	NA	NA	$16,330	$16,000	$19,676	$22,617
Current Population Survey, 2003[a]	$36,770	$17,967	$17,967	NA	NA	NA	NA	NA
National Health Interview Survey,2002	NA	NA	NA	NA	NA	NA	NA	NA
Panel Study on Income Dynamics, 2003[b]	**$39,202**	**$27,365**	**$24,447**	**$23,430**	**$23,132**	**$25,525**	**NA**	**NA**
Survey of Income and Program Participation, 2002	NA	NA	NA	NA	NA	NA	NA	NA

Source: Authors' calculations from various public use microdata files.

[a]The 2004 Current Population Survey March Supplement collects 2003 calendar year information on Poverty, Median Household Income, and Household Size-Adjusted Income. Prevalence and population estimates are collected in March 2004.

[b]The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Figure 2. Time Series Comparisons Between PSID and CPS Disability Measures, Men Ages 25-61

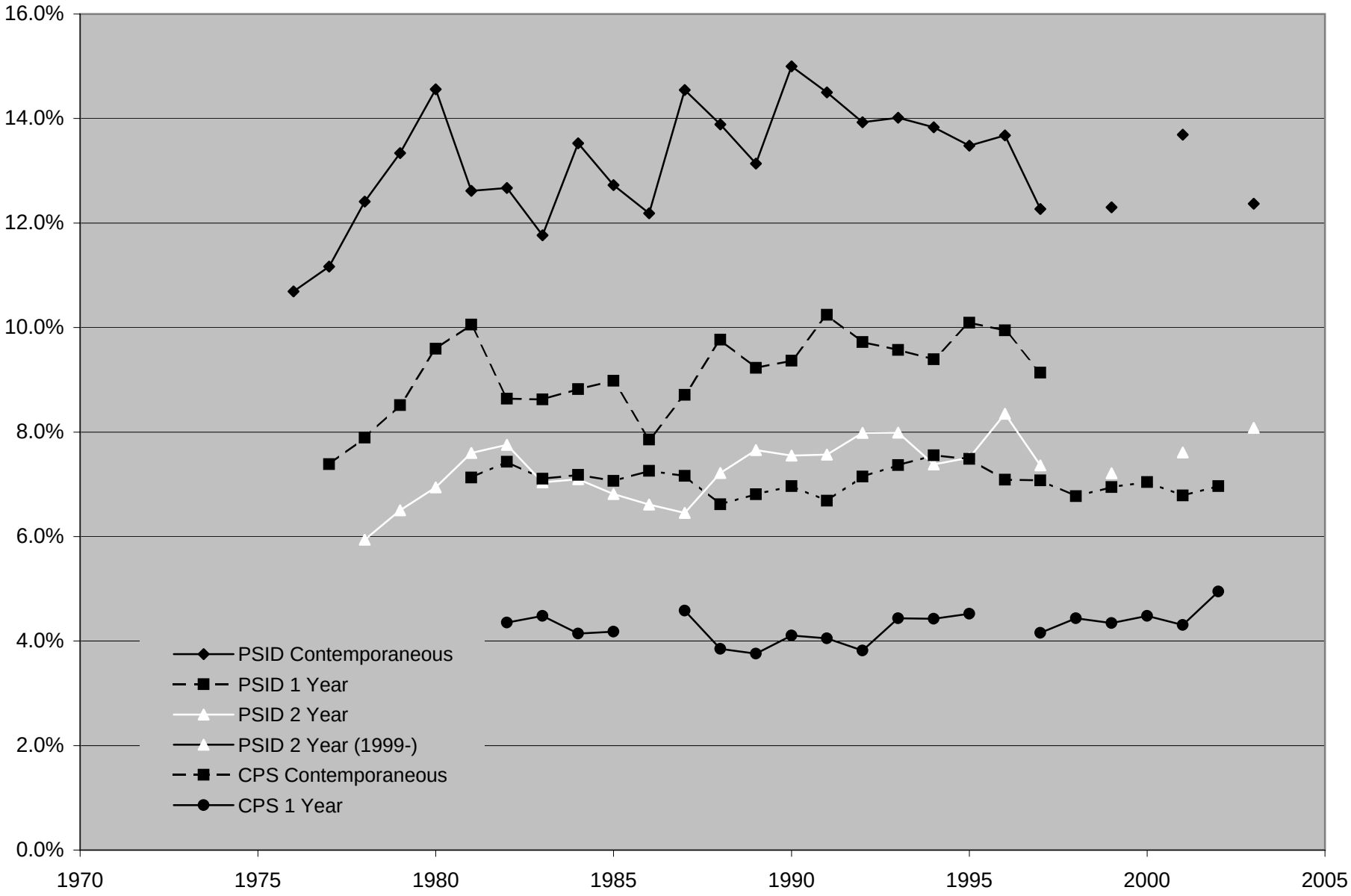
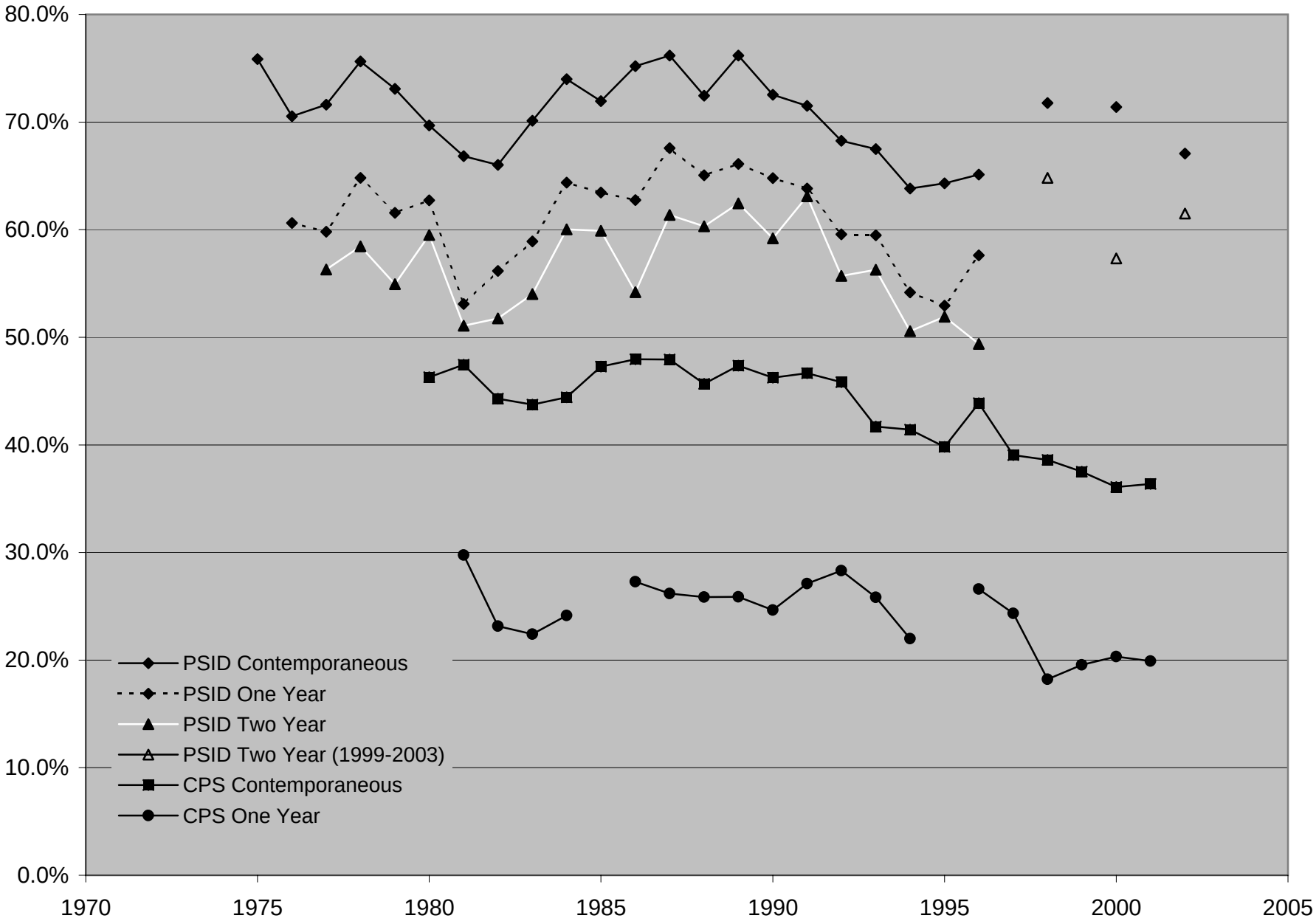


Figure 3. Time Series Comparisons >Between CPS and PSID Employment Rate Measures, Men 25-61.



Appendix A: Estimation of Population Statistics and Standard Errors

The PSID does not come from a simple random sample of the U. S. population. The probability of selection into the PSID sample differs across families in the population. Family level sample weights are included in the PSID to account for the differences in the probability of selection. The probability of selection changes over time and the PSID provides family level weights for each interview year. The weights for a given interview year can be used to obtain representative estimates of U. S. families for that year.

Similarly, the probability of selection into the PSID sample differs across individuals from the population of people living in U. S. families. Individual level sample weights are included in the PSID that account for differences in the probability of selection across individuals. Because the probability of selection can change over time, the PSID constructs individual level sample weights for each interview year. The individual level weights for a given interview year can be used to obtain representative estimates of individuals living in U. S. families for that year.

These sample weights, however, are not sufficient for calculating the appropriate standard errors and the resulting confidence intervals for an estimate. The original PSID sample design consists of a number of geographic clusters of households. Because families within these geographic clusters are likely to be more similar to each other than families drawn at random across the United States, there is likely to be less variation within a geographic cluster than across the population. The standard error calculation must account for this possibility.

The PSID includes variables that account for the sample design and that can be used to estimate the appropriate standard errors and resulting confidence intervals. Two sets of PSID variables can be used. The first set can be used for Balanced Repeated Replication (BRR) methods of calculating standard errors. These variables include the BRR Stratum variable, which identifies 32 carefully matched pairs of clusters, and the BRR SECU variable, which identifies the cluster number within a strata. These variables can be used to form pairs of clusters for repeated replication methods. They can also be used to estimate standard errors using programs based upon Taylor Series Linearization methods. These programs include STATA survey commands and SAS proc survey

commands. In these programs, the BRR Stratum variable can be used as the "stratum variable" and the BRR SECU variable can be used as the "cluster variable." In this User Guide we use the SAS Survey commands to compute standard errors of estimates.

Appendix Table 1. PSID Disability and Health Condition Questions (Percentages)

Estimates[1]	Age of Heads and Wives				
	18-64 (n=5,468)	**18-24 (n=455)**	**25-61 (n=4,813)**	**62-64 (n=200)**	**65+ (n=1,159)**
Population Estimate (in 1000s)	**159,361**	**9,941**	**143,467**	**5,954**	**31,254**
PSID Disability (Mental, ADL, IADL or Work Limitation)	**22.0**	**21.7**	**21.4**	**38.2**	**51.5**
Has a doctor ever told you that you have or had…					
A stroke?	1.4	0.3	1.3	4.9	11.0
High blood pressure or hypertension?	19.9	6.0	19.6	50.0	53.3
Diabetes or high blood sugar?	6.5	1.7	6.5	14.8	17.2
Cancer or a malignant tumor, excluding skin cancer?	3.0	1.2	3.0	4.6	16.9
Chronic lung disease such as bronchitis or emphysema?	3.2	2.3	3.3	4.5	8.7
A heart attack?	1.7	0.1	1.5	8.4	13.0
Coronary heart disease, angina, congestive heart failure?	4.1	2.2	3.9	12.0	23.6
Arthritis or rheumatism?	14.9	3.1	14.8	35.4	53.7
Asthma?	8.4	13.0	8.2	5.9	7.5
Mental Disability as identified by one of the following	**9.9**	**14.9**	**9.7**	**7.9**	**11.5**
Has a doctor ever told you that you have or had…					
Any emotional, nervous, or psychiatric problems?	8.1	11.2	8.0	6.2	6.9
Permanent loss of memory or loss of mental ability?	1.3	1.2	1.2	3.0	6.0
A learning disorder?	2.5	5.8	2.3	2.1	0.6
Difficult with at least one of the following ADLs	**6.8**	**1.6**	**6.6**	**21.0**	**29.0**
Difficulty doing each of the following by self, without equipment					
bathing or showering	1.5	0.2	1.4	7.2	8.9
and need help from someone?	0.7	0.2	0.6	4.4	6.5
dressing	1.4	0.3	1.3	6.1	6.0
and need help from someone?	0.6	0.0	0.6	3.3	4.7
eating	0.6	0.5	0.5	1.6	1.8
and need help from someone?	0.1	0.0	0.1	0.7	1.0
in or out of bed or chair	2.8	0.8	2.8	8.1	10.1
and need help from someone?	1.0	0.3	0.9	3.6	4.0
walking	5.1	1.3	4.9	15.4	25.0
and need help from someone?	0.8	0.2	0.7	4.2	5.4
getting outside	1.3	0.0	1.2	6.3	8.4
and need help from someone?	0.5	0.0	0.5	3.5	5.3
using the toilet	0.6	0.0	0.5	2.5	4.9
and need help from someone?	0.2	0.0	0.2	1.0	2.9

Continued

Appendix Table 1 (continued). PSID Disability and Health Condition Questions (Percentages)

Estimates[1]	Age of Heads and Wives				
	18-64 (n=5,468)	**18-24 (n=455)**	**25-61 (n=4,813)**	**62-64 (n=200)**	**65+ (n=1,159)**
Difficult with at least one of the following IADLs	**9.0**	**4.2**	**8.6**	**25.8**	**37.1**
Because of a health or physical problem, [do you/does HEAD] have any difficulty...					
Preparing [your/his] own meals?	1.3	0.4	1.2	6.2	7.7
Shopping for personal toilet items or medicines?	1.5	0.2	1.4	6.3	9.8
Managing [your/his] own money, such as keeping track of expenses or paying bills?	1.3	1.5	1.2	1.3	6.6
Using the Telephone	0.7	0.0	0.7	1.7	5.4
Doing heavy housework, like scrubbing floors or washing windows?	7.9	2.7	7.6	23.0	34.7
Doing light housework, like doing dishes, straightening up, or light housecleaning?	1.6	1.2	1.4	7.8	8.9
Employment Disability	**14.0**	**11.4**	**13.5**	**31.5**	**37.0**
Obesity (30 ≤ BMI)/(5)	24.1	15.8	24.0	21.1	18.7

Source: Author's Calculations from 2003 PSID data.

[1]Percentages are number who report a specific condition divided by the sum of those who report that they do not have the condition plus those who do not respond (missings). The number of missings is small.

Appendix Table 2. Development of Multi-Period Disability Measures for PSID Heads and Wives ages 25 to 61, by 2003 Work Limitation Status

	Disability in PSID Interview Year:			Estimate of:		Of those with a Disability		Sample
	1999	2001	2003	Population (Thousands)	Percentage	Population (Thousands)	Percentage	Size
No Work Limitation in 2003 Survey	****	****	No	123,908	86.5%	****	****	4,174
At Least Three Periods	Yes	Yes	Yes	7,980	5.6%	7,980	41.3%	254
Two Period Only	No	Yes	Yes	3,390	2.4%	3,390	17.6%	112
At Least Two Periods	Yes/No	Yes	Yes	11,370	7.9%	11,370	58.9%	366
Disability Onset in 2003 Survey	No	No	Yes	4,540	3.2%	4,540	23.5%	141
Second Episode of Disability in 2003	Yes	No	Yes	2,114	1.5%	2,114	10.9%	68
Missing data in either 1999 or 2001	Incomplete	Incomplete	Yes	1,280	0.9%	1,280	6.6%	54
At Least One Period			Yes	19,304	13.5%	19,304	100.0%	629
Total				**143,212**	**100%**	**19,304**	**100%**	**4,803**

Source: Authors' Calculations from the 1999,2001, and 2003 Panel Study of Income Dynamics.

Appendix Table 3. Time Series Comparisons Between PSID and CPS Disability Measures, Men Ages 25-61

									CPS 1 Period		CPS 2 Period	
Year	PSID Contemporaneous	n	PSID 1 Year	n	PSID 2 Year	n	PSID 2 Year (1999-)	n	CPS Contemporaneous	n	CPS 1 Year	n
1976	10.7%	2,334										
1977	11.2%	2,377	7.4%	2,349								
1978	12.4%	2,399	7.9%	2,368	5.9%	2,329						
1979	13.3%	2,457	8.5%	2,418	6.5%	2,379						
1980	14.6%	2,496	9.6%	2,466	6.9%	2,418						
1981	12.6%	2,524	10.1%	2,493	7.6%	2,456			7.1%	35,549		
1982	12.7%	2,561	8.6%	2,537	7.8%	2,494			7.4%	31,942	4.4%	11,210
1983	11.8%	2,561	8.6%	2,536	7.0%	2,503			7.1%	32,065	4.5%	11,309
1984	13.5%	2,555	8.8%	2,519	7.1%	2,484			7.2%	31,883	4.1%	10,916
1985	12.7%	2,590	9.0%	2,536	6.8%	2,492			7.1%	32,030	4.2%	10,385
1986	12.2%	2,589	7.9%	2,558	6.6%	2,492			7.3%	31,536		
1987	14.5%	2,592	8.7%	2,538	6.5%	2,497			7.2%	31,109	4.6%	10,036
1988	13.9%	2,608	9.8%	2,554	7.2%	2,490			6.6%	31,488	3.8%	10,364
1989	13.1%	2,589	9.2%	2,540	7.7%	2,475			6.8%	29,421	3.8%	9,541
1990	15.0%	2,597	9.4%	2,555	7.5%	2,493			7.0%	31,899	4.1%	9,917
1991	14.5%	2,604	10.2%	2,557	7.6%	2,498			6.7%	31,826	4.1%	10,550
1992	13.9%	2,683	9.7%	2,550	8.0%	2,495			7.1%	31,354	3.8%	10,430
1993	14.0%	2,540	9.6%	2,483	8.0%	2,413			7.4%	31,273	4.4%	10,285
1994	13.8%	2,540	9.4%	2,435	7.4%	2,372			7.6%	29,952	4.4%	10,190
1995	13.5%	2,698	10.1%	2,659	7.5%	2,352			7.5%	30,170	4.5%	9,265
1996	13.7%	2,646	9.9%	2,611	8.4%	2,568			7.1%	26,318		
1997	12.3%	2,139	9.1%	1,785	7.4%	1,758			7.1%	26,713	4.2%	9,234
1998									6.8%	26,851	4.4%	9,325
1999	12.3%	2,166					7.2%	2,002	6.9%	27,030	4.3%	9,446
2000									7.0%	27,230	4.5%	9,420
2001	13.7%	2,174					7.6%	2,060	6.8%	26,299	4.3%	9,385
2002									7.0%	44,048	4.9%	9,024
2003	12.4%	2,248					8.1%	2,227				

Source: Burkhauser and Schroeder (2004) for 1976 to 1997 and Authors calculations from PSID for 1999-2003.

(1) Contemporaneous measures is a report of a work limitation in the interview year.

(2) The one year measure is a report of a work limitation in two consecutive interview years.

(3) The two year measure from 1976 to 1997 is a report of a work limitation in three consecutive interview years.

(4) The two year measure for 1999, 2001 and 2003 is a report of a work limitation in two consecutive interviews but these interviews are two years apart.

Note: Some years do not have data and we could not compute a rate for the cell. These cells are blank.

Appendix Table 4. Time Series Comparisons Between PSID and CPS Employment Rate Measures, Men Ages 25-61

									CPS 1 Period		CPS 2 Period	
Year	PSID Contemporaneous	n	PSID 1 Year	n	PSID 2 Year	n	PSID 2 Year (1999-)	n	CPS Contemporaneous	n	CPS 1 Year	n
1975	75.9%	298										
1976	70.5%	322	60.6%	210								
1977	71.6%	346	59.8%	228	56.3%	170						
1978	75.6%	385	64.8%	246	58.5%	187						
1979	73.1%	425	61.6%	275	54.9%	199						
1980	69.7%	362	62.7%	286	59.5%	213			46.3%	2579		
1981	66.8%	355	53.1%	240	51.1%	213			47.4%	2366	29.8%	486
1982	66.0%	342	56.2%	243	51.7%	189			44.3%	2296	23.1%	513
1983	70.1%	362	58.9%	237	54.0%	190			43.7%	2335	22.4%	462
1984	74.0%	347	64.4%	232	60.0%	176			44.4%	2257	24.1%	428
1985	72.0%	317	63.4%	208	59.9%	170			47.3%	2235		
1986	75.2%	375	62.8%	217	54.2%	162			48.0%	2195	27.3%	434
1987	76.2%	369	67.6%	253	61.4%	179			47.9%	2092	26.2%	408
1988	72.4%	359	65.0%	241	60.3%	192			45.7%	2031	25.9%	360
1989	76.2%	376	66.1%	242	62.4%	188			47.4%	2214	25.9%	408
1990	72.5%	369	64.8%	251	59.2%	186			46.2%	2144	24.6%	432
1991	71.5%	377	63.8%	250	63.1%	196			46.7%	2244	27.1%	412
1992	68.3%	353	59.6%	239	55.7%	189			45.8%	2299	28.3%	454
1993	67.5%	350	59.5%	222	56.3%	171			41.7%	2230	25.8%	455
1994	63.8%	374	54.2%	272	50.6%	174			41.4%	2239	22.0%	413
1995	64.3%	367	52.9%	259	51.9%	210			39.8%	1883		
1996	65.1%	258	57.6%	160	49.4%	128			43.9%	1941	26.6%	398
1997									39.0%	1836	24.3%	420
1998	71.8%	267					64.8%	148	38.6%	1858	18.2%	413
1999									37.5%	1941	19.6%	404
2000	71.4%	290					57.3%	158	36.1%	1801	20.3%	427
2001									36.4%	2877	19.9%	402
2002	67.1%	272					61.5%	165				

Source: Burkhauser and Schroeder (2004) for 1976 to 1997 and Authors calculations from PSID for 1999-2003.

Note: Some years do not have data and we could not compute a rate for the cell. These cells are blank.

Appendix Table 5. Standard Errors for 2003 PSID Population and Prevalence Estimates by Disability Concept, PSID Heads and Wives

			Types of Disabilities			
	No Disability	Any Disability	Work Limitation	IADL	Self-Care	Mental Impairment
All, Age 18-99						
Population Estimate (in thousands)	5,281	2,491	2,023	1,445	1,258	1,243
Prevalence Rate (percent)	0.83	0.83	0.83	0.66	0.54	0.48
Ages 18 to 24						
Population Estimate (in thousands)	576	307	216	93	76	263
Prevalence Rate (percent)	2.24	2.24	1.77	0.89	0.73	2.17
Ages 25 to 61						
Population Estimate (in thousands)	4,421	1,759	1,383	909	867	1,045
Prevalence Rate (percent)	0.91	0.91	0.83	0.63	0.51	0.61
Ages 62 to 64						
Population Estimate (in thousands)	347	263	284	279	177	146
Prevalence Rate (percent)	3.68	3.68	4.29	4.06	2.89	2.38
Ages 65 and older						
Population Estimate (in thousands)	862	977	765	837	684	371
Prevalence Rate (percent)	2.01	2.01	1.95	1.90	1.74	0.99

Source: Author's calculation from 2003 PSID data files.
Note: Sample sizes are not estimates and therefore do not have standard errors.

Appendix Table 6. Standard Errors for 2003 PSID Demographic Characteristics by Disability Concept, Heads and Wives Ages 25-61

			Types of Disability (percentages)			
Characteristic	**No Disability**	**Any Disability**	**Work Limitation**	**IADL**	**Self-Care**	**Mental Impairment**
Age						
18 to 24	0.32	0.53	0.55	0.36	0.37	1.27
25 to 34	0.58	1.12	0.96	0.83	0.87	2.32
35 to 44	0.82	1.31	1.32	1.35	1.40	2.09
45 to 54	0.71	1.08	1.40	1.87	1.55	1.80
55 to 64	0.79	1.27	1.56	1.64	1.87	1.39
65 to 74	0.41	1.10	1.35	1.67	1.74	1.03
75 to 84	0.33	0.88	1.20	1.54	2.02	1.15
85 and older	0.10	0.50	0.68	0.88	1.18	0.81
Sex						
Male	0.88	1.36	1.63	1.74	1.45	2.21
Female	0.88	1.36	1.63	1.74	1.45	2.21
Race						
Black	1.09	1.22	1.28	1.44	1.85	1.32
White	1.56	1.93	1.59	2.02	2.35	2.13
Hispanic	0.59	0.64	0.47	0.75	0.55	0.61
Asian, Pacific Islander	0.27	0.31	0.15	0.34	0.35	0.44
Native American	0.09	0.27	0.21	0.25	0.09	0.44
Other	0.22	0.20	0.28	0.25	0.46	0.32
Don't Know/Refusal	0.16	0.25	0.36	0.45	0.55	0.29
Education (aged 25 to 61)						
Less than High School	0.79	1.69	1.87	2.03	2.57	2.35
High School/GED	1.13	2.19	2.27	2.60	2.86	2.73
Some College	0.99	2.16	2.37	2.72	2.77	2.59
Four Year College Graduate or more	1.23	2.32	2.56	2.75	2.87	3.19
Missing Education	0.41	0.73	1.00	1.00	1.25	1.15

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Appendix Table 7. Standard Errors for 2003 PSID Employment Rate Estimates By Disability Concept, Ages 25 to 61

	Types of Disability (percentages)					
Employment Period	**No Disability**	**Any Disability**	**Work Limitation**	**IADL**	**ADL**	**Mental**
All						
Reference Period	0.80	2.21	2.31	3.25	2.79	2.68
Sometime in Previous Year	0.57	1.74	1.72	2.85	2.18	2.05
Full-Time in Previous Year	0.93	2.22	2.45	2.22	2.22	2.78
Men						
Reference Period	0.80	3.17	3.04	4.30	3.71	4.56
Sometime in Previous Year	0.49	2.43	2.60	4.14	2.50	3.49
Full-Time in Previous Year	1.38	3.14	3.47	3.52	4.13	3.57
Women						
Reference Period	1.16	2.29	2.81	3.76	3.99	2.78
Sometime in Previous Year	0.94	1.92	2.19	3.38	3.26	2.52
Full-Time in Previous Year	1.13	2.19	2.44	2.99	2.94	3.54
White						
Reference Period	0.89	2.53	2.77	3.90	3.54	3.04
Sometime in Previous Year	0.68	2.01	2.39	3.39	2.76	2.64
Full-Time in Previous Year	1.07	2.60	3.30	2.90	2.35	3.03
Black						
Reference Period	1.39	3.94	4.32	4.70	4.75	6.02
Sometime in Previous Year	1.37	3.65	4.50	4.82	4.38	4.28
Full-Time in Previous Year	1.55	3.24	2.60	4.06	4.35	3.03
Hispanic						
Reference Period	2.42	6.79	7.96	10.11	12.72	11.79
Sometime in Previous Year	1.97	6.04	8.65	9.86	12.74	10.83
Full-Time in Previous Year	2.96	6.99	6.85	9.53	12.52	13.32
Less Than High School						
Reference Period	1.33	3.86	3.04	2.74	3.31	4.19
Sometime in Previous Year	1.27	3.16	3.32	3.89	3.77	3.40
Full-Time in Previous Year	2.13	3.00	2.40	2.62	2.79	3.83
High School						
Reference Period	1.58	2.99	3.86	4.85	3.86	4.17
Sometime in Previous Year	1.02	3.13	4.24	5.92	4.35	3.74
Full-Time in Previous Year	2.39	3.92	4.08	4.83	4.15	4.52
More Than High School						
Reference Period	0.84	2.39	3.23	4.32	3.91	3.26
Sometime in Previous Year	0.70	1.82	2.35	4.83	3.79	2.57
Full-Time in Previous Year	0.94	2.18	3.19	2.87	2.82	3.04

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Appendix Table 8. Standard Errors for Economic Well-Being Measures, Ages 25 to 61

	Types of Disability (percentages)					
	No Disability	**Any Disability**	**Work Limitation**	**IADL**	**ADL**	**Mental**
All						
% Below Poverty Line	0.38	1.46	1.80	2.37	2.66	2.15
Median Income-to-Needs Ratio	0.13	0.1	0.13	0.17	0.17	0.15
Median Family Income	$1,798	$1,491	$1,828	$2,398	$2,319	$2,101
Family Size Adjusted Income	$1,144	$910	$1,154	$1,457	$1,467	$1,298
Men						
% Below Poverty Line	0.43	2.12	2.29	4.03	2.91	2.80
Median Income-to-Needs Ratio	0.23	0.16	0.19	0.3	0.21	0.24
Median Family Income	$2,934	$2,456	$2,737	$4,420	$3,004	$3,412
Family Size Adjusted Income	$1,996	$1,414	$1,649	$2,550	$1,864	$2,024
Women						
% Below Poverty Line	0.57	1.62	2.31	2.08	3.12	2.58
Median Income-to-Needs Ratio	0.13	0.13	0.18	0.2	0.23	0.18
Median Family Income	$2,124	$1,859	$2,455	$2,828	$3,213	$2,668
Family Size Adjusted Income	$1,172	$1,187	$1,600	$1,776	$2,036	$1,687
White						
% Below Poverty Line	0.34	1.75	2.34	2.99	3.39	2.59
Median Income-to-Needs Ratio	0.19	0.13	0.17	0.23	0.23	0.17
Median Family Income	$2,529	$1,910	$2,378	$3,331	$3,086	$2,404
Family Size Adjusted Income	$1,615	$1,168	$1,505	$2,038	$1,974	$1,502
Black						
% Below Poverty Line	1.48	4.31	5.57	5.11	3.70	6.64
Median Income-to-Needs Ratio	0.08	0.13	0.14	0.19	0.18	0.2
Median Family Income	$1,177	$1,890	$1,998	$2,854	$2,470	$2,759
Family Size Adjusted Income	$726	$1,144	$1,211	$1,646	$1,616	$1,700
Hispanic						
% Below Poverty Line	1.20	5.74	8.23	9.08	11.56	12.81
Median Income-to-Needs Ratio	0.14	0.15	0.17	0.18	0.25	0.4
Median Family Income	$1,850	$2,323	$2,525	$3,414	$3,919	$4,227
Family Size Adjusted Income	$1,141	$1,431	$1,539	$1,798	$2,428	$3,550
LT High School						
% Below Poverty Line	1.21	2.98	3.19	3.67	4.26	5.03
Median Income-to-Needs Ratio	0.08	0.12	0.15	0.16	0.19	0.2
Median Family Income	$1,101	$1,573	$1,779	$2,101	$2,604	$2,779
Family Size Adjusted Income	$716	$1,010	$1,269	$1,401	$1,642	$1,679

Continued

Appendix Table 8 (continued). Standard Errors for Economic Well-Being Measures, Ages 25 to 61

	Types of Disability (percentages)					
	No Disability	**Any Disability**	**Work Limitation**	**IADL**	**ADL**	**Mental**
High School						
% Below Poverty Line	0.53	2.94	3.69	6.14	3.61	2.23
Median Income-to-Needs Ratio	0.10	0.14	0.19	0.21	0.19	0.2
Median Family Income	$1,376	$2,450	$3,411	$3,110	$2,846	$2,986
Family Size Adjusted Income	$929	$1,273	$1,726	$1,840	$1,734	$1,696
More Than High School						
% Below Poverty Line	0.38	1.40	1.89	2.18	2.96	2.68
Median Income-to-Needs Ratio	0.24	0.18	0.23	0.34	0.36	0.24
Median Family Income	$3,295	$2,581	$3,137	$4,909	$5,051	$3,587
Family Size Adjusted Income	$2,100	$1,598	$2,082	$2,921	$3,140	$2,187

Source: Authors' Calculations from the 2003 Panel Study of Income Dynamics.

Appendix Table 9. Standard Errors for 2003 PSID Demographic, Employment and Economic Well Being Estimates by Number of Consecutive Reports of a Work Limitation (percentage)

Characteristic	No Work Limitation in 2003	At Least Three Periods	At Least Two Periods	At Least One Period
Prevalence Rate	0.83	0.46	0.48	0.83
Age Distribution				
25 to 34	0.73	1.24	1.24	1.56
35 to 44	1.07	3.02	2.43	2.27
45 to 54	0.89	2.56	2.25	2.35
55 to 61	0.88	3.78	2.56	2.30
Gender Distribution				
Male	0.91	3.02	2.96	2.30
Female	0.91	3.02	2.96	2.30
Race Distribution				
Black	1.13	2.35	1.76	1.53
White	1.77	2.84	2.20	2.08
Hispanic	0.68	0.37	0.66	0.72
Asian, Pacific Islander	0.28	0.15	0.09	0.09
Native American	0.10	0.49	0.35	0.20
Other, Don't Know, Refuse	0.23	1.12	0.81	0.59
Education Distribution				
Less than High School	0.83	2.83	2.05	1.87
High School/GED	1.14	3.28	3.00	2.27
Some College	0.91	4.06	2.82	2.37
Four Year College Graduate or more	1.24	4.02	3.08	2.56
Missing Education	0.37	1.54	1.19	1.00
Employment Rates				
Reference Period	0.75	3.11	2.68	2.31
Some Time In Previous Year	0.52	3.22	2.64	1.72
Full Time Full Year	0.98	2.92	3.35	2.45
Economic Well-Being Measures				
% Below Poverty Line	0.38	3.19	2.45	1.80
Median Income-to-Needs Ratio	0.12	0.21	0.16	0.13
Median Household Income	$1,656	$2,660	$2,122	$1,828
Household Size Adjusted Income	$1,052	$1,830	$1,436	$1,154

Source: Authors' Calculations from the 1999, 2001, and 2003 Panel Study of Income Dynamics.

Appendix B. Complete List of 2003 PSID Health/Disability Questions

Questions on Specific Conditions

H5a. Has a doctor ever told [you/HEAD] that [you have/he has] or had any of the following...a stroke? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5b. High blood pressure or hypertension? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5c. Diabetes or high blood sugar? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5d. Cancer or a malignant tumor, excluding skin cancer? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5e. (Has a doctor ever told [you/HEAD] that [you have/he has] or had…) Chronic lung disease such as bronchitis or emphysema? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5f. A heart attack? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5g. Coronary heart disease, angina, congestive heart failure or other heart problems? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5h. (Has a doctor ever told [you/HEAD] that [you have/he has] or had…) Any emotional, nervous, or psychiatric problems? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5i. Arthritis or rheumatism? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5j. Asthma? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5k. Permanent loss of memory or loss of mental ability? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

H5l. (Has a doctor ever told [you/HEAD] that [you have/he has] or had…) A learning disorder? H6. How long [have you/has HEAD] had this (condition/problem)? H7. How much does this (condition/problem) limit [your/HEAD'S] normal daily activities? -- A lot, somewhat, just a little, or not at all?

Questions on Activities of Daily Living

H9a. The next questions are about [your/HEAD's] ability to do certain activities -- by [your/him]self and without special equipment. Because of a health or physical problem, [do you/does he] have any difficulty…

a. bathing or showering? H10a. Does someone usually help [you/him] with that activity? [TYesNo]
b. dressing? H10b. Does someone usually help [you/him] with that activity? [TYesNo]
c. eating? H10c. Does someone usually help [you/him] with that activity? [TYesNo]

d. getting in or out of bed or a chair? H10d. Does someone usually help [you/him] with that activity? [TYesNo]

H9e. (Because of a health or physical problem, [do you/does HEAD]have any difficulty…) walking? H10e. Does someone usually help [you/him] with that activity? [TYesNo]

f. getting outside? H10f. Does someone usually help [you/him] with that activity? [TYesNo]

g. using the toilet, including getting to the toilet? H10g. Does someone usually help [you/him] with that activity? [TYesNo]

Questions on Instrumental Activities of Daily Living (IADLs)

H11a. The next questions are about doing other activities by [your/him]self. Because of a health or physical problem, [do you/does HEAD] have any difficulty preparing [your/his] own meals? H11xx. Is this because of a health or physical problem?

H11c. ([Do you/Does HEAD] have any difficulty) shopping for personal toilet items or medicines? H11xx. Is this because of a health or physical problem?

H11e. ([Do you/Does HEAD] have any difficulty) managing [your/his] own money, such as keeping track of expenses or paying bills? H11xx. Is this because of a health or physical problem?

H11g. ([Do you/Does HEAD] have any difficulty) using the telephone? Hxx. Is this because of a health or physical problem?

H11j. ([Do you/Does HEAD] have any difficulty) doing heavy housework, like scrubbing floors or washing windows? H11xx. Is this because of a health or physical problem?

H11l. ([Do you/Does HEAD] have any difficulty) doing light housework, like doing dishes, straightening up, or light housecleaning? H11xx. Is this because of a health or physical problem?

Questions on Work Limitations

H2. [Do you/Does HEAD] have any physical or nervous condition that limits the type of work or the amount of work [you/he] can do? If yes, then go to H3.

H3. Does this condition keep [you/HEAD] from doing some types of work? If person does not respond, "can do no work at all," the go to H4.

H4. For work [you/HEAD] can do, how much does it limit the amount of work [you/HEAD] can do a lot, somewhat, or just a little?

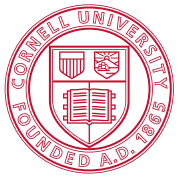
Questions used for Body Mass Index

H22. About how much [do you/does HEAD] weigh? [TWeight 50-400]

H23. How tall [are you/is HEAD]? H23Ft [TFeet 2-7] H23In [TInches 0-11]

Questions on Depression

The PSID asks the respondent a set of questions related to depression. These questions are asked of the respondent only and it is difficult to relate these questions to the population.



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