

# **How the Employment of Working Age People with Disabilities Changed in the 1980s and 1990s: Comparing PSID and CPS Results**

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## **1. Introduction**

A new and highly controversial literature using currently available nationally representative employment data sets – the National Health Interview Survey (NHIS), the Current Population Survey (CPS), and the Survey of Income and Program Participation (SIPP) – argues that the employment of working age people with disabilities fell dramatically relative to the rest of the working age population after the passage of the Americans with Disabilities Act (ADA) in 1990 (See especially: Acemoglu and Angrist, 2001, Bound and Waidmann, 2002, Burkhauser, Daly, and Houtenville, 2001, and DeLeire, 2000). Even more controversially, Acemoglu and Angrist (2001) and DeLeire (2000) find that the ADA is primarily responsible for the decline. Critiques of this literature using alternative definitions of the working age population with disabilities conjecture that the employment rate of working age people with disabilities has actually increased since the passage of the ADA (See especially, Kaye 2002, Kaye 2003 and Kruse and Schur, 2003). Still others dismiss all of these results as fundamentally flawed since they are based on self-reported work limitation data that captures neither the actual working age population with disabilities nor its employment trends over time (See especially Hale, 2001 and Kirchner, 1996). Burkhauser, Daly, Houtenville, and Nargis (2002) show that while the current work limitation question in the CPS is not perfect in capturing the levels of the population with work limitations, employment trends in this population are not significantly different from those in the broader impairment population captured in the NHIS. Hence they argue that self-reported work limitation questions can capture trends in the working age population with disabilities.

In this paper we use data from another major national representative data set – the Panel Study of Income Dynamics (PSID) – to study the trends in the employment rates of working age people with disabilities over the 1980s and 1990s. Like the CPS, the PSID includes a work limitation question in the survey over a long period. Since it is longitudinal in design, the PSID has the added advantage that this question has been asked of the same people over time. Hence the PSID will allow us to more clearly focus on differences between long- and short-term disability populations and to compare their employment patterns over the years. This is important, since one of the criticisms of the

CPS and NHIS data is that these single period data sets cannot distinguish between those with temporary and longer-term disabilities (Hale 2001).

We will first determine if the PSID captures the same employment trends found in the CPS and then investigate whether these cross-sectional findings are masking the employment outcomes of the longer-term population with disabilities.

## **2. Definitions and Measurement of Disability**

Different definitions of disability exist, depending on the scientific or political context. With a relatively broad definition, the ADA covers anyone, who has *a physical or mental impairment that substantially limits one or more major life activities, a record of such an impairment, or being regarded as having such an impairment*. On the other hand, to be eligible for Social Security Disability Insurance (SSDI) or Supplemental Security Income (SSI), an individual has to be unable to perform any substantial gainful activity as a result of a specific set of medical listings. The differences in these definitions lie in the purposes of the programs: The ADA is meant to improve access to work and hence offers protection to a much broader population with disabilities than SSDI or SSI, which offer benefits only to those whose disabilities prevent them from working at all.

Nagi (1965, 1969, 1991) provides a more general conceptualization of disability as a dynamic process impacted on socially expected roles (e.g. paid market work for working age people.) He identifies three stages: pathology, impairment, and disability. Pathology is the presence of a physical or mental condition that interrupts the physical or mental process of the human body. An impairment is a physiological, anatomical, or mental loss or abnormality that limits a person's capacity to function. Disability is defined as an inability to perform (or a limitation in performing) socially expected roles and tasks, like work.

Many of the national surveys include questions about disability and work limitations that are consistent with Nagi's framework. Nevertheless, the use of these data remains controversial, as researchers have long questioned their validity for program evaluation (see Bound and Burkhauser 1999 and Moore 2001 for reviews). The primary concern is measurement error, i.e. that the levels of working age people *reporting* a work limitation may not coincide with the true population actually *having* a work limitation.

Unfortunately, there is no consensus on the dimensions of the conceptually true population with disabilities. However, if the measurement error is truly random, only noise is added to the measured levels. If the error is systematic, the measured sample of individuals with work limitations could be a specific subset of the true population and therefore be subject to selection bias. This can constitute a serious problem, if the measured population is not following the same trend as the true sample, i.e. if the error is time dependent. Suppose, for example, that the level of work limitations measured in the sample declines over time, while the (unobserved) true level is unchanged. This would lead to wrong conclusions about the population with work limitations. On the other hand, if the error is not time dependent, i.e. there is consistent under-reporting or over-reporting, the levels may not be correctly specified, but the trends of the true population and the observed sample are the same.

Burkhauser, Houtenville, and Wittenburg (2003) argue that current NHIS data are able to capture the population with impairments and that samples defined by the work limitation questions in the NHIS, CPS, and SIPP reflect the trends in the sub-population of those with impairments that report a work limitation. They report that employment trends in the work limitation based disability population in the NHIS and CPS are not significantly different from those in the impairment population found in the NHIS. They also report similar employment trends in the SIPP based on work limitations as well as other activity limitations (e.g. housework, etc.). These findings are more formally shown in Burkhauser, Daly, Houtenville, and Nargis (2002) and Maag and Wittenburg (2003).

It has now been established that employment trends in the CPS population with work limitation based disability capture trends in the working age population with disabilities. In this paper, we define equivalent samples of individuals with work limitations in the PSID and the CPS to investigate the validity of the PSID and to use its longitudinal features to look more closely at alternative measures of this population.

### **3. The Data**

The PSID is a longitudinal survey that started in 1968 by interviewing approximately 4,800 families. The main focus of the PSID interview is topics of dynamic

demographic and economic behavior, but it includes psychological and sociological measures as well. In 2001, the sample consisted of 7,000 families.

The following question has been asked almost continuously since 1968 in the PSID: “Do you (Head) have a physical or nervous condition that limits the type of work or the amount of work you can do?” The PSID was subject to numerous changes in the more than 30 years of its existence. This poses several problems for researchers using the PSID. We discuss the changes most relevant to the work limitation question in turn:

*Changes in the type of interview.* The interviews in the early years (1968-1972) were face-to-face interviews whenever possible. The fraction of telephone interviews was less than 3% in these years. From 1973 onward, this relationship is almost reversed, with around 90% of the interviews conducted by phone. This change may affect measurement error, i.e. bring about a time dependency as discussed in section 2, since respondents may behave differently when asked in a personal conversation rather than in a phone interview. The fact that the PSID interviews in these years took much more time 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, making comparisons with other 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.<sup>1</sup> Although the original question is included in spirit, it is difficult to combine the three parts to obtain a consistent measure of work limitation. This, again, could lead to a time-dependent change in measurement error.

*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. This procedure constitutes several problems: First, the onset of a disability of a sample member interviewed in 1972 (or new entrants in the years after their entry) cannot be captured. Second, temporary work limitations are erroneously carried over into subsequent years. This systematically changes the measurement error. Third, there will be

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<sup>1</sup> See Appendix A1 for the exact phrasing.

almost no difference between samples of individuals with temporary and longer-term work limitations.<sup>2</sup> Another change in procedure occurred in 1997, when the PSID moved to a biennial interviewing scheme, i.e. interviews were conducted only in 1999 and 2001. This influences the attrition rates in the survey, and therefore could lead to systematic changes in sample composition.

*Inclusion of the spouses.* It was not until 1981 that the head was also asked this question with respect to his spouse. Since, if possible, the PSID defines the household's head to be the adult male living in the household, this is the first year that inference is possible for a broader female population.

*Changes in the placement of the question.* The work limitation question's placement has varied over the years. This could have an independent effect on the response, similar to a finding Maag and Wittenburg (2003) report 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. Specifically, up to 1984, the work limitation question in the PSID was asked as part of the income section and was not related to other health questions in the questionnaire. From 1985 to 1991, the question was included in a section that contained about 10 to 15 health related questions. In 1986, the PSID conducted a health supplement (including the work limitation question), where the household head was asked several questions about his and his spouses' health. This extended the health part of the questionnaire to 67 questions.<sup>3</sup> With the exception of 1997, an extended health section was provided from 1992 onward, including more than 50 questions. To sum up, multiple changes in placement and context of the PSID work limitation question may have influenced 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 1000 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.

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<sup>2</sup> See Table A6 in the Appendix for a demonstration of this third effect.

<sup>3</sup> These figures are the maximum number of questions possible. Individuals may answer less due to filtering in the process of the interview.

*Changes in data collection methods.* Finally, 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 mis-reporting did not change over time, the improvement in the coding procedures could have an impact on the levels and trends observed.<sup>4</sup>

In contrast to the PSID, the CPS is a cross-sectional survey with a much larger sample size, approximately 150,000 civilians in 50,000 U.S. households are interviewed. Although the CPS is designed mainly to collect information about employment and income and not to specifically capture health trends, Burkhauser, Daly, Houtenville, and Nargis (2002) show that employment trends in the work limitation based disability population in the CPS are not significantly different from employment trends from similarly defined samples in the NHIS over the years 1983-1996. Major changes in NHIS questions after 1996 prevent comparisons with earlier years or with current questions in the CPS and PSID.

Starting with the 1981 March Demographic Supplement, the CPS included a question about health limitations: “Does anyone in this household have a health problem or disability which prevents them from working or which limits the kind or amount of work they can do? [If so,] who is that? (Anyone else?)” This CPS work limitation question is very similar to the question in the PSID. Both questions are consistent with Nagi’s framework of a disability developing from a pathology that limits a social activity, work. But as Burkhauser, Daly, Houtenville and Nargis (2002) show, such questions will fail to capture people who have an impairment, but do not consider themselves limited in their ability to work.

Although the CPS is a cross-sectional survey, it tracks people over the course of a year. Specifically, the CPS follows households over a four-month period and then returns eight months later to follow them for another four months. This allows us to match

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<sup>4</sup> 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)

individuals over a one-year time interval. Hence we are able to capture a sub-sample of households interviewed within the March Supplement that are asked the work limitation question in two consecutive periods. We use these individuals to construct a “matched” CPS sample, which can be compared to the longitudinal data in the PSID.

We apply two definitions for disability in both samples: The first one is a one-period measure, i.e., individuals who report a disability in any given year are considered to be disabled in that year. The other definition is a two-period (“matched”) measure, which defines people to be disabled only if the individual has a work limitation in two consecutive periods. Since temporary health limitations will affect our one-period measure, we expect our second measure to be lower in level and to fluctuate less than the one-period specification. We will also use our PSID sample to show trends in employment for populations who report a work limitation over longer (i.e. three and four) periods.

Our samples are restricted to working age individuals (25-61), to avoid mismeasurement due to retirement or schooling. Both CPS and PSID report the total number of hours worked in the previous year. In our definition, an individual is employed if she/he reports to have worked more than 52 hours the previous year.<sup>5</sup>

In the one-period settings, we only use information from one survey year. In both surveys, at any given year (say  $t+1$ ), individuals are asked about the total amount of hours worked in the previous year ( $t$ ). We take that information to define employment in the sample of individuals with a work limitation based disability in year  $t$ .<sup>6</sup> In the matched samples, an individual is considered to have a disability and to be working, if he or she reports a work limitation in both years ( $t$  and  $t+1$ ) and reports in the second year survey ( $t+1$ ) to have worked more than 52 hours. This information yields a data point in the first year ( $t$ ).

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<sup>5</sup> We use employment in the previous year both because it gives us a longer period over which to measure employment and because the questions related to employment in the last week in the CPS changed over the period of our analysis.

<sup>6</sup> It would be possible to take the more accurate information from the following year ( $t+2$ ), but since this requires a matching process the sample size in the CPS would be reduced dramatically (see tables for sizes of the different samples).

#### 4. Differences in Male Disability Prevalence and Employment Rates

In this section, we compare our PSID and CPS findings for working age men. Concerns about changes in procedures and questions, as outlined in section 3, led us not to consider the data before 1976 or after 1997.<sup>7</sup> While we graphically show levels and trends in these data, we formally test for differences in levels and trends using regression analyses.<sup>8</sup> Our model is:

$$\bar{X}_t = \alpha_0 + \beta_0 * \text{time} + \alpha_{\text{CPS}} + \beta_{\text{CPS}} * \text{time},$$

where  $\bar{X}_t$  is the estimate (e.g. prevalence rate) in year  $t$ ,  $\alpha_0$  is the average level of the PSID series for the whole period of observation, and  $\beta_0$  measures the time trend of the PSID. The datasets have different levels if the intercept for the CPS,  $\alpha_{\text{CPS}}$ , is statistically different from zero, and they show different time trends, if  $\beta_{\text{CPS}}$  is statistically different from zero.<sup>9</sup>

Figure 1 shows the fractions of working age men with a work limitation based disability for the single-period and matched samples in the CPS and PSID. Considering the single period measures (labeled “PSID” and “CPS”), clearly the levels are different between the two datasets. Measurement problems seem to be apparent when we look at the saw-tooth pattern of the PSID series in the 1980s. We are not able to consistently relate this pattern to any of the concerns raised in section 3. The stable period in the PSID between 1992 and 1996 can be contributed to the relatively unaltered questionnaire in those years.

Turning to the matched series, we first notice that the levels in both datasets are below the one-period measures. This strengthens the hypothesis that a one-period measure also includes temporary work limitations, while the two-period approach captures the more severe and persistent cases of work limitation based disabilities. Also, the matched PSID series is less volatile than its one-period counterpart, which indicates

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<sup>7</sup> Data for all years are available in Tables A6 to A9 in the Appendix.

<sup>8</sup> All estimation results are given in the Appendix in Tables A1-A5.

<sup>9</sup> The estimates are weighted with the inverse of their standard error.

that measurement error is dampened. Nevertheless, both PSID series experience a far greater variation than is apparent in the CPS data.

One explanation could be that the relatively small sample size of the PSID series does not allow for a “smoothing” of the series.<sup>10</sup> Comparing the trends, we find they are not significantly different in the one-period sample but are significantly different in the two-period sample.<sup>11</sup>

The employment rates for working age men with work limitation based disabilities in the CPS and PSID are shown in figure 2. The levels of the employment rates are higher in the PSID than in the CPS, a general finding explained by the fact that the PSID captures more employment than the CPS, especially for dual and part time jobholders.<sup>12</sup> Within the datasets, we find that the population defined by our two-period setup has lower employment levels than its one-period complement. This confirms again, that the matched series capture the more severe cases, i.e. more people within this subset of individuals with work limitation based disabilities are too limited to work.

Although the levels are different, the relationships between employment rates across the samples appear to be much closer than was true for disability prevalence rates. For both the one- and two-period samples, the similarity between the two datasets is striking, as peculiarities emerge in the same years. For example, the small dip in 1988 is found in all four series as well as the small peak in 1996.<sup>13</sup> In general, all series follow the business cycle movements in the 1970s and 1980s, while in the 1990s we observe a decline in employment despite a long period of economic growth.

Our impressions are confirmed when using our regression tests: We find that the trends in the two data sets are not significantly different in either the one or two period samples, i.e.  $\beta_{\text{CPS}}$  is not statistically different from zero.

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<sup>10</sup> See Tables A6-A9 in the Appendix for exact sample sizes of all samples.

<sup>11</sup> Note that the time trends estimated ( $\beta_0$  and  $\beta_{\text{CPS}}$ ) are not statistically different from zero in the one-period setting, and, although they are statistically different from zero in the two-period setting, they are very small. This suggests, quite intuitively, that the population with work limitation based disabilities is relatively constant over time (as measured in both datasets).

<sup>12</sup> See Appendix, Figure A1, for a comparison of employment rates of the male population without work limitations in the PSID and CPS.

<sup>13</sup> An exception is the increase in the PSID series in 1984 – a finding that can be contributed to the “event dating” introduction, see footnote 4.

## 5. Differences in Female Disability Prevalence and Employment Rates

We repeat our analysis for working age women in this section. As mentioned in section 3, a broader female population is only available beginning in 1981, thus we restrict our sample to the period of 1981-1997. Figure 3 shows the percentages in the female population of the CPS and PSID with work limitation based disabilities. Again, we observe lower levels of disability prevalence rates for the two-period sample. The variation within the one-period PSID series is much larger than was the case for the PSID male sample as well as compared to the CPS female sample.<sup>14</sup> On the other hand, except for the dramatic jump from 1986 to 1987, the matched PSID sample is less volatile than its one-period counterpart. Both specifications of the CPS vary less, which, when looking at the sample sizes, is an indicator that a larger sample would lead to a smoothing of the PSID series.

Conducting the test for the same trends between the datasets shows, as was the case for the male sample, that CPS and PSID do not have statistically different trends in the one-period sample but do so in the two-period sample.

Figure 4 shows the employment rates within the sample of females with work limitation based disabilities. Employment rates in both CPS and PSID rose in the 1980s for the one-period setting, with the PSID showing a much larger increase. Even more distinct is the difference between the matched series: while this CPS population does not seem to gain much in employment rate levels, the PSID sample increases by 25 percentage points from 1981 (30%) to 1989 (55%). Our regression tests support these graphical findings, showing that the trends are significantly different at very high levels of significance.

It is not clear, what is behind these large differences in trends between the female samples in these datasets. Data on the female population in the PSID is mainly proxy-information, since the household head (the male adult in the household) usually answers for the whole family. But this is true to a large extent in the CPS as well. It may be that that this source of measurement error is more pronounced in the smaller PSID sample.

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<sup>14</sup> Note for example that we observe a change in size of the population with work limitation based disabilities from 12% to 17% of the total population from 1986 to 1988. Assuming that the placement of the question matters to the reported disabilities, the large dent in 1986 could be explained by the increased health supplement in this year (see section 3). But this does not account for the other fluctuations.

Whether this in combination with the other concerns raised in section 3 can account for the discrepancies between the PSID and CPS is not clear, and thus further research is needed to investigate the validity of these data.

## **6. Employment Rates in the Longer-Term Male Work Limitation Population**

We now investigate, whether our cross-sectional findings for employment outcomes extend to a population with longer-term work limitation based disabilities. We focus on the male population in the PSID, as is suggested by the results in sections 4 and 5. We define four different samples, with persons reporting a work limitation for one, two, three, and four consecutive years respectively.<sup>15</sup> Figure 5 shows the employment rates of these samples.<sup>16</sup> Interestingly, while we still observe the relatively large difference in levels between the one- and more-period setup, the differences between the three longer-term disability measures are small. This might be due to the fact, that the severity of work limitation in the sample is relatively stable once individuals with short-term limitations are not present. While different in levels, the trends among the four samples are closely related. Again, while we notice movements with the business cycles in the 1970s and 1980s, all samples show the previously observed dramatic decline in employment over the early 1990s.

The regression analyses for these series confirm this impression: the time trends of the two-, three-, and four-period specifications are not statistically different from the one-period time trend. To complete our analysis, we compare the CPS-sample of individuals that are work limited for one period with the PSID-sample of individuals reporting a work limitation in four consecutive periods. The regression analysis in this case also shows that the time trends are not statistically different between the two samples.

## **7. Conclusion**

Past work has shown that the employment rates of working age people with disabilities using a work limitation based measure of disability in the CPS produce trends

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<sup>15</sup> Although this leads to a decrease in sample size, we still have more than 150 observations for each year of our analysis, see Appendix, Table A10.

<sup>16</sup> Note that the one- and two-period samples are the same as in section 4.

that are not significantly different from the employment trends in the NHIS using a similar work limitation based measure or an impairment measure of disability. Here we extend that analysis by comparing work limitation based disability prevalence and employment trends in the PSID. We do so by comparing PSID trends using both a single- and two-period work limitation based measure of disability.

Changes in the questions, the placing of the questions, and in other data collection procedures prevent us from using all years of PSID data for men and women. But we consider the work limitation question for men and women to be consistently collected in 1976-1997 and 1981-1997, respectively. Using these years of data we show that, within the group of work limited people, the employment rates for males in the CPS and the PSID do not have statistically different trends. This result is robust to two different specifications of work limitation. Our results are less clear-cut for women. We provided some possible explanations as to why the CPS and PSID employment trends differ, but further research has to be conducted before a definite conclusion can be drawn on the usage of the female PSID sample. Nevertheless, on net we find in the PSID results similar to what other studies have found with respect to the trends in employment of working age men and women over the 1990s: The employment rates dramatically declined for men with work limitations, whereas for women the shift is less distinct, but still the employment rates increased slower than the for women without work limitations.

When we take fuller advantage of the longitudinal nature of the PSID data and look at the employment trends of those with longer consecutive periods of disability we find that the employment rates of those whose work limitations are longer have significantly lower employment rates over the entire period but the trends in these rates are not statistically different. We also show, that the CPS is not only capturing employment trends for the population with temporary work limitations, but, although different in levels, reflects trends for longer-term disabled individuals as well.

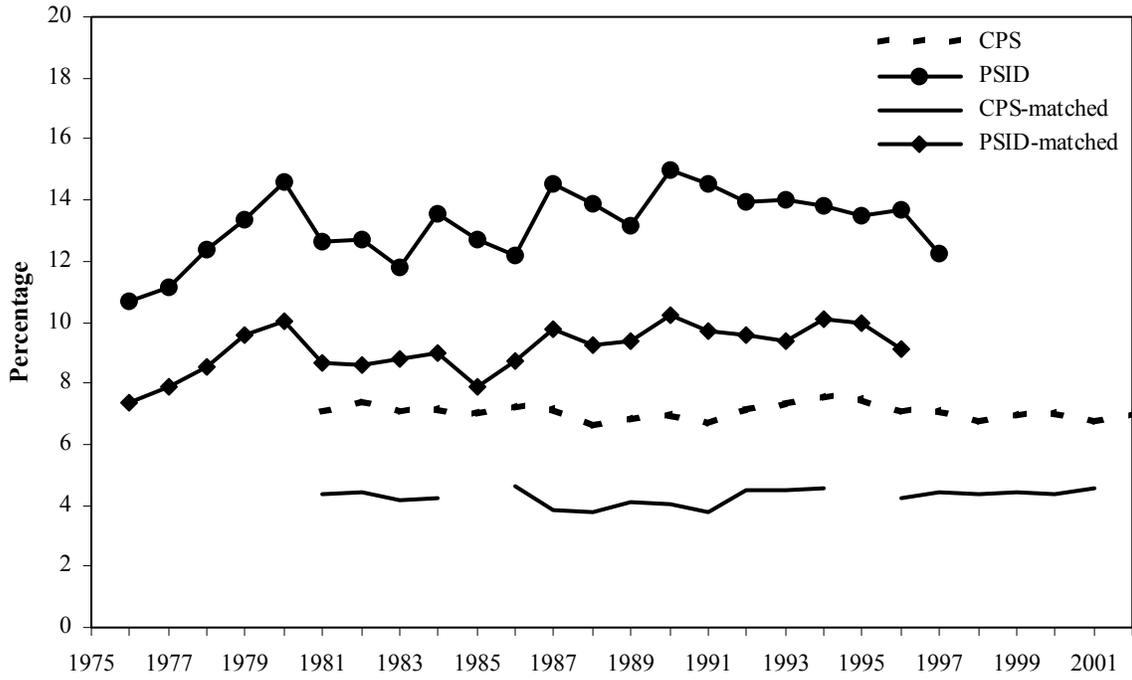
## **6. References**

- Acemoglu, Daron and Joshua Angrist. 2001. "Consequences of Employment Protection? The Case of the Americans With Disabilities Act." *Journal of Political Economy* 109: 915-57.
- Bazzoli, Gloria J. 1985. "Evidence on the Influence of Health." *Journal of Human Resources* 20(2): 214-34.

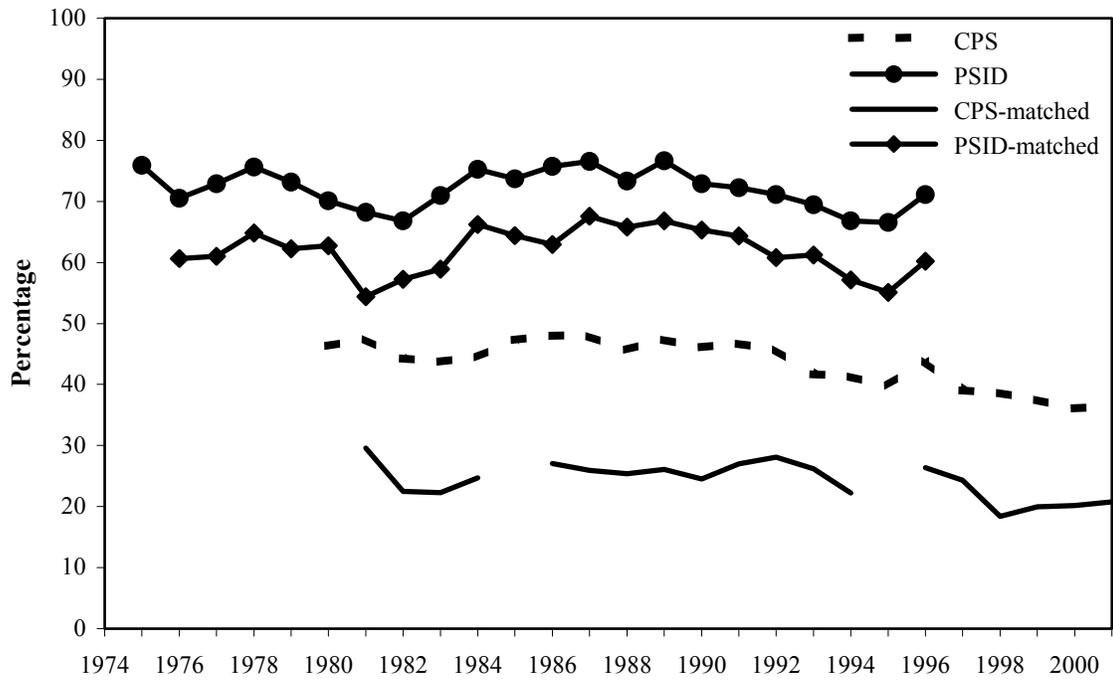
- Bound, John and Richard V. Burkhauser. 1999. "Economic Analysis of Transfer Programs Targeted on People With Disabilities." Pp 3417-528 in *Handbook of Labor Economics*, Vol. 3, edited by O. Ashenfelter and D. Card. New York: Elsevier Science.
- Burkhauser, Richard V. and Mary C. Daly. 1996. "Employment and Economic Well-being Following the Onset of a Disability: The Role for Public Policy." Pp 59-102 in *Disability, Work, and Cash Benefits*, edited by J. Mashaw, V. Reno, R.V. Burkhauser, and M. Berkowitz. Kalamazoo, MI: W.E. UpJohn Institute for Employment Research.
- Burkhauser, Richard V., Mary C. Daly, Andrew J. Houtenville, and Nigar Nargis. 2002. "Self Reported Work-Limitation Data: What They Can and Cannot Tell Us." *Demography* 39: 541-55.
- Burkhauser, Richard V., Andrew J. Houtenville, David C. Wittenburg. 2003. "A User's Guide to Current Statistics on the Employment of People with Disabilities." In David Stapleton and Richard V. Burkhauser (Eds.) *The Decline in Employment of Working Age People With Disabilities: A Policy Puzzle*. Kalamazoo, MI. W.E. UpJohn Institute for Employment Research.
- De Leire, Thomas. 2000. "The Wage and Employment Effects of the American With Disabilities Act." *Journal of Human Resources* 35:693-715
- Hale, Thomas. 2001. "The Lack of a Disability Measure in Today's Current Population Survey." *Monthly Labor Review* June: 38-40.
- Kaye, H. Stephen. 2002. "Improved Employment Opportunities for People with Disabilities." Disability Statistics Report 17. Washington, DC: U.S. Department of Education, National Institute on Disability and Rehabilitation Research.
- \_\_\_\_\_. 2003. "Employment and the Changing Disability Population." In David Stapleton and Richard V. Burkhauser (Eds.) *The Decline in Employment of Working Age People With Disabilities: A Policy Puzzle*. Kalamazoo, MI. W.E. UpJohn Institute for Employment Research.
- Kirchner, Corinne. 1996. "Looking Under the Street Lamp: Inappropriate Uses of Measures Just Because They are There." *Journal of Disability Policy Studies* 7: 77-90.
- Kruse, Douglas and Lisa Schur. 2003. "Does the Definition Affect the Outcome? Employment Trends Under Alternative Measures of Disability." In David Stapleton and Richard V. Burkhauser (Eds.) *The Decline in Employment of Working Age People With Disabilities: A Policy Puzzle*. Kalamazoo, MI. W.E. UpJohn Institute for Employment Research.
- Maag, Elaine and David C. Wittenburg. 2003. "Real Trends or Measurement Problems? Disability and Employment Trends From the Survey of Income and Program Participation." *Working Paper*.
- Moore, Kathryn. 2001. "Raising the Social Security Retirement Ages: Weighing the Costs and Benefits." *Arizona State Law Journal* 33(2): 544-612.
- Nagi, Saad. 1965. "Some Conceptual Issues in Disability and Rehabilitation." In *Sociology and Rehabilitation*, M.B. Sussman, ed. Washington, DC: American Sociological Association.
- \_\_\_\_\_. 1969. "Disability and Rehabilitation: Legal, Clinical and Self-Concepts of Measurement." Columbus: Ohio State University Press.

- \_\_\_\_\_. 1991. "Disability Concepts Revisited: Implications to Prevention." *In Disability in America: Toward A National Agenda for Prevention*. Edited by A.M. Pope and A.R. Tarlove. Washington, DC: National Academy Press.
- Parsons, Donald O. 1980a. "The Decline of Male Labor Force Participation." *Journal of Political Economy* 88: 117-34.
- \_\_\_\_\_. 1980b. "Racial Trends in Male Labor Force Participation." *American Economic Review*, 70: 911-20.
- \_\_\_\_\_. 1982. "The Male Labor Force Participation Decision: Health, Reported Health, and Economic Incentives." *Economica* 49: 81-91.
- Waidmann, Timothy et al. 1995. "The Illusion of failure: Trends in Self-Reported Health of the U.S. Elderly." *Milbank Quarterly* 253.

**Figure 1:** Work Limitation Based Disability Prevalence Rates For Working Age Males: CPS, PSID, CPS-matched<sup>17</sup>, and PSID-matched

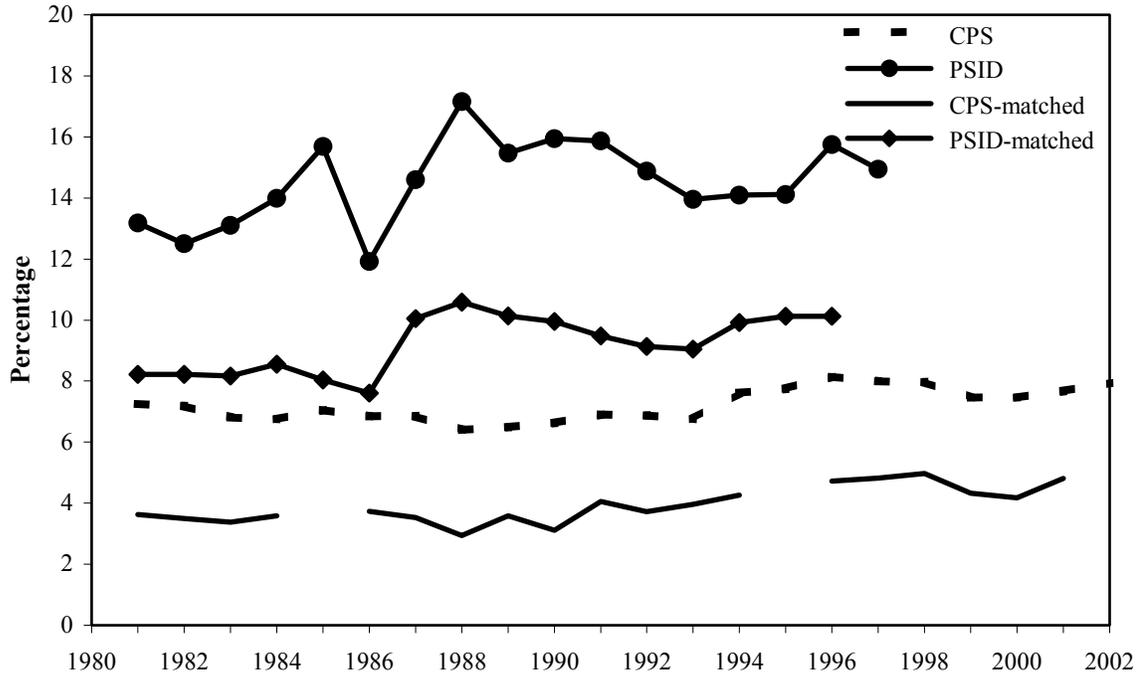


**Figure 2:** Employment Rates Among Working Age Males With Work Limitation Based Disability: CPS, PSID, CPS-matched, and PSID-matched

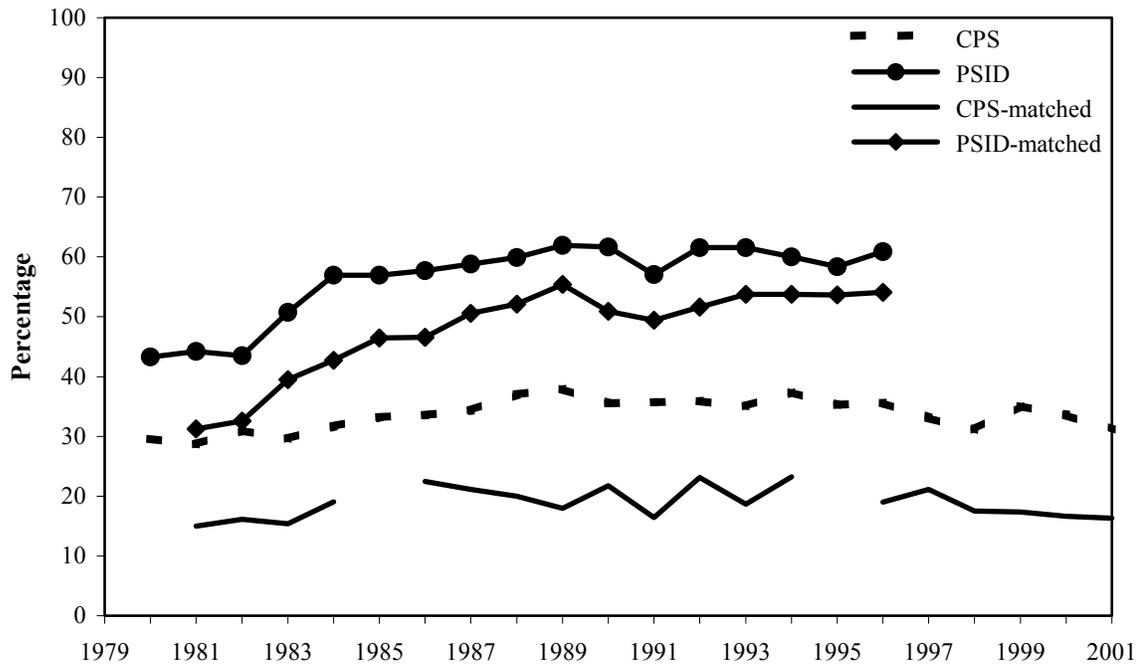


<sup>17</sup> The years 1985 and 1995 are missing for the CPS-matched series since the matching process is not possible for the years 1985-1986 and 1995-1996.

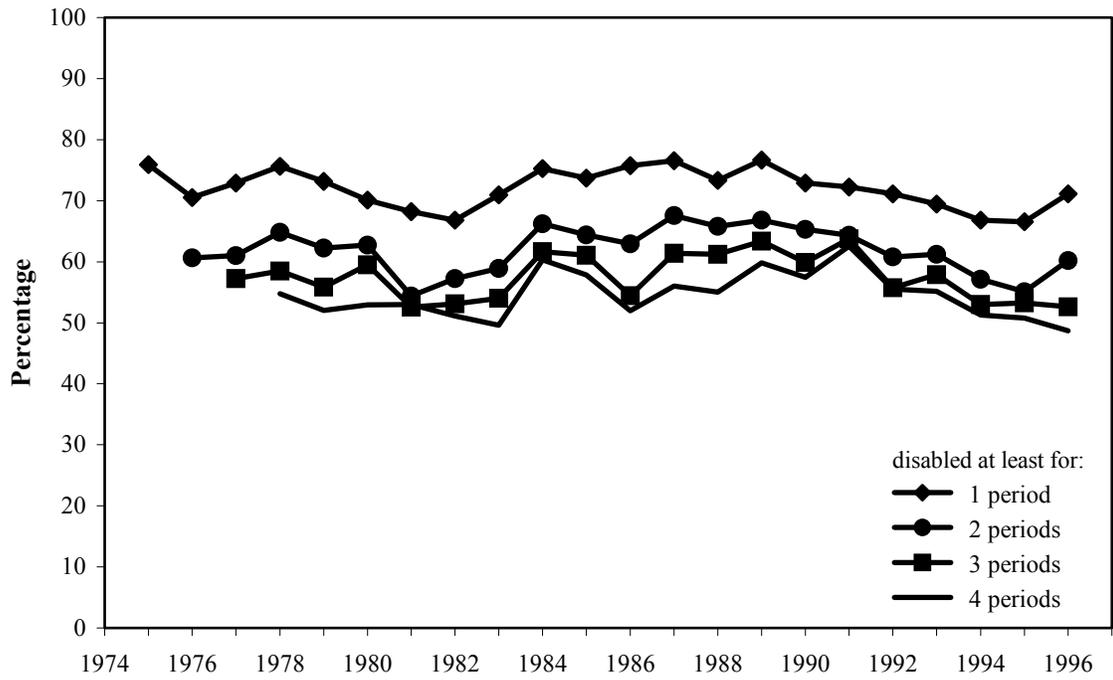
**Figure 3:** Work Limitation Based Disability Prevalence Rates For Working Age Females: CPS, PSID, CPS-matched, and PSID-matched



**Figure 4:** Employment Rates Among Working Age Females With Work Limitation Based Disability: CPS, PSID, CPS-matched, and PSID-matched



**Figure 5:** Employment Rates Among Working Age Males With Longer-Term Work Limitation Based Disability: PSID



## 8. Appendix

### A1:

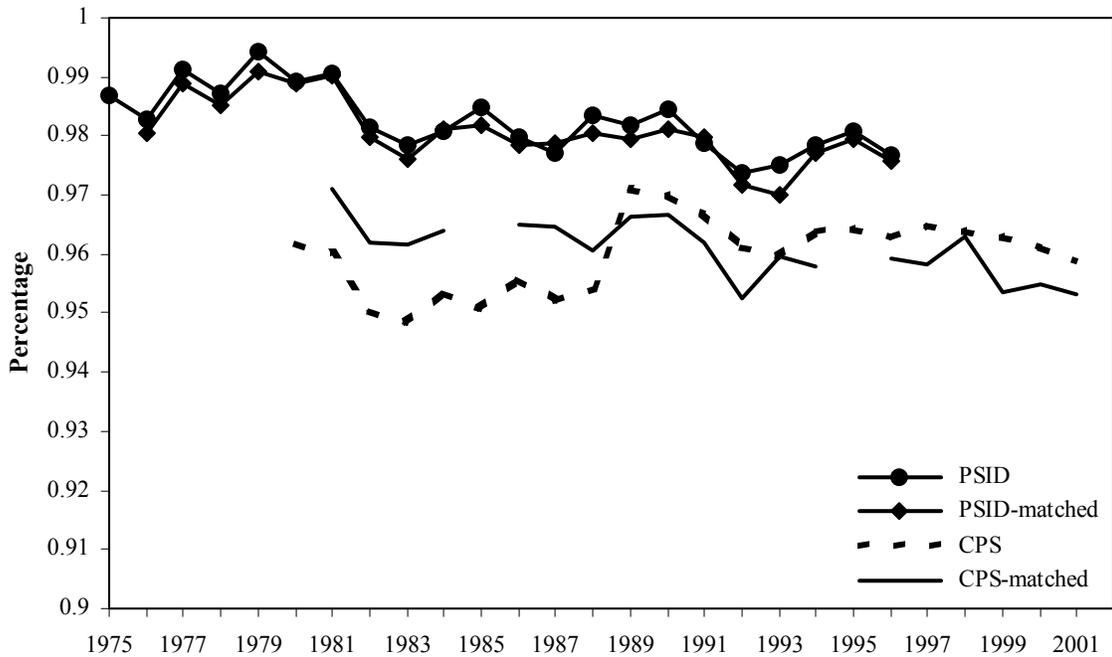
Phrasing of the work limitation question in the PSID between 1969 and 1971:

a: "Do you have any physical or nervous condition that keeps you from doing some kinds of work?"

b: "Do you have any physical or nervous condition that limits the amount of work you can do?"

c: "Does your health limit the work you can do around the house?"

**Figure A1:** Employment Rates Among Working Age Males Without Work Limitations: CPS, PSID, CPS-matched, and PSID-matched



**Table A1.1:** Work Limitation Based Disability Prevalence Rates for Working Age Males in the CPS and PSID, one-period sample, 1981-1997

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.12782	0.00365	35.05	<.0001
<b>Time</b>	0.00064	0.00035	1.90	0.0673
<b>CPS</b>	-0.05693	0.00410	-13.88	<.0001
<b>CPS*Time</b>	-0.00063	0.00039	-1.59	0.1222

**Table A1.2:** Work Limitation Based Disability Prevalence Rates for Working Age Males in the CPS and PSID, two-period sample, 1981-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.08471	0.00248	34.14	<.0001
<b>Time</b>	0.00091	0.00025	3.58	0.0014
<b>CPS</b>	-0.04250	0.00302	14.08	<.0001
<b>CPS*Time</b>	0.00092	0.00031	-2.94	0.0069

**Table A2.1:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the CPS and PSID, one-period sample, 1980-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.72806	0.01675	43.46	<.0001
<b>Time</b>	-0.00121	0.00160	-0.75	0.4596
<b>CPS</b>	-0.25474	0.02048	-12.44	<.0001
<b>CPS*Time</b>	-0.00122	0.00199	-0.61	0.5445

**Table A2.2:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the CPS and PSID, two-period sample, 1981-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.62526	0.01996	31.32	<.0001
<b>Time</b>	0.00083	0.00204	-0.41	0.6853
<b>CPS</b>	-0.37355	0.02692	-13.88	<.0001
<b>CPS*Time</b>	0.00124	0.00281	0.44	0.6628

**Table A3.1:** Work Limitation Based Disability Prevalence Rates for Working Age Females in the CPS and PSID, one-period sample, 1981-1997

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.13466	0.00559	24.08	<.0001
<b>Time</b>	0.00114	0.00054	2.11	0.0432
<b>CPS</b>	-0.06848	0.00628	-10.90	<.0001
<b>CPS*Time</b>	-0.00064	0.00061	-1.06	0.2964

**Table A3.2:** Work Limitation Based Disability Prevalence Rates for Working Age Females in the CPS and PSID, two-period sample, 1981-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.08012	0.00348	23.01	<.0001
<b>Time</b>	0.00138	0.00036	3.83	0.0007
<b>CPS</b>	-0.04782	0.00420	-11.39	<.0001
<b>CPS*Time</b>	-0.00084	0.00044	-1.91	0.0672

**Table A4.1:** Employment Rates Among Working Age Females With Work Limitation Based Disabilities in the CPS and PSID, one-period sample, 1980-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.46962	0.01704	27.56	<.0001
<b>Time</b>	0.01027	0.00165	6.24	<.0001
<b>CPS</b>	-0.17358	0.02069	-8.39	<.0001
<b>CPS*Time</b>	-0.00550	0.00201	-2.73	0.0104

**Table A4.2:** Employment Rates Among Working Age Females With Work Limitation Based Disabilities in the CPS and PSID, two-period sample, 1981-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.35921	0.01852	19.39	<.0001
<b>Time</b>	0.01388	0.00191	7.25	<.0001
<b>CPS</b>	-0.19481	0.02518	-7.74	<.0001
<b>CPS*Time</b>	-0.01072	0.00264	-4.07	0.0004

**Table A5.1:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the PSID, comparing the one-period with the two-period sample, 1976-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.73334	0.01523	48.16	<.0001
<b>Time</b>	-0.00122	0.00119	-1.02	0.3136
<b>Two period</b>	-0.10755	0.02336	-4.60	<.0001
<b>(Two period)*Time</b>	0.00063	0.00183	0.35	0.7293

**Table A5.2:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the PSID, comparing the one-period with the three-period sample, 1977-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.73885	0.01572	47.00	<.0001
<b>Time</b>	-0.00159	0.00121	-1.32	0.1953
<b>Three period</b>	-0.19797	0.02537	-7.80	<.0001
<b>(Three period)*Time</b>	0.00139	0.00194	0.72	0.4789

**Table A5.3:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the PSID, comparing the one-period with the four-period sample, 1978-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.74050	0.01629	45.46	<.0001
<b>Time</b>	-0.00170	0.00122	-1.39	0.1729
<b>Four period</b>	-0.25552	0.02734	-9.35	<.0001
<b>(Four period)*Time</b>	0.00210	0.00205	1.02	0.3128

**Table A5.4:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities, comparing the four-period PSID-sample with the one-period CPS-sample, 1980-1996

	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	0.54956	0.02993	18.36	<.0001
<b>Time</b>	-0.00019	0.00200	-0.10	0.9214
<b>CPS</b>	-0.06409	0.03396	-1.89	0.0689
<b>CPS*Time</b>	-0.00223	0.00228	-0.98	0.3361

**Table A6:** Work Limitation Based Disability Prevalence Rates for Working Age Males in the CPS and PSID, 1970-2002<sup>18</sup>

	One-Period Setting				Two-Period Setting (Matched Series)			
	CPS		PSID		CPS		PSID	
	Mean	N	Mean	N	Mean	N	Mean	N
1968			0.1325	2663			0.0871	2297
1969			0.1472	2441			0.0955	2270
1970			0.1370	2442			0.0945	2391
1971			0.1497	2481			0.0894	2458
1972			0.1339	2553			0.1239	2561
1973			0.1238	2655			0.1169	2668
1974			0.1183	2763			0.1114	2749
1975			0.1112	2850			0.0616	2836
1976			0.1069	2939			0.0739	2973
1977			0.1117	3089			0.0789	3089
1978			0.1241	3210			0.0852	3214
1979			0.1334	3336			0.0960	3327
1980			0.1456	3472			0.1006	3421
1981	0.0713	35549	0.1262	3536	0.0435	11003	0.0864	3506
1982	0.0743	31942	0.1267	3622	0.0446	11111	0.0863	3543
1983	0.0711	32065	0.1177	3688	0.0417	10746	0.0882	3598
1984	0.0718	31883	0.1353	3746	0.0422	10227	0.0898	3656
1985	0.0706	32030	0.1273	3839			0.0786	3749
1986	0.0726	31536	0.1219	3904	0.0461	9880	0.0871	3800
1987	0.0716	31109	0.1454	3956	0.0387	10227	0.0977	3836
1988	0.0662	31488	0.1389	4006	0.0380	9408	0.0923	3860
1989	0.0681	29421	0.1314	4014	0.0407	9764	0.0936	3887
1990	0.0697	31899	0.1500	4054	0.0405	10437	0.1025	3941
1991	0.0669	31826	0.1450	4097	0.0377	10328	0.0972	3968
1992	0.0715	31354	0.1393	4223	0.0450	10187	0.0957	3931
1993	0.0736	31273	0.1402	4302	0.0449	10090	0.0939	4029
1994	0.0755	29952	0.1383	4765	0.0456	9162	0.1010	4536
1995	0.0749	30170	0.1348	4699			0.0995	4514
1996	0.0709	26318	0.1368	4671	0.0421	9136	0.0914	3347
1997	0.0707	26713	0.1227	3834	0.0444	9250		
1998	0.0677	26851			0.0439	9366	0.0720	3554
1999	0.0694	27030	0.1229	3970	0.0443	9334		
2000	0.0704	27230			0.0434	9301	0.0761	3735
2001	0.0678	26299	0.1366	4239	0.0458	8924		
2002	0.0696	44048						

<sup>18</sup> Data for 1985 and 1995 are missing in the CPS-matched sample, since the matching process is not possible for 1985-1986 and 1995-1996. Due to the biennially conducted interviews from 1997 onward, certain years are missing in the PSID series, depending on the sample definition (one-period or two-period).

**Table A7:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the CPS and PSID, 1967-2001<sup>19</sup>

	One-Period Setting				Two-Period Setting (Matched Series)			
	CPS		PSID		CPS		PSID	
	Mean	N	Mean	N	Mean	N	Mean	N
1967			0.7947	388				
1968			0.8382	410			0.7490	234
1969			0.8501	388			0.7845	251
1970			0.8425	408			0.7671	262
1971			0.8011	382			0.7142	247
1972			0.8132	355			0.8127	346
1973			0.7808	349			0.7844	332
1974			0.7850	330			0.7877	320
1975			0.7592	345			0.6882	173
1976			0.7053	386			0.6063	239
1977			0.7290	419			0.6101	271
1978			0.7563	472			0.6480	289
1979			0.7317	520			0.6223	322
1980	0.4630	2579	0.7009	464			0.6274	341
1981	0.4745	2366	0.6820	443	0.2960	482	0.5440	294
1982	0.4426	2296	0.6678	440	0.2248	510	0.5724	295
1983	0.4374	2335	0.7093	481	0.2228	460	0.5891	300
1984	0.4443	2257	0.7527	480	0.2470	427	0.6621	299
1985	0.4727	2235	0.7368	430			0.6439	269
1986	0.4796	2195	0.7572	518	0.2707	433	0.6292	292
1987	0.4795	2092	0.7657	528	0.2591	407	0.6757	342
1988	0.4568	2031	0.7332	529	0.2539	357	0.6578	336
1989	0.4736	2214	0.7663	540	0.2612	404	0.6683	344
1990	0.4612	2144	0.7288	546	0.2454	432	0.6529	354
1991	0.4667	2244	0.7225	569	0.2700	408	0.6435	364
1992	0.4579	2299	0.7110	575	0.2806	454	0.6079	362
1993	0.4171	2230	0.6947	663	0.2619	455	0.6120	357
1994	0.4133	2239	0.6679	631	0.2222	413	0.5715	446
1995	0.3980	1883	0.6655	612			0.5509	422
1996	0.4387	1941	0.7114	440	0.2636	397	0.6017	266
1997	0.3905	1836			0.2429	418		
1998	0.3861	1858	0.7439	484	0.1839	412	0.6669	252
1999	0.3751	1941			0.1995	404		
2000	0.3608	1801	0.7384	530	0.2018	427	0.5990	274
2001	0.3637	2877			0.2078	402		

<sup>19</sup> See notes on Table A6.

Note that the PSID one-period sample has the starting year 1967, since employment information asked in 1968 is valid for that year. Similarly, the CPS one-period sample starts in 1980.

**Table A8:** Work Limitation Based Disability Prevalence Rates for Working Age Females in the CPS and PSID, 1981-2002<sup>20</sup>

	One-Period Setting				Two-Period Setting (Matched Series)			
	CPS		PSID		CPS		PSID	
	Mean	N	Mean	N	Mean	N	Mean	N
<b>1981</b>	0.0725	39059	0.1317	4015	0.0363	12549	0.0822	4069
<b>1982</b>	0.0718	35339	0.1250	4159	0.0349	12645	0.0822	4164
<b>1983</b>	0.0681	35325	0.1310	4277	0.0338	12152	0.0816	4244
<b>1984</b>	0.0674	35327	0.1399	4356	0.0359	11771	0.0855	4311
<b>1985</b>	0.0706	35664	0.1568	4429			0.0803	4343
<b>1986</b>	0.0684	34806	0.1192	4455	0.0374	11308	0.0761	4420
<b>1987</b>	0.0685	34628	0.1460	4535	0.0353	11498	0.1005	4482
<b>1988</b>	0.0640	34777	0.1716	4621	0.0293	10556	0.1058	4554
<b>1989</b>	0.0649	32418	0.1547	4668	0.0358	11098	0.1013	4604
<b>1990</b>	0.0663	35413	0.1595	4735	0.0311	11853	0.0995	4626
<b>1991</b>	0.0691	35360	0.1586	4735	0.0406	11734	0.0948	4618
<b>1992</b>	0.0688	34933	0.1488	4845	0.0372	11457	0.0914	4622
<b>1993</b>	0.0675	34796	0.1396	5054	0.0396	11622	0.0905	4809
<b>1994</b>	0.0762	33832	0.1410	5542	0.0427	10699	0.0992	5334
<b>1995</b>	0.0774	33713	0.1411	5490			0.1012	5325
<b>1996</b>	0.0814	29349	0.1575	5494	0.0472	10362	0.1013	3976
<b>1997</b>	0.0799	29585	0.1494	4468	0.0482	10536		
<b>1998</b>	0.0797	29816			0.0497	10529	0.0905	4290
<b>1999</b>	0.0746	30011	0.1529	4648	0.0433	10622		
<b>2000</b>	0.0746	29969			0.0418	10362	0.0891	4552
<b>2001</b>	0.0767	28998	0.1541	4947	0.0481	10151		
<b>2002</b>	0.0794	49272						

<sup>20</sup> See notes on Table A6.

We start the female sample in 1981, since this is when information is first gathered about a broader female population, i.e. female heads and spouses in a household.

**Table A9:** Employment Rates Among Working Age Females With Work Limitation Based Disabilities in the CPS and PSID, 1980-2001<sup>21</sup>

	One-Period Setting				Two-Period Setting (Matched Series)			
	CPS		PSID		CPS		PSID	
	Mean	N	Mean	N	Mean	N	Mean	N
<b>1980</b>	0.2959	2842	0.4327	641				
<b>1981</b>	0.2868	2530	0.4420	603	0.1501	454	0.3126	412
<b>1982</b>	0.3098	2397	0.4350	647	0.1616	452	0.3255	408
<b>1983</b>	0.2957	2344	0.5075	663	0.1536	418	0.3947	408
<b>1984</b>	0.3168	2438	0.5697	702	0.1907	412	0.4271	391
<b>1985</b>	0.3320	2296	0.5696	539			0.4644	347
<b>1986</b>	0.3353	2267	0.5772	649	0.2248	390	0.4658	344
<b>1987</b>	0.3434	2185	0.5883	709	0.2115	379	0.5058	423
<b>1988</b>	0.3700	2077	0.5990	683	0.1997	308	0.5212	443
<b>1989</b>	0.3794	2314	0.6194	700	0.1794	410	0.5540	446
<b>1990</b>	0.3555	2351	0.6165	674	0.2174	360	0.5088	426
<b>1991</b>	0.3572	2351	0.5707	697	0.1641	453	0.4944	414
<b>1992</b>	0.3592	2336	0.6158	671	0.2310	409	0.5163	413
<b>1993</b>	0.3505	2554	0.6159	752	0.1868	451	0.5378	412
<b>1994</b>	0.3742	2546	0.6004	748	0.2322	453	0.5375	489
<b>1995</b>	0.3526	2344	0.5838	768			0.5364	481
<b>1996</b>	0.3564	2339	0.6092	585	0.1903	482	0.5410	342
<b>1997</b>	0.3311	2351			0.2113	505		
<b>1998</b>	0.3109	2233	0.6097	620	0.1751	510	0.5119	340
<b>1999</b>	0.3509	2238			0.1736	454		
<b>2000</b>	0.3359	2211	0.6288	682	0.1665	437	0.5283	354
<b>2001</b>	0.3115	3625			0.1631	509		

<sup>21</sup> See notes on Tables A6, A7, and A8.

**Table A10:** Employment Rates Among Working Age Males With Work Limitation Based Disabilities in the PSID, one-, two-, three-, and four-period samples, 1975-2001

	One Period		Two Periods		Three Periods		Four Periods	
	Mean	N	Mean	N	Mean	N	Mean	N
<b>1975</b>	0.7592	345						
<b>1976</b>	0.7053	386	0.6063	239				
<b>1977</b>	0.7290	419	0.6101	271	0.5198	192		
<b>1978</b>	0.7563	472	0.6480	289	0.5560	217	0.4894	157
<b>1979</b>	0.7317	520	0.6223	322	0.5357	230	0.4855	176
<b>1980</b>	0.7009	464	0.6274	341	0.5467	244	0.4796	183
<b>1981</b>	0.6820	443	0.5440	294	0.4923	254	0.4707	201
<b>1982</b>	0.6678	440	0.5724	295	0.4879	228	0.4674	205
<b>1983</b>	0.7093	481	0.5891	300	0.5127	231	0.4446	184
<b>1984</b>	0.7527	480	0.6621	299	0.5476	217	0.5089	176
<b>1985</b>	0.7368	430	0.6439	269	0.5922	209	0.5154	157
<b>1986</b>	0.7572	518	0.6292	292	0.5239	213	0.4787	173
<b>1987</b>	0.7657	528	0.6757	342	0.5673	235	0.4951	178
<b>1988</b>	0.7332	529	0.6578	336	0.5539	258	0.4696	190
<b>1989</b>	0.7663	540	0.6683	344	0.5942	260	0.5239	209
<b>1990</b>	0.7288	546	0.6529	354	0.5863	256	0.5421	203
<b>1991</b>	0.7225	569	0.6435	364	0.5924	277	0.5630	206
<b>1992</b>	0.7110	575	0.6079	362	0.5412	276	0.5107	219
<b>1993</b>	0.6947	663	0.6120	357	0.5424	265	0.4993	209
<b>1994</b>	0.6682	634	0.5715	446	0.4973	280	0.4495	214
<b>1995</b>	0.6655	612	0.5509	423	0.4930	340	0.4644	222
<b>1996</b>	0.7114	440	0.6017	266	0.4846	205	0.4470	177
<b>1997</b>								
<b>1998</b>	0.7439	484	0.6669	252	0.5482	180	0.4420	140
<b>1999</b>								
<b>2000</b>	0.7384	530	0.5990	274	0.5159	173	0.4444	124