

**Supplemental Displays and Data Appendix to accompany “The Economic Status of People  
with Disabilities and their Families since the Great Recession,”  
by Bengali, Daly, Lofton, and Valletta**

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### List of Figures in Appendix

- SA1. Mean personal earnings
- SA2. Personal earnings by percentile (positive earners only)
- SA3. Household income
- SA4. Equivalent household income

### List of Tables in Appendix

- SA1. Regression results: measures of economic well-being (CPS panel)
- SA2. Regression results: disability program applications/awards (baseline outcome = applications per 10 people; awards per 10 people; awards/determinations)
- SA3. Regression results: disability program applications/awards (alternative outcome = awards/applications)
- SA4. Regression results: disability program applications/awards (including measure of disability prevalence)
- SA5. Regression results: disability program applications/awards (including measure of unemployment insurance availability)
- SA6. Regression results: disability program applications/awards (unweighted)
- SA7. Regression results: disability program applications/awards (using LFP rate)

Figure SA1: Earnings

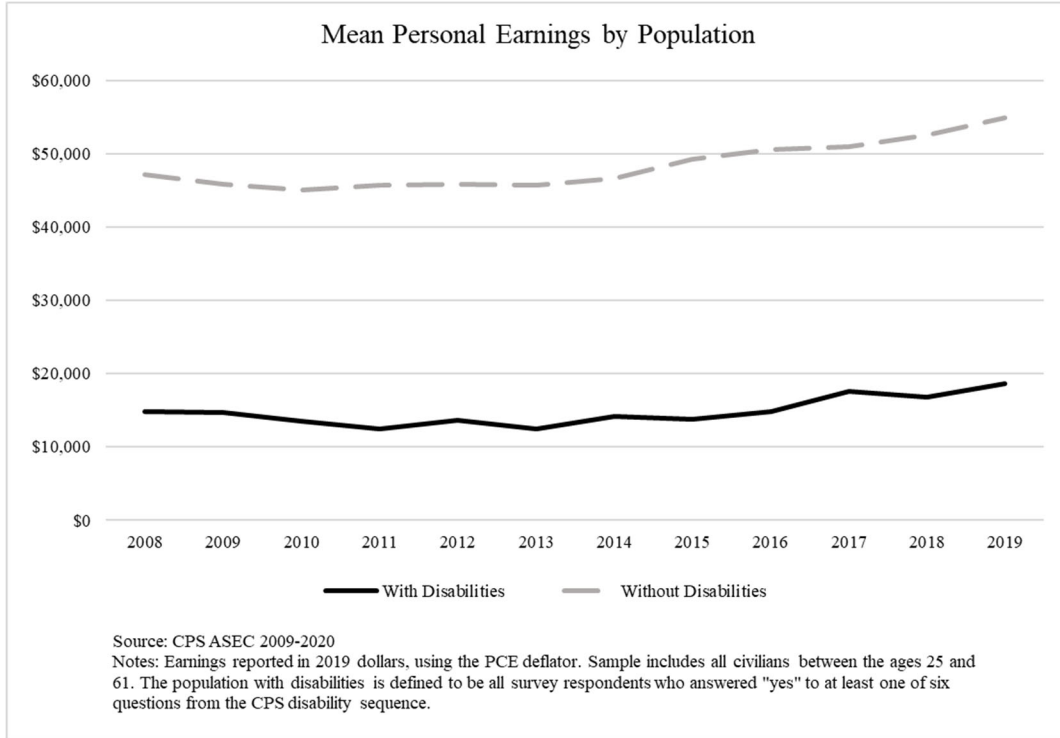
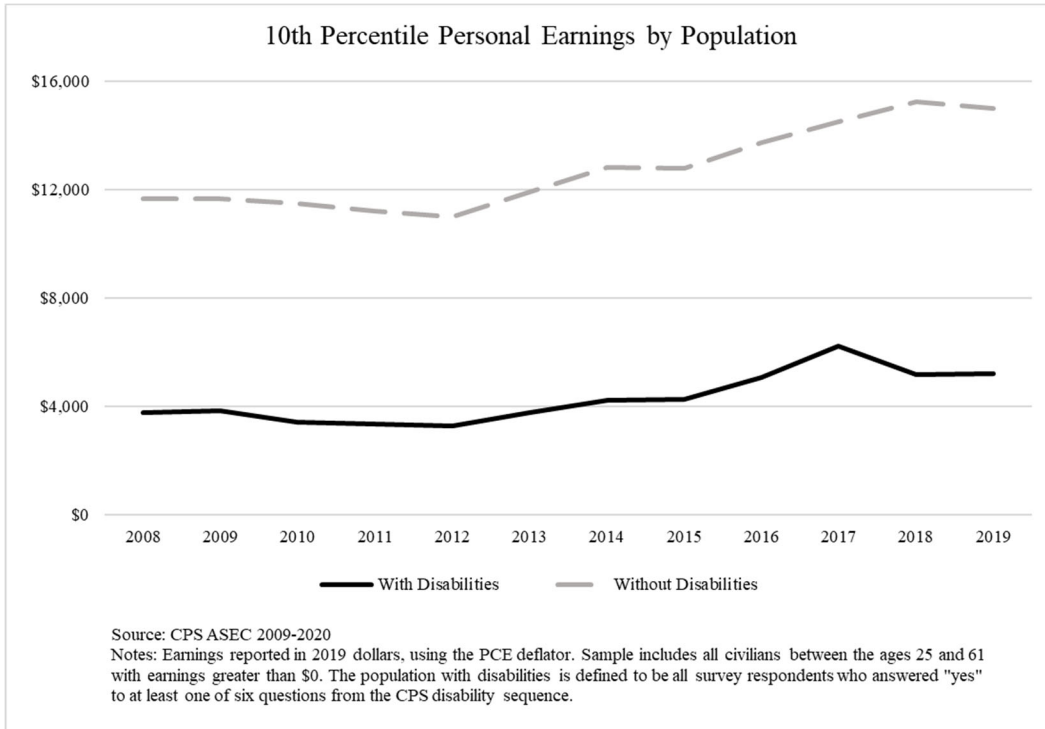


Figure SA2: Earnings by Percentile (positive earners only)

Panel A: 10<sup>th</sup> Percentile



Panel B: 25<sup>th</sup> Percentile

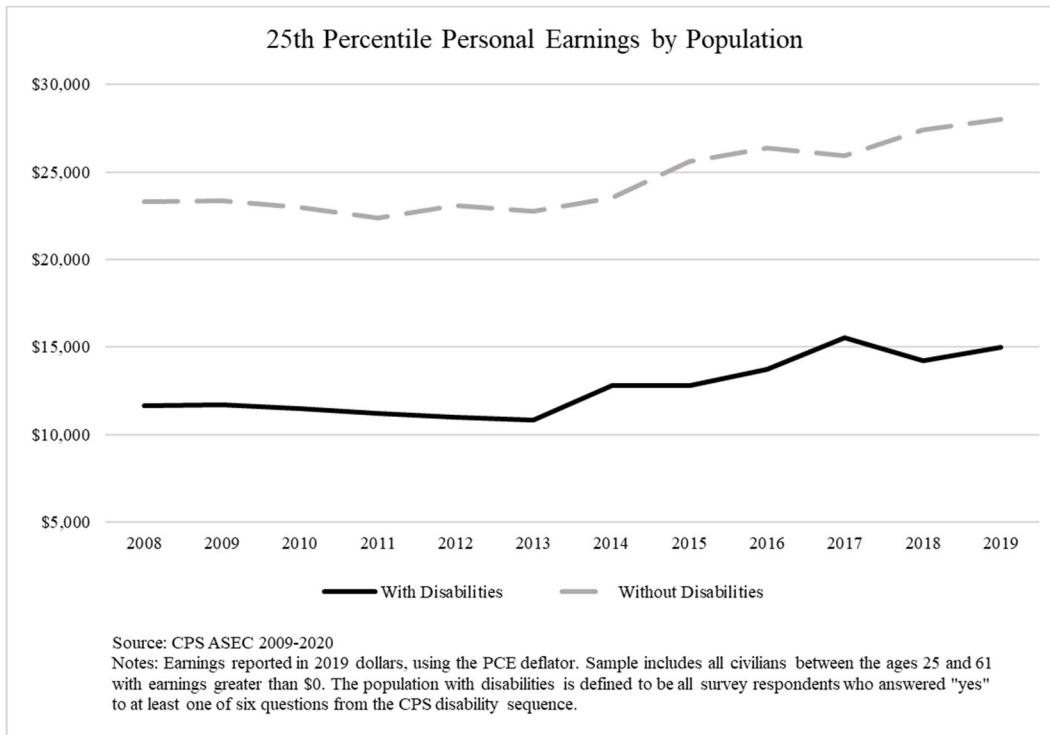
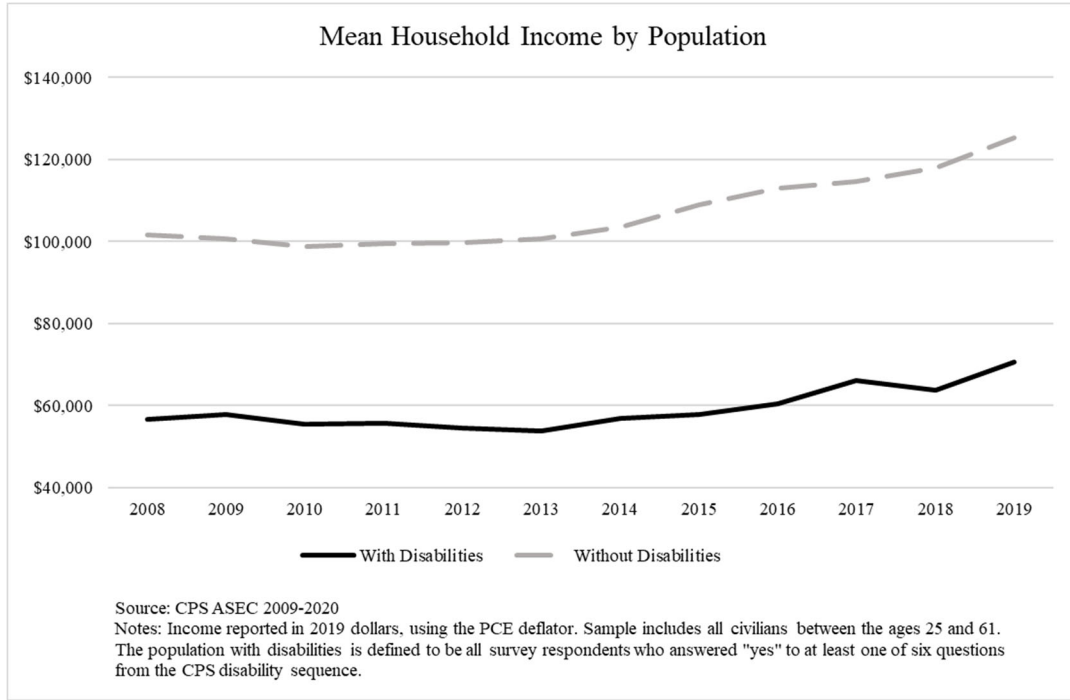


Figure SA3: Household Income

Panel A: Mean



Panel B: Median

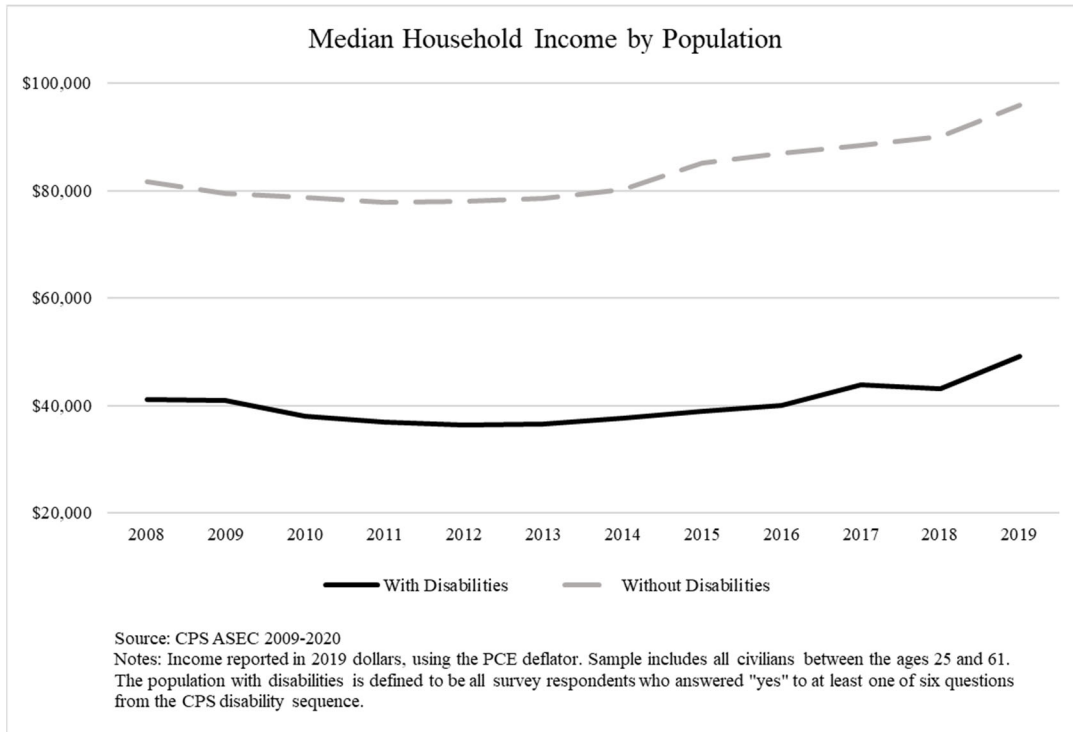


Figure SA4: Equivalent Household Income

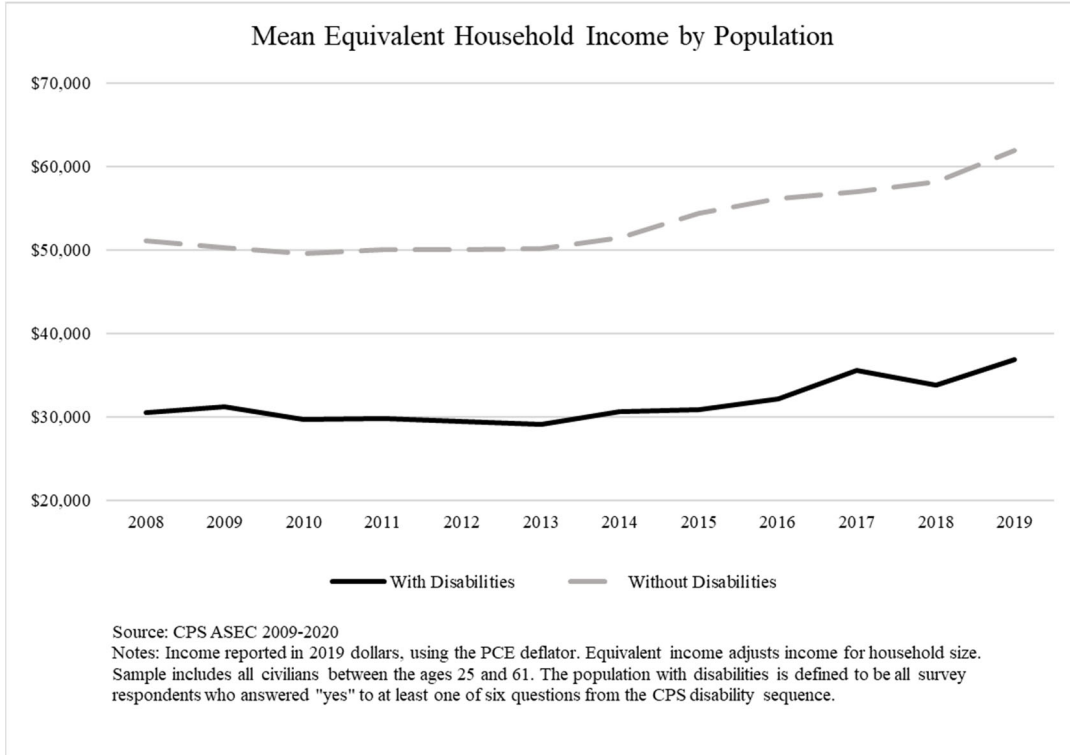


Table SA1: Regression results: measures of economic well-being

Regression results: hours, earnings, and HH income (disabled vs. non-disabled)  
(cyclical control: LFP rate)

Cross-section regression (2019)						
	(1)	(2)	(3)	(4)	(5)	(6)
	hours	earnings	income	income	income	income
LFP rate	0.011*** (0.004)	0.030** (0.012)	0.004 (0.008)	0.010 (0.009)	0.008 (0.007)	0.013 (0.008)
N	51	51	51	51	51	51

Note: Regression results using state panel data (collapsed from CPS microdata), 2019. Dependent variables are the differences between the ln(values) of the indicated variables for the disabled and non-disabled populations. All columns include controls for gender\*age population shares.

Panel regression (2009-19)						
	(1)	(2)	(3)	(4)	(5)	(6)
	Annual hours (mean)	Individual earnings (mean)	HH income (mean)	HH income (median)	HH equiv income (mean)	HH equiv income (median)
LFP rate	-0.000 (0.002)	0.019*** (0.007)	-0.002 (0.005)	-0.005 (0.006)	-0.000 (0.005)	-0.002 (0.005)
N	561	561	561	561	561	561

Note: Panel regression results using state panel data (collapsed from CPS microdata), 2009-19. Dependent variables are the differences between the ln(values) of the indicated variables for the disabled and non-disabled populations. All columns include controls for gender\*age population shares and year dummies. SE's clustered by state.

Fixed effects (2009-19)						
	(1)	(2)	(3)	(4)	(5)	(6)
	Annual hours (mean)	Individual earnings (mean)	HH income (mean)	HH income (median)	HH equiv income (mean)	HH equiv income (median)
LFP rate	0.007 (0.006)	0.025 (0.017)	0.007 (0.012)	0.013 (0.016)	0.001 (0.012)	0.017 (0.014)
N	561	561	561	561	561	561

Note: Fixed effects regression results using state panel data (collapsed from CPS microdata), 2009-19. Dependent variables are the differences between the ln(values) of the indicated variables for the disabled and non-disabled populations. All columns include controls for gender\*age population shares and year dummies. SE's clustered by state.

Table SA2: Regression results: disability program applications/awards

Main Results Using OLS

	(1) applications per 10 people	(2) applications per 10 people	(3) awards per 10 people	(4) awards per 10 people	(5) awards/ determinations	(6) awards/ determinations
unemployment rate	0.575** (0.243)	0.427*** (0.134)	-0.00841 (0.0927)	-0.0442 (0.0900)	-0.943*** (0.336)	-0.412 (0.279)
state FE	No	Yes	No	Yes	No	Yes
N	561	561	561	561	561	561
R-squared	0.513	0.942	0.447	0.887	0.402	0.853

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Model results use state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). Population age 25 - 64 used as the denominator in (1) - (4). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state and state labor force values (period average) used as regression weights.



Table SA3: Regression results: disability program applications/awards

Alternative Measure of Award Rate

	(1) awards/ applications	(2) awards/ applications	(3) awards/ applications	(4) awards/ applications
unemployment rate	-0.897** (0.407)	-0.744** (0.324)	-0.916** (0.422)	-0.754** (0.348)
state FE	No	Yes	No	Yes
N	561	561	561	561
R-squared	0.356	0.786	0.360	0.786

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Fractional regression model results (average marginal effects and standard errors) using the methods of Papke and Wooldridge (1996, 2008) (columns (1) and (2)) or OLS (columns (3) and (4)) and state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state and state labor force values (period average) used as regression weights.

Table SA4: Regression results: disability program applications/awards

Including Measure of Disability Prevalence

	(1) applications per 10 people	(2) applications per 10 people	(3) awards per 10 people	(4) awards per 10 people	(5) awards/ determinations	(6) awards/ determinations
Weighted disability prevalence by work-limitation measure	1.322*** (0.110)	0.112** (0.0461)	0.272*** (0.0383)	0.0262 (0.0246)	-0.816*** (0.222)	0.0622 (0.127)
unemployment rate	0.199 (0.127)	0.364*** (0.0999)	-0.0832 (0.0802)	-0.0237 (0.0675)	-0.724** (0.333)	-0.400 (0.256)
state FE	No	Yes	No	Yes	No	Yes
N	561	561	561	561	561	561
R-squared	0.781	0.952	0.580	0.891	0.492	0.851

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Fractional regression model results (average marginal effects and standard errors) using the methods of Papke and Wooldridge (1996, 2008) and state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). Weighted disability prevalence is measured by the work-limitation question in the CPS. Population age 25 - 64 used as the denominator in (1) - (4). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state and state labor force values (period average) used as regression weights.

Table SA5: Regression results: disability program applications/awards

Including Measure of Unemployment Insurance Availability

	(1) applications per 10 people	(2) applications per 10 people	(3) awards per 10 people	(4) awards per 10 people	(5) awards/ determinations	(6) awards/ determinations
max potential weeks of UI	-0.000449 (0.000356)	0.0000445 (0.000138)	-0.0000378 (0.000140)	-0.00000179 (0.0000649)	0.000598 (0.000494)	-0.000328 (0.000287)
unemployment rate	0.663*** (0.238)	0.346*** (0.113)	-0.00387 (0.107)	-0.0231 (0.0825)	-1.110*** (0.393)	-0.260 (0.276)
state FE	No	Yes	No	Yes	No	Yes
N	561	561	561	561	561	561
R-squared	0.564	0.953	0.480	0.891	0.400	0.852

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Fractional regression model results (average marginal effects and standard errors) using the methods of Papke and Wooldridge (1996, 2008) and state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). The maximum number of potential weeks of unemployment insurance (UI) available include extensions to the UI program and come from the U.S. Department of Labor. Population age 25 - 64 used as the denominator in (1) - (4). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state and state labor force values (period average) used as regression weights.

Table SA6: Regression results: disability program applications/awards

Main Results, No Weights

	(1) applications per 10 people	(2) applications per 10 people	(3) awards per 10 people	(4) awards per 10 people	(5) awards/ determinations	(6) awards/ determinations
unemployment rate	1.057*** (0.286)	0.346*** (0.132)	0.140 (0.0894)	-0.0327 (0.0565)	-1.046*** (0.328)	-0.446* (0.228)
state FE	No	Yes	No	Yes	No	Yes
N	561	561	561	561	561	561
R-squared	0.600	0.956	0.528	0.910	0.495	0.876

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Fractional regression model results (average marginal effects and standard errors) using the methods of Papke and Wooldridge (1996, 2008) and state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). Population age 25 - 64 used as the denominator in (1) - (4). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state.

Table SA7: Regression results: disability program applications/awards

Main Results, using LFP rate

	(1) applications per 10 people	(2) applications per 10 people	(3) awards per 10 people	(4) awards per 10 people	(5) awards/ determinations	(6) awards/ determinations
LFP rate	-0.713*** (0.136)	-0.0227 (0.127)	-0.147*** (0.0358)	-0.0497 (0.0472)	0.468** (0.200)	-0.253 (0.308)
state FE	No	Yes	No	Yes	No	Yes
N	561	561	561	561	561	561
R-squared	0.726	0.951	0.559	0.891	0.429	0.842

\* p<.10, \*\* p<.05, \*\*\* p<.01.

Note: Fractional regression model results (average marginal effects and standard errors) using the methods of Papke and Wooldridge (1996, 2008) and state panel data calculated from SSA state agency monthly workload data, 2009-19. Data include all SSDI and SSI initial claims (excluding SSI child claims). Population age 25 - 64 used as the denominator in (1) - (4). All columns include controls for gender\*age population shares and complete year dummies (not shown). Standard errors clustered by state and state labor force values (period average) used as regression weights.

## SUPPLEMENTAL DATA APPENDIX

The data used in our disability benefits analysis come from three sources:

- The SSA monthly workload data (<https://www.ssa.gov/disability/data/ssa-sa-mowl.htm>), October 2000 – December 2020. Typically, applicants to the SSI or SSDI program first submit an application to a field office. At that point, there is an initial screening to assess whether the applicant is potentially eligible (i.e. the applicant meets the non-disability criteria). If this initial check is passed, the application is sent to a state Disability Determination Service (DDS) where a determination is made regarding whether the applicant meets the definition of having a disability. The data we use come from the DDS offices, so do not include information about applications sent to field offices and rejected at that stage. The variables we use include: application counts, counts of the number of determinations made (favorable, partially favorable, or unfavorable) about whether the disability criteria are met, and award counts (technically allowances, which are the favorable and partially favorable determinations). These counts are aggregated across applicant types (workers, widows, children), so in our analysis, we must consider these three groups together. The data set also only has allowances made at the state Disability Determination Service offices (i.e. not any allowances made through appeals to the hearings level, the appeals council level, or Federal courts). Though the data set does include information about some reconsiderations of initially denied applications, because the data do not indicate when the applications that generated these reconsiderations were initially submitted (which would reflect the applicant's response to labor market cyclicity), we restrict our attention to initial claims. See the SSA website noted above source for additional details.

- The U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics (file la.data.3.AllStatesS, <https://download.bls.gov/pub/time.series/la/>), October 2000 – December 2020. This data set provides seasonally adjusted monthly state unemployment rates.
- The U.S. Census Bureau (<https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html>), 2000 – 2019. This data set provides annual population shares by state.

We merge these three data sets together to create a state by month panel. We drop observations from the federal office and the four extended service offices that help process claims when state agencies are overloaded. The SSA creates the monthly data by aggregating over weeks, and defines each month as either four or five weeks, usually based on how many Fridays are in that month. This creates fluctuations in monthly counts that are an artifact of the aggregation method. To account for this, we determine the number of Friday's in each month, and scale each month's application, awards, and determinations by  $30 / (7 * \text{number of Fridays in that month})$ . In our analysis, we aggregate up to a state by year panel.