Appendix 1. Data

Appendix 2. Additional Evidence on the Design

Appendix 3. Additional Health Results

Appendix 4. Additional Labor Supply and Program Participation Results

APPENDIX 1. DATA

A. Data on Recipients of Aid to Families with Dependent Children

The data on the characteristics of AFDC recipients come from two sources. The race shares of adult and child recipients were entered from two printed reports: "Characteristics and Financial Circumstances of Families Receiving Aid to Dependent Children, Late 1958" (Mugge 1960) and "Characteristics of Families Receiving Aid to Families with Dependent Children, November-December 1961" (DHEW 1963). Biennial microdata on recipients comes from the National Archives Surveys of Recipients of Aid to Families with Dependent Children 1967-1979 (DHEW 2000, 2011). Except for the 1967 file, the data are at the AFDC unit level.

The race shares for children are the means of a white dummy, weighted by product of the sample weight and the number of recipient children in the household (under the assumption that the race of the children is the same as the race of the AFDC payee). The race code for Latina recipients is missing in some years and varies strongly between some years (from "other" to "white"). In these cases, I assign Latina recipients the average value of the binary race code observed among all other Latina recipients. I linearly interpolate the race shares for missing years between 1958 and 1979. To construct race-specific recipient counts, I multiply the estimated race shares by state-level counts of AFDC children (available from HHS). To calculate race-specific child AFDC rates, I divide by the state population ages 0-19 (Haines and ICPSR 2010, SEER 2013). The resulting measures are monthly AFDC participation rates observed once per year. Summing them over years of childhood as in equation (1) yields a cumulative eligibility measure that refers to full years of eligibility.

A. Mortality by Birth State

From 1979-2004, the Vital Statistics Multiple Cause of Death data contain information on decedents' state of birth. I collapse the count of deaths by state of birth, year of birth, race (white/nonwhite), year of death, and cause of death listed in table 3 (based on the 34 or 39 cause recodes). The denominators are calculated by first calculating the joint distribution of state of birth and race by single age in the 1980 5% IPUMS Census extract (Ruggles et al. 2010) and multiplying this by population counts by age.[1]

B. Census and American Community Survey Data

The main analyses use the 5% and 1% extracts from the 2000 Census and the 2001-2014 American Community Surveys (Ruggles et al. 2010). I keep respondents born in the US ages 25-

[1] Available here: https://www.census.gov/popest/data/state/asrh/1980s/tables/stiag480.txt

64 and born no later than 1976 and collapse the data to the state-of-birth, year-of-birth, race, survey year level (and in some models, also by state of residence). Table A1.1 lists underlying number of observations, and Figures A1.1 and A1.2 present histograms of the cell sizes by race.

Figure A1.3 plots age profiles of disability measures before and after changes to the question text in 2008. These changes have significant effects on reported disability. For example, rates of ambulatory difficulty are 25-50 percent lower after “lifting or carrying” is removed as part of the prompt. The age pattern of cognitive difficulty, especially for children, is much different when “learning, remembering, or concentrating” is replaced by “concentrating, remembering, or making decisions.” Even though the work limitation question did not change appreciably between 2000 and 2001-2007, the age profile of responses is very different across years. Results for work limitation (table 5) exclude 2000.

Figure A1.1. Cell Sizes, Disability Sample (2000-07), and Labor Market Sample (2000-14)

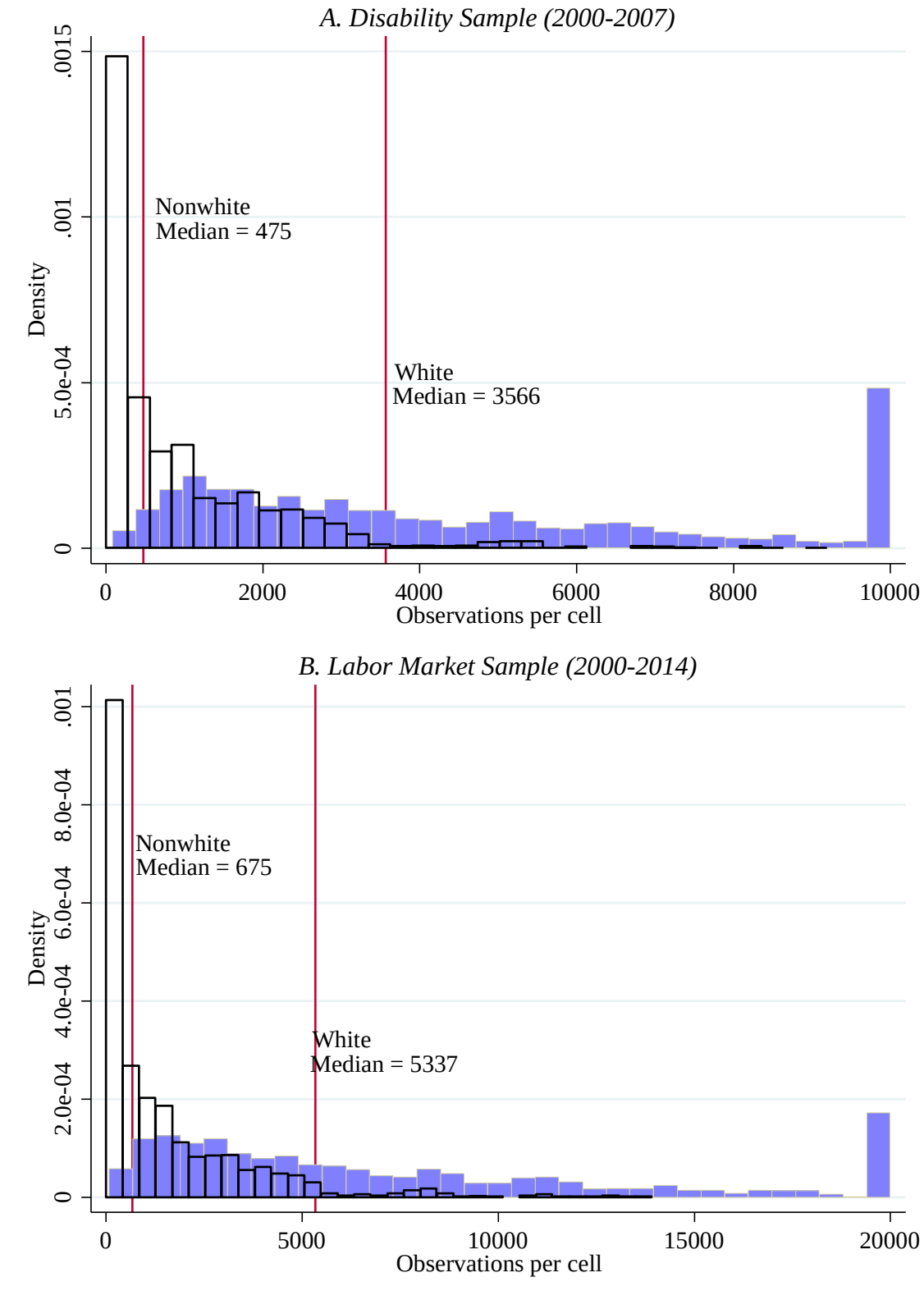
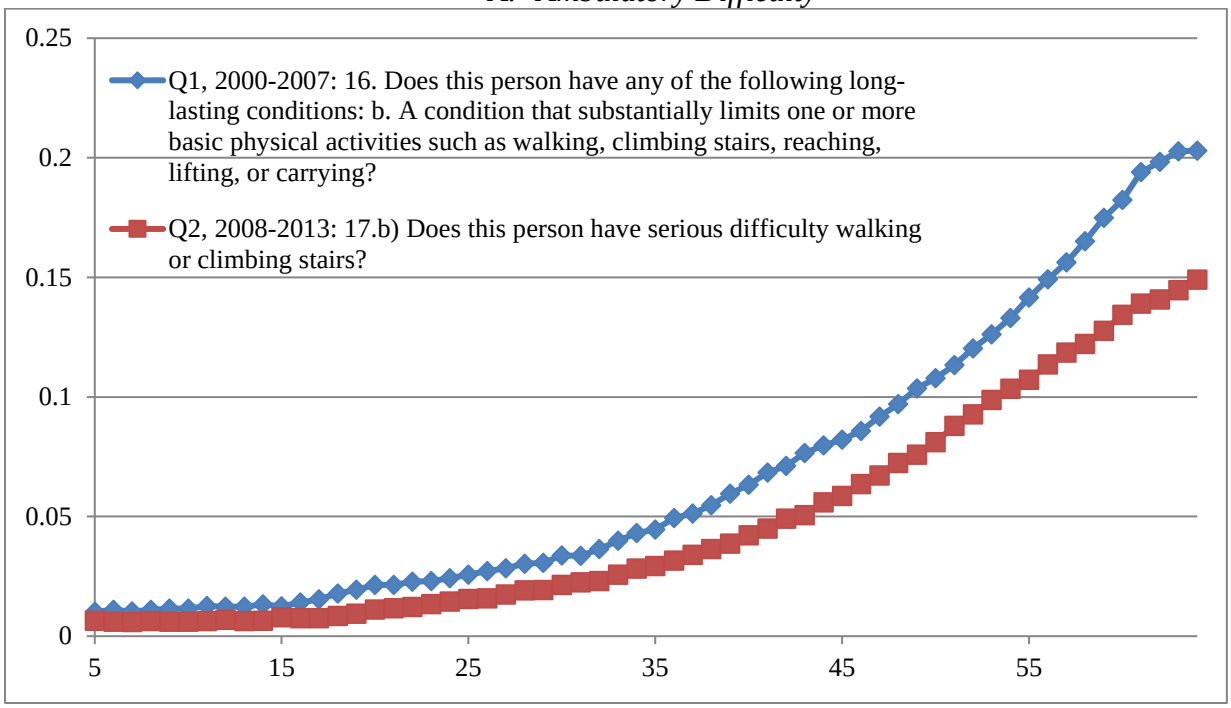
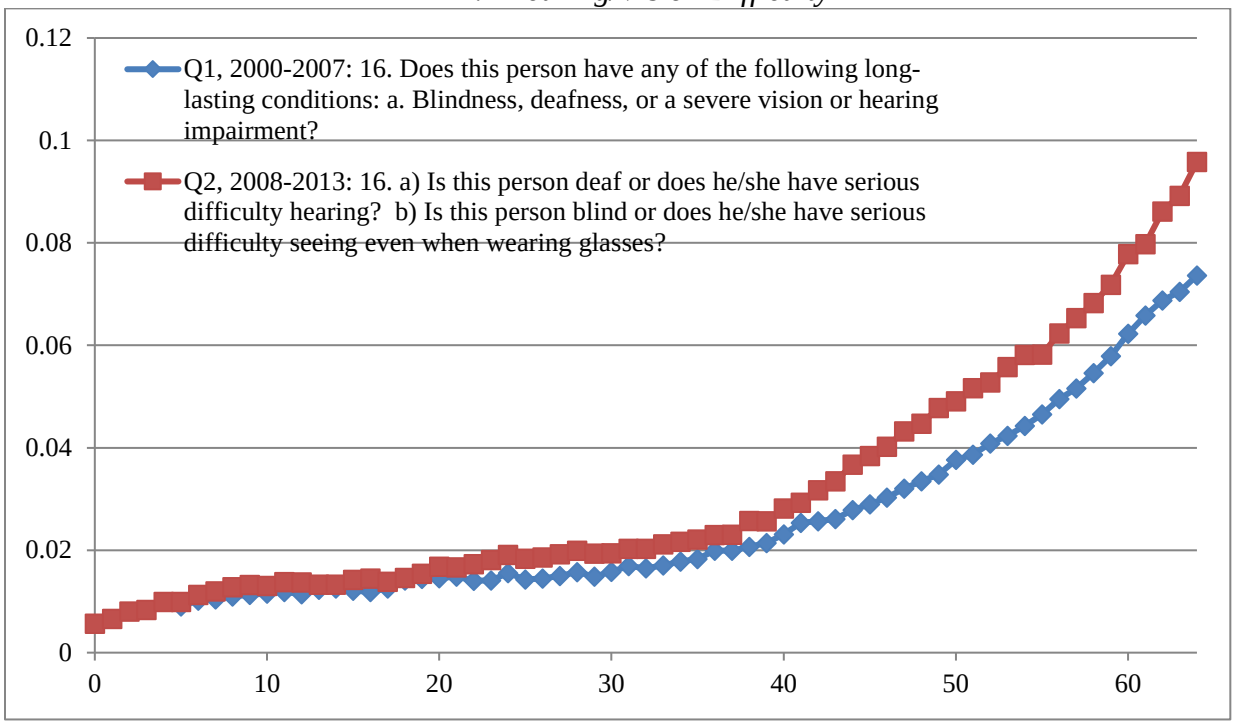


Figure A1.3. Age Profiles of Disability Variables By Survey Years

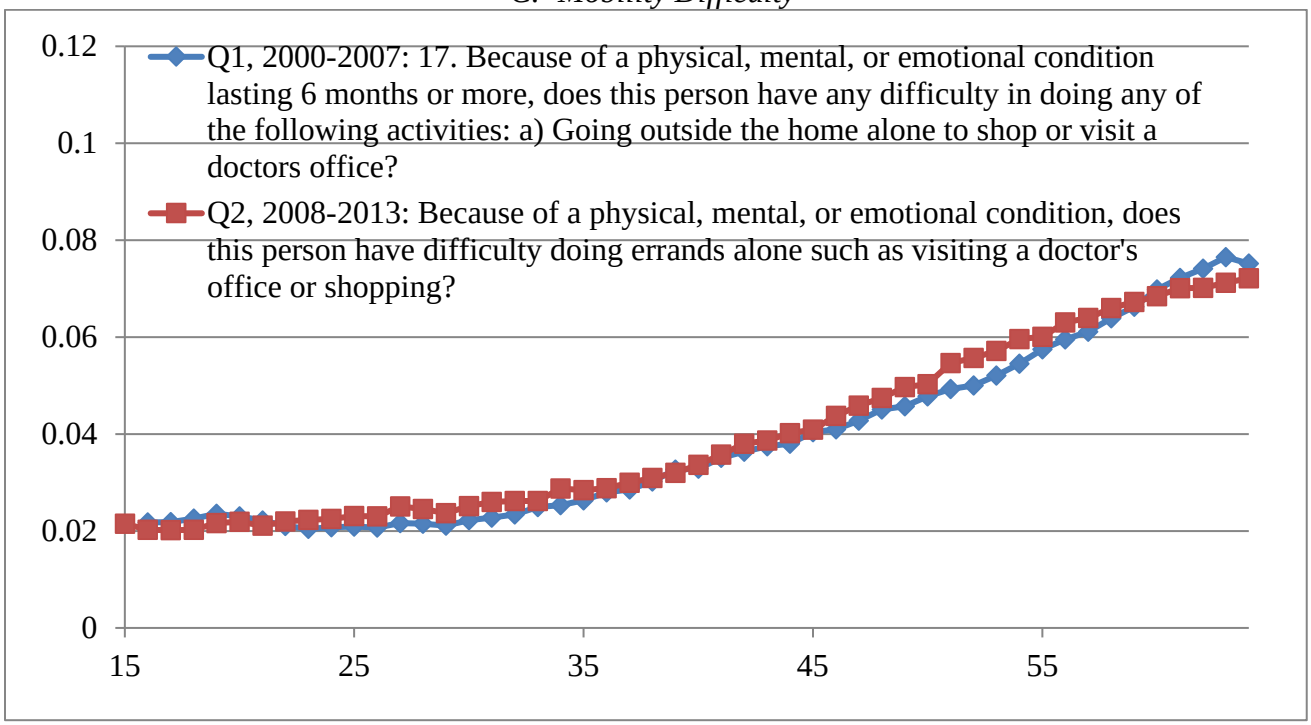
A. Ambulatory Difficulty



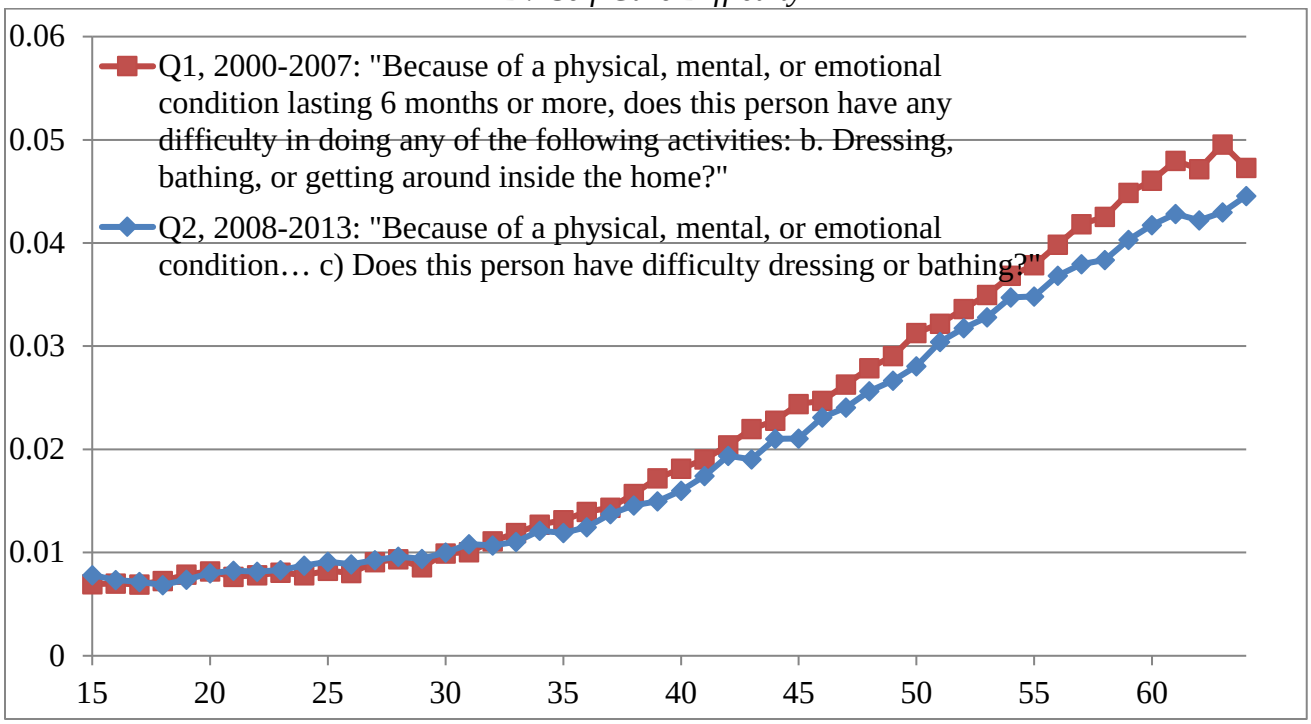
B. Hearing/Vision Difficulty



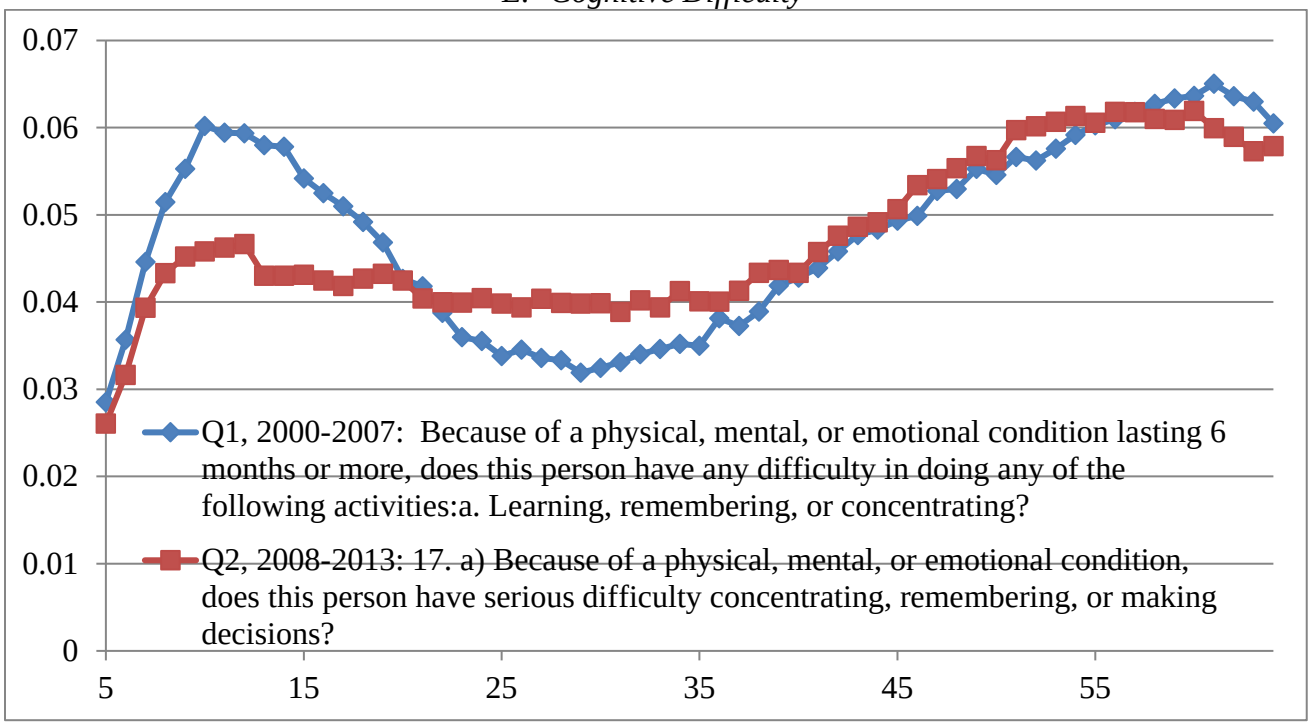
C. Mobility Difficulty



D. Self-Care Difficulty



E. Cognitive Difficulty



F. Work Limitation

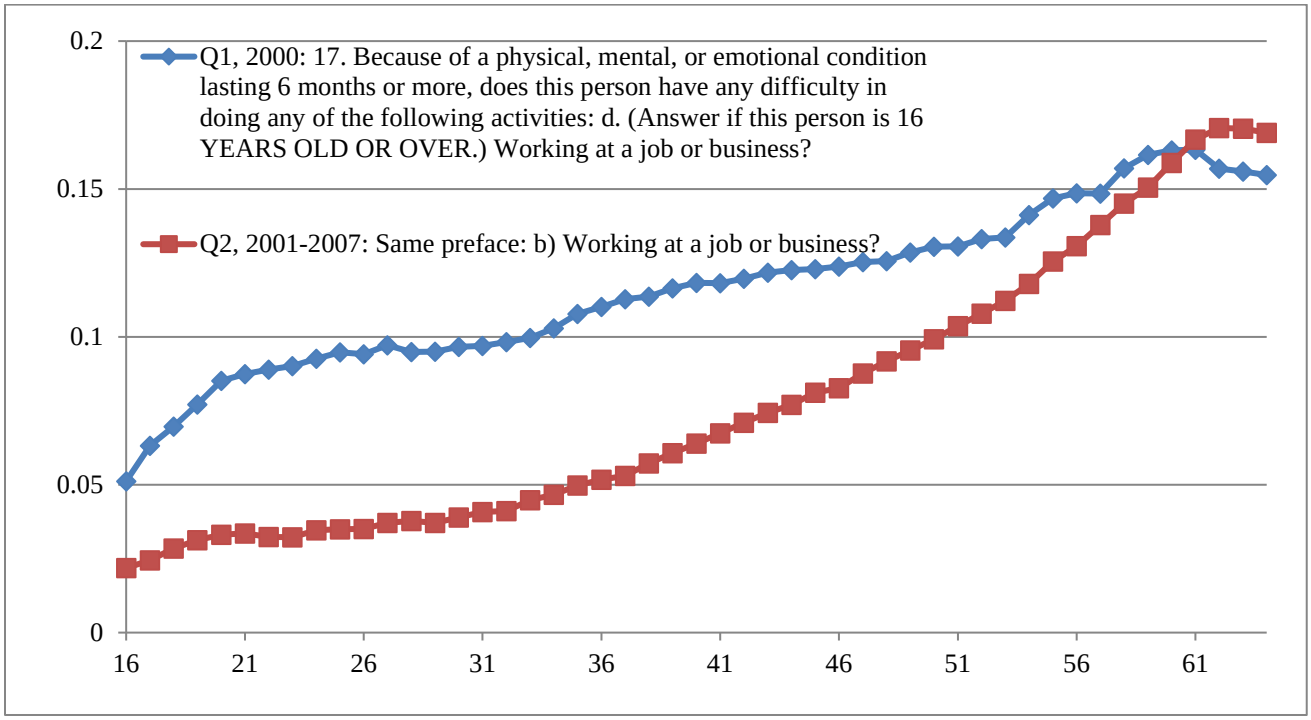


Table A1.1. Underlying Observations per Year

Year	Nonwhite	White
2000	1,171,469	6,259,238
2001	69,963	478,629
2002	61,690	421,976
2003	66,011	456,238
2004	63,341	447,033
2005	158,750	1,032,785
2006	168,838	1,018,129
2007	164,654	998,241
2008	157,773	975,782
2009	155,341	949,229
2010	155,121	922,166
2011	163,806	891,202
2012	157,144	861,949
2013	149,086	838,729
2014	144,277	804,235

APPENDIX 2. ADDITIONAL EVIDENCE ON THE DESIGN

Figure A2.1. First-Stage Event-Study Estimates for Age-Specific Cumulative Eligibility

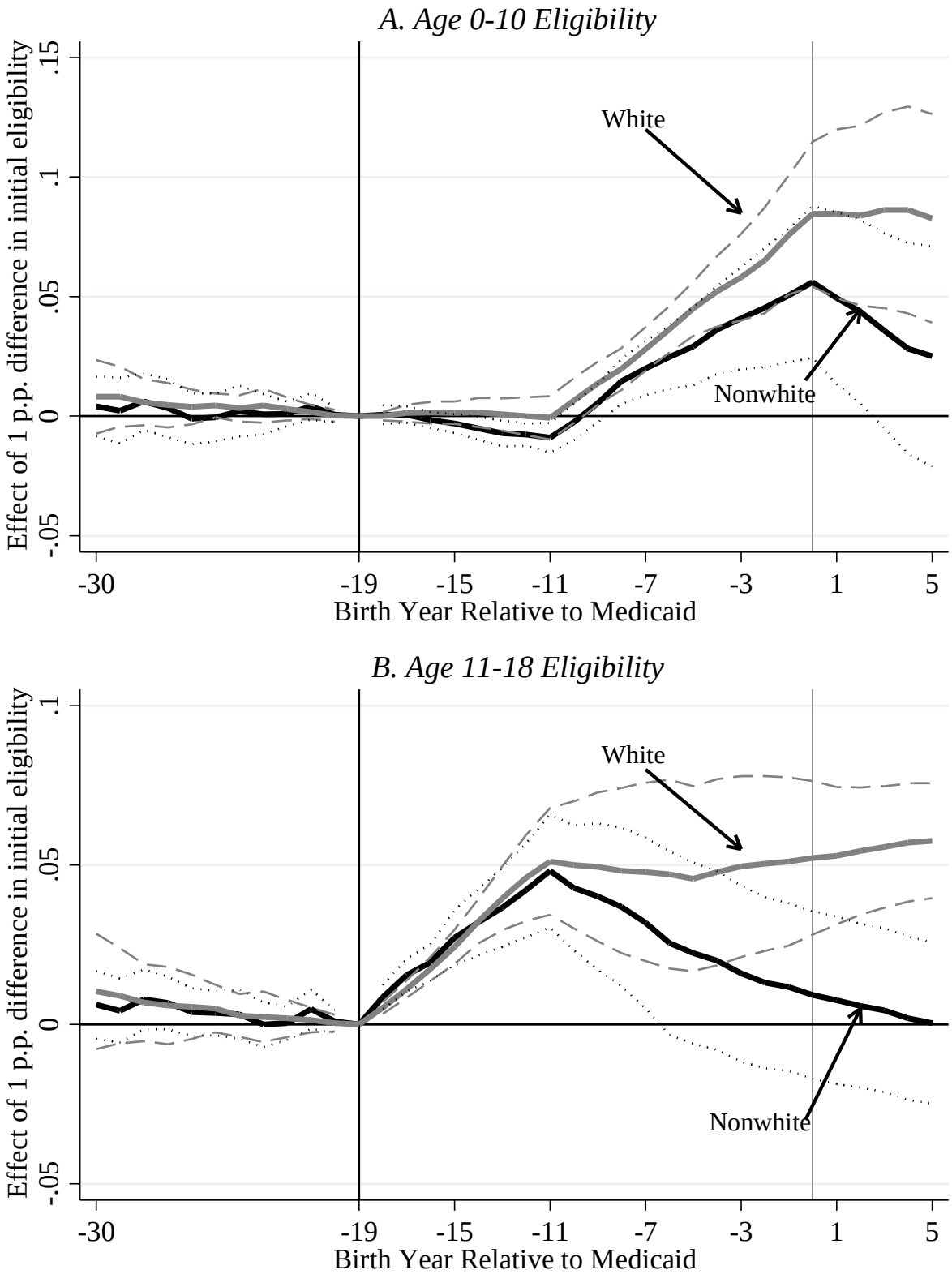


Figure A2.2. First-Stage Event-Study Estimates With and Without Migration Adjustment

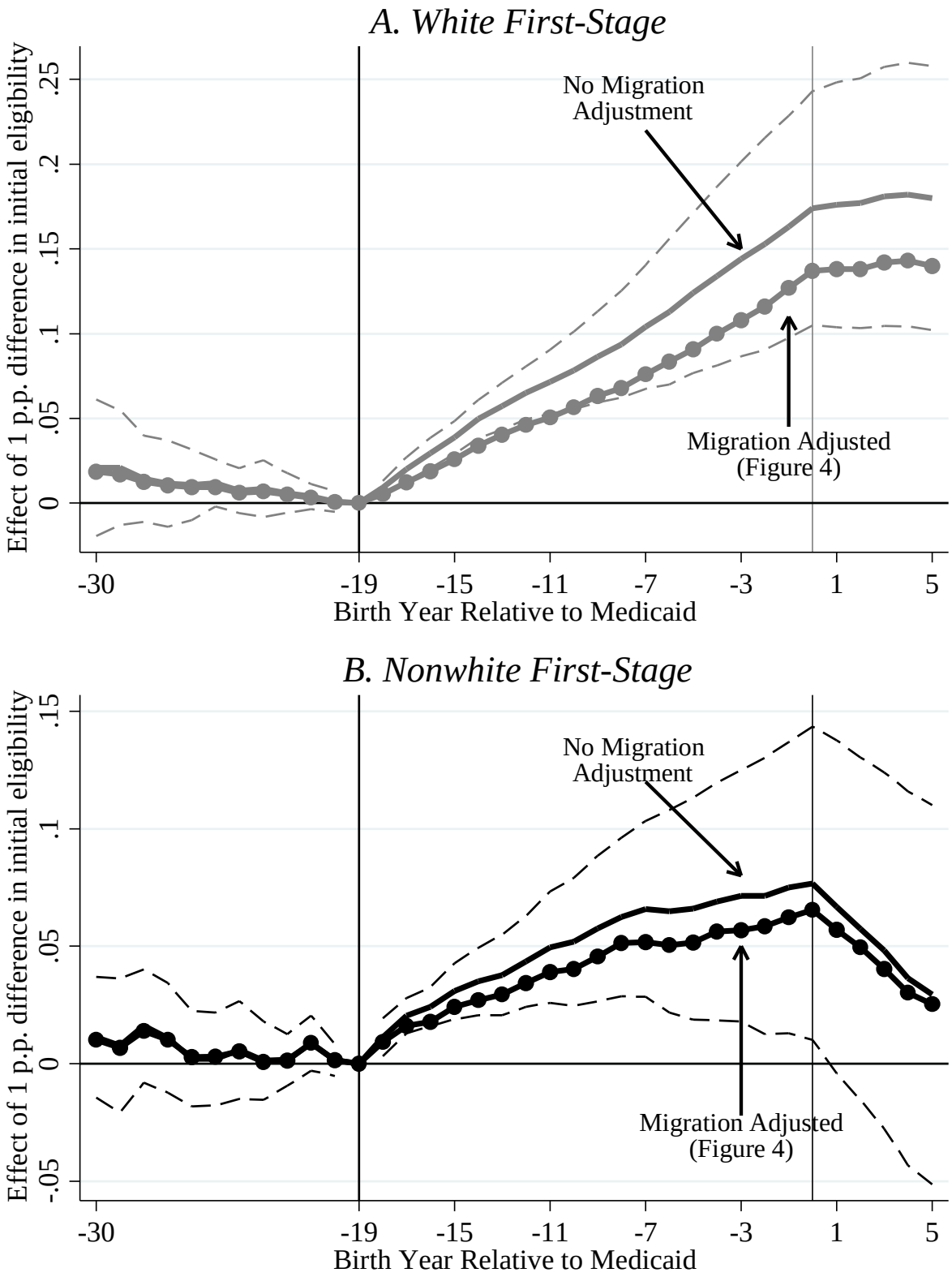


Figure A2.3. False Event-Study Estimates for Employment and Public Assistance Receipt, 1980 and 1990 Censuses

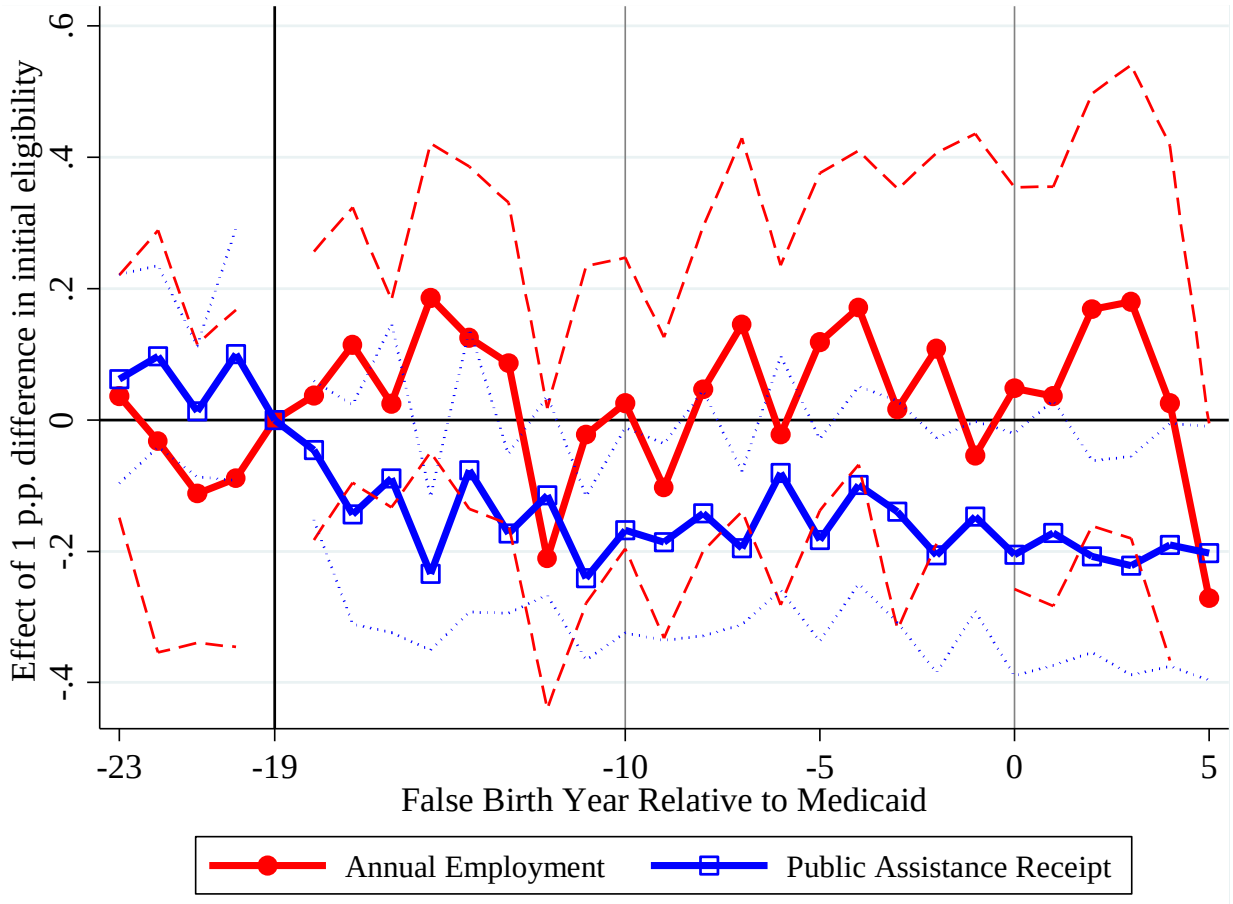
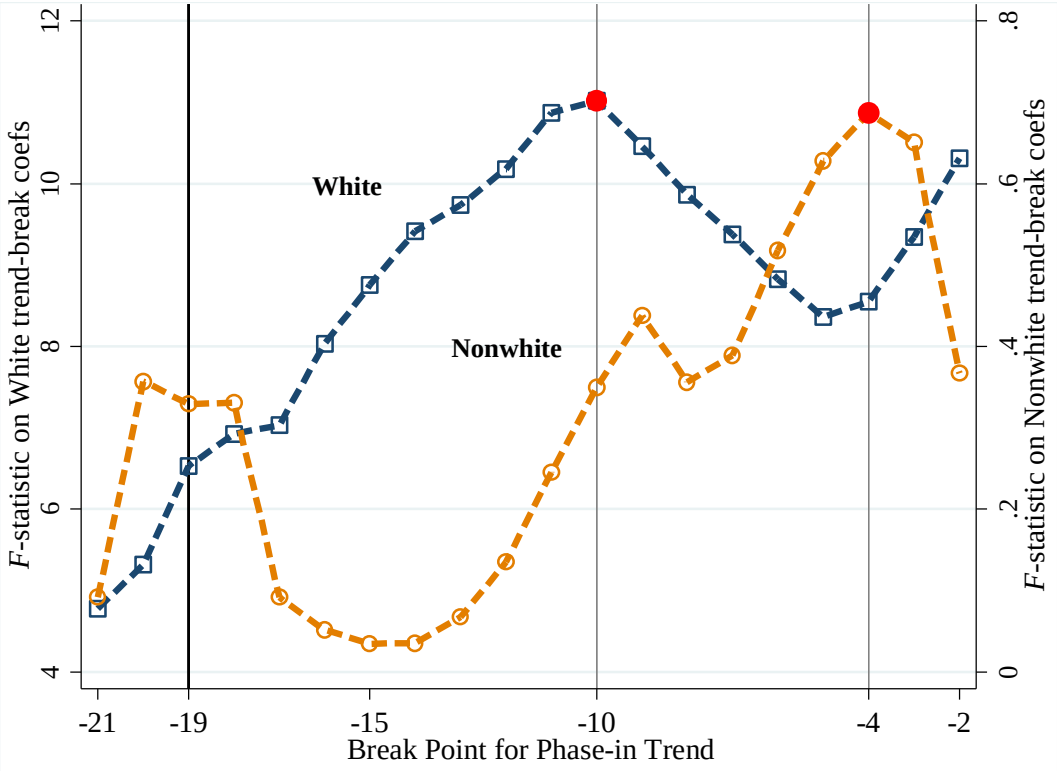


Figure A2.4. Trend-Break *F*-Statistics, Ambulatory Difficulty



Notes: F-statistics are from the joint test of the equality of the event-cohort variable, its interaction with a dummy for event-cohorts greater than or equal to x (where x is given by the x-axis in the figure) and its interaction with a dummy for event-cohorts greater than or equal to zero.

Table A2.1. Cross-Sectional Differences in Utilization by Medicaid Eligibility or Coverage

1963-1965	*1968-1969*	*1968-1969*	*1970-1976*	*1975*	*1976*	*1980*
Income < ~3k	Categorically Eligible	Medicaid Recipients				
~48%	52.50%	80%	70% (36% OPD)	81%	84%	85%
	Low-Income in Non-Medicaid State	Non-Medicaid Recipients				
	36%	68%		67%	72%	75%
NHES Cycle II, SHSUE, NHIS	Loewenstein (1971)	OEO 11 City Survey	DHEW Tables	Survey of Access to Medical Care	NHIS	NHIS

Notes: The table shows shares of children with doctor visits in the previous year.

Table A2.2. First-Stage Estimates Without Migration Adjustment

	(1)	(2)	(3)
	Cumulative Eligibility, Ages 0 -18	*Cumulative Eligibility, Ages 0 -10*	*Cumulative Eligibility, Ages 11 -18*
		A. White Adults	
Predicted Eligibility at:			
Ages 0-18	0.92		
	[0.21]		
Ages 0-10		0.91	0.10
		[0.27]	[0.09]
Ages 11-18		-0.02	0.79
		[0.13]	[0.17]
F-statistic	19.3		
Angrist/Pischke *F*-statistic		38.8	20.6
		B. Nonwhite Adults	
Ages 0-18	0.23		
	[0.21]		
Ages 0-10		0.46	-0.51
		[0.22]	[0.09]
Ages 11-18		0.01	0.70
		[0.09]	[0.16]
F-statistic	1.2		
Angrist/Pischke *F*-statistic		24.9	18.5

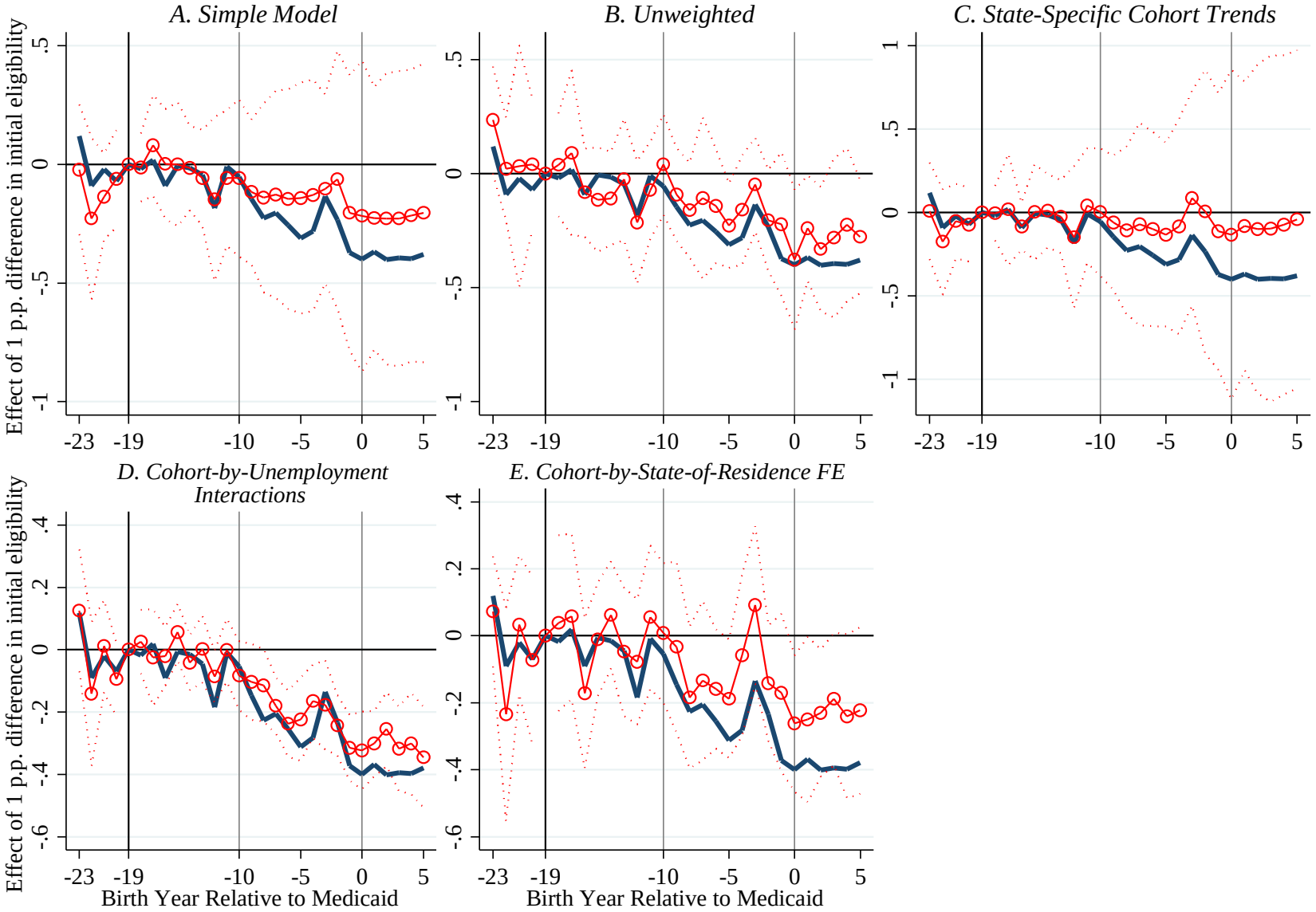
Table A2.3 Additional Balance Tests

	(1)	(2)	(3)
	Polio Index	Opinion Index	Household Quality Index
		A. White	
$AFDC^{*}_{rs}$	0.025	-0.054	-0.061
	[0.049]	[0.048]	[0.082]
R^2	0.01	0.04	0.03
N	48	34	48
		B. Nonwhite	
$AFDC^{*}_{rs}$	0.002	0.011	0.016
	[0.017]	[0.005]	[0.010]
R^2	0.00	0.07	0.04
N	48	26	48
Source:	March of Dimes Archives	SHSUE	1960 Census

Notes: The polio index includes total shipments of the Salk vaccine as of August 1957, the share of births with infantile paralysis in 1945, the change in the share of births with infantile paralysis from 1940 to 1950, and the change in the ratio of reported polio cases to total population between 1955 (mostly a pre-vaccine year) and 1956 (a fully post-vaccine year). The opinion index includes the share of below-median-income parents who agree or strongly agree (measured separately) with the following statements from the 1963 Survey of Health Services Utilization and Expenditure: medicine can cure any illness; even if a person feels good, he/she should get an annual physical exam; it is important to choose your doctor; if a doctor said I needed a major operation I would have it done immediately; the care I have received from doctors has been excellent; medicine is a man's highest calling. It also includes the negative of the share who agree or strongly agree with these statements: I'll avoid seeing a doctor whenever possible; home remedies are better; doctors are primarily interested in income; I wouldn't go to a hospital unless there was just no other way to take care of me; most people can recover without medical aid; health mainly depends on will power. The household quality index includes the following outcomes among children ages 10 and under from the 5% extract of the 1960 Census: dwelling has own kitchen, hot water, shower/bath, toilet, public sewer system, phone, washing machine, dryer, freezer, air conditioner, full plumbing; dwelling has more than one room; dwelling was built within the last 30 years; dwelling is in sound condition; dwelling is not in dilapidated condition; it also includes the number of cars owned.

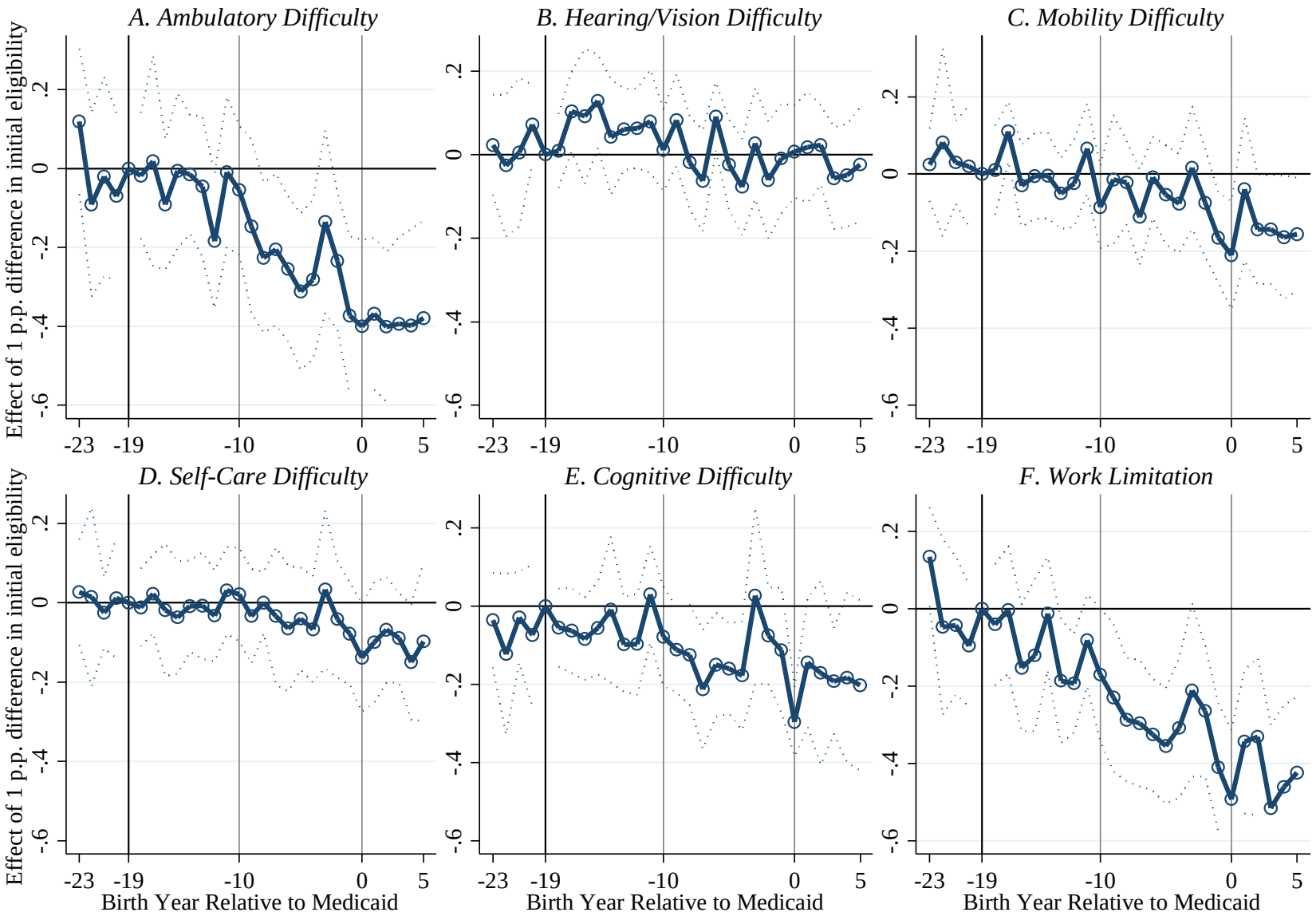
APPENDIX 3. ADDITIONAL HEALTH RESULTS

Figure A3.1. Event-Study Estimates for Ambulatory Difficulty by Model



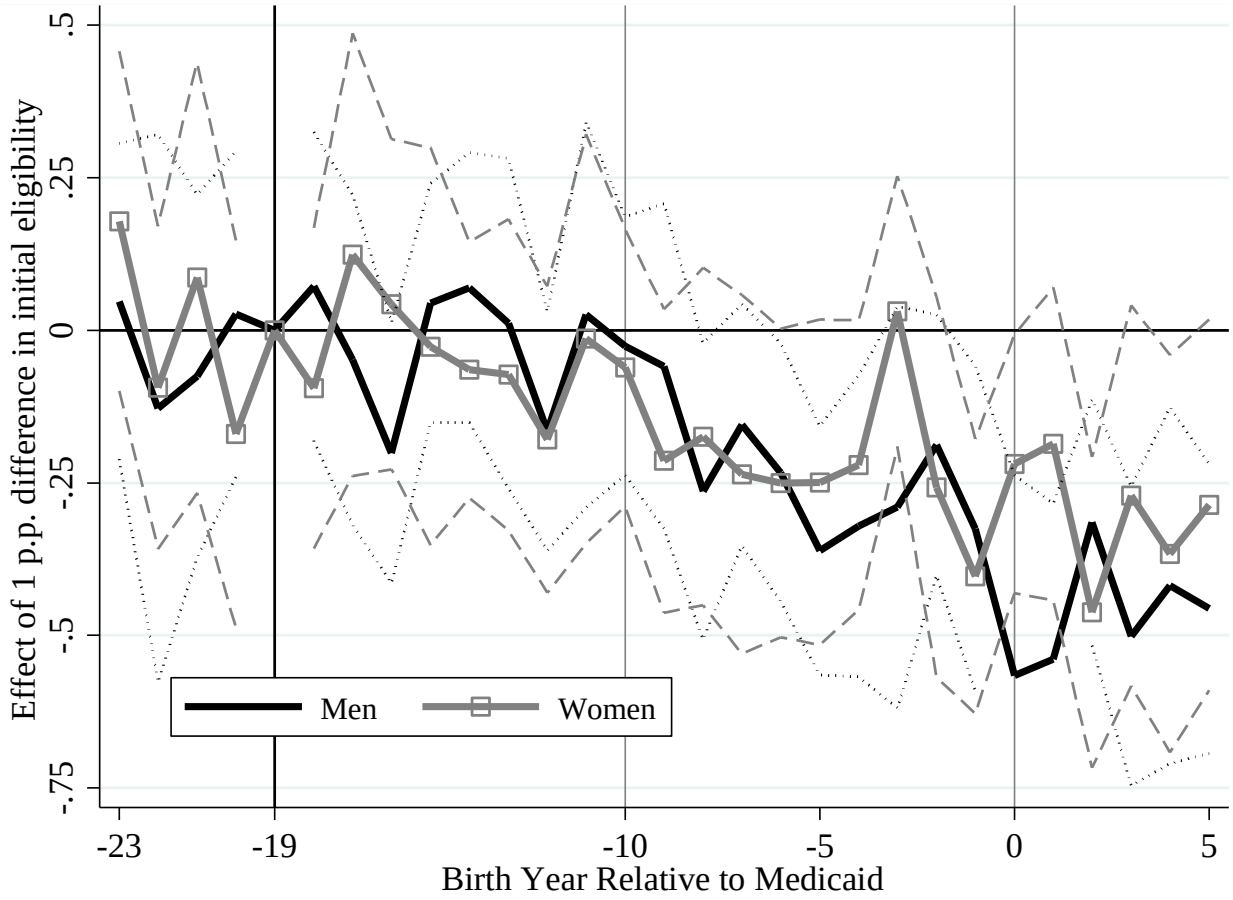
Notes: Estimates correspond to panel A of table 4. Sample includes white adults, 25-64, born between 1936 and 1976, in the 2000-2007 Census/ACS.

Figure A3.2. Event-Study Estimates for All Disability Measures



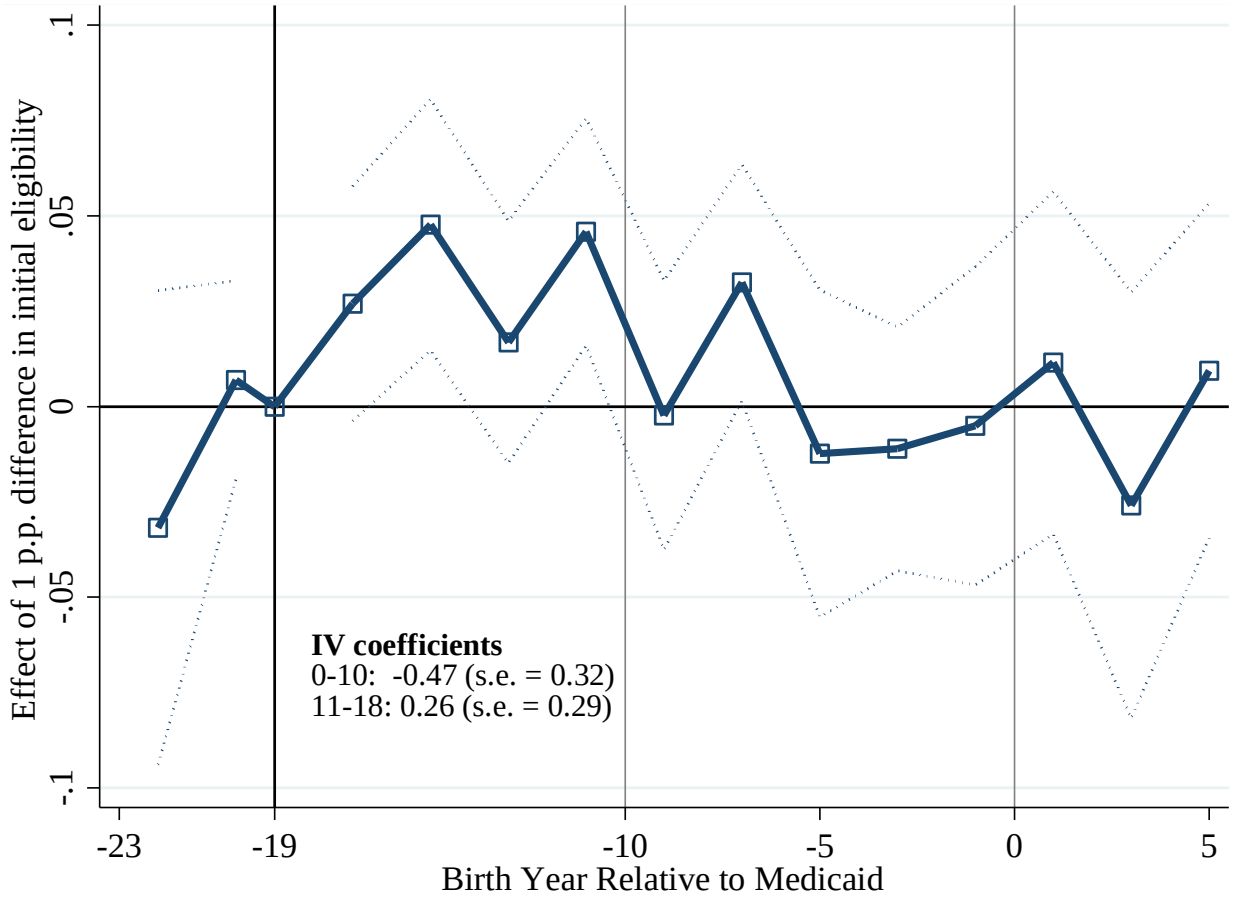
Notes: Estimates correspond to panel A of table 5. Sample includes white adults, 25-64, born between 1936 and 1976, in the 2000-2007 Census/ACS.

Figure A3.3. Event-Study Estimates for Ambulatory Difficulty by Sex



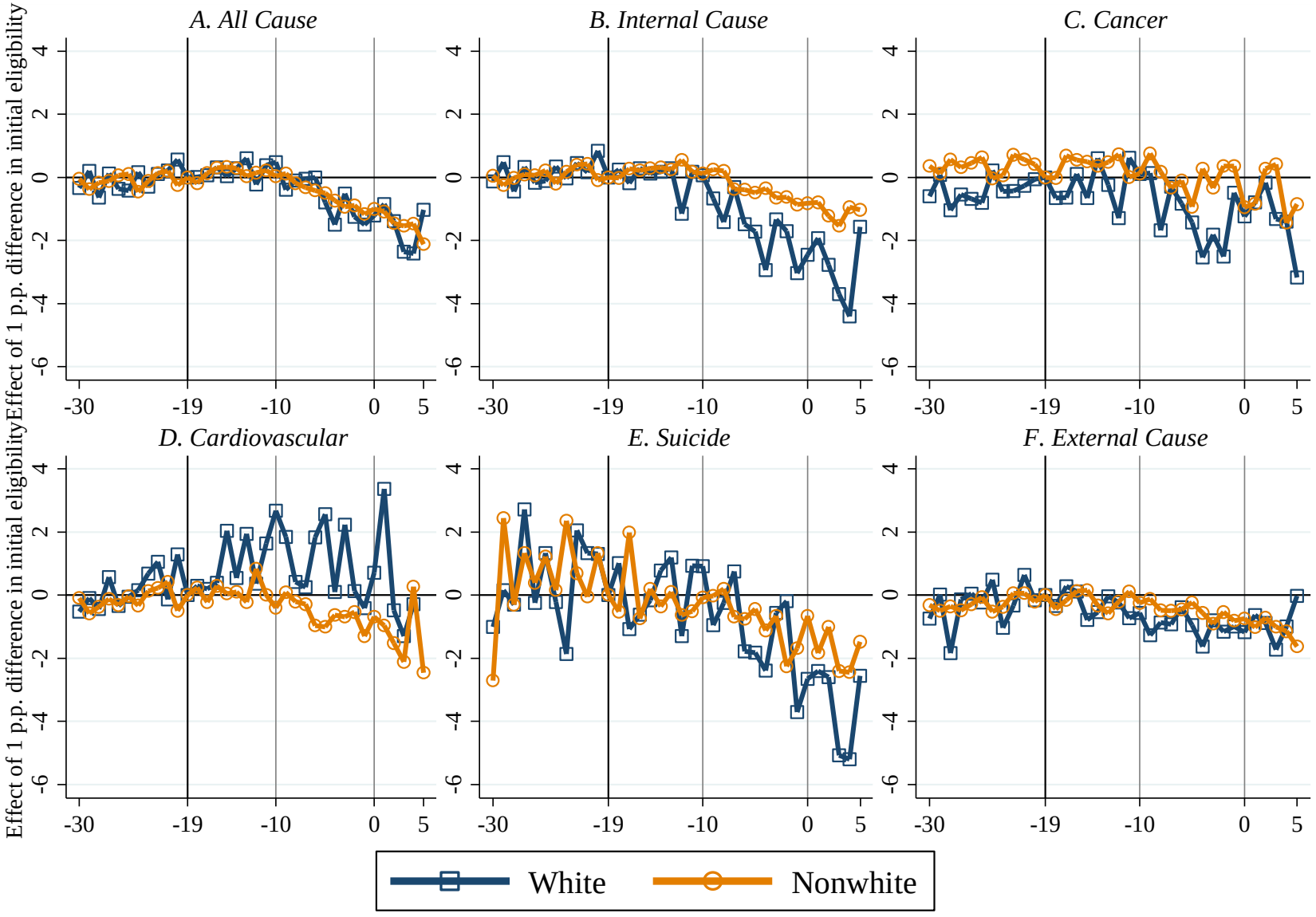
Notes: The specification is the same as in figure 5; the sample consists of state-of-birth-by-cohort-by-survey-year-by-sex means.

Figure A3.4. Event-Study Estimates for Residence in Group Quarters



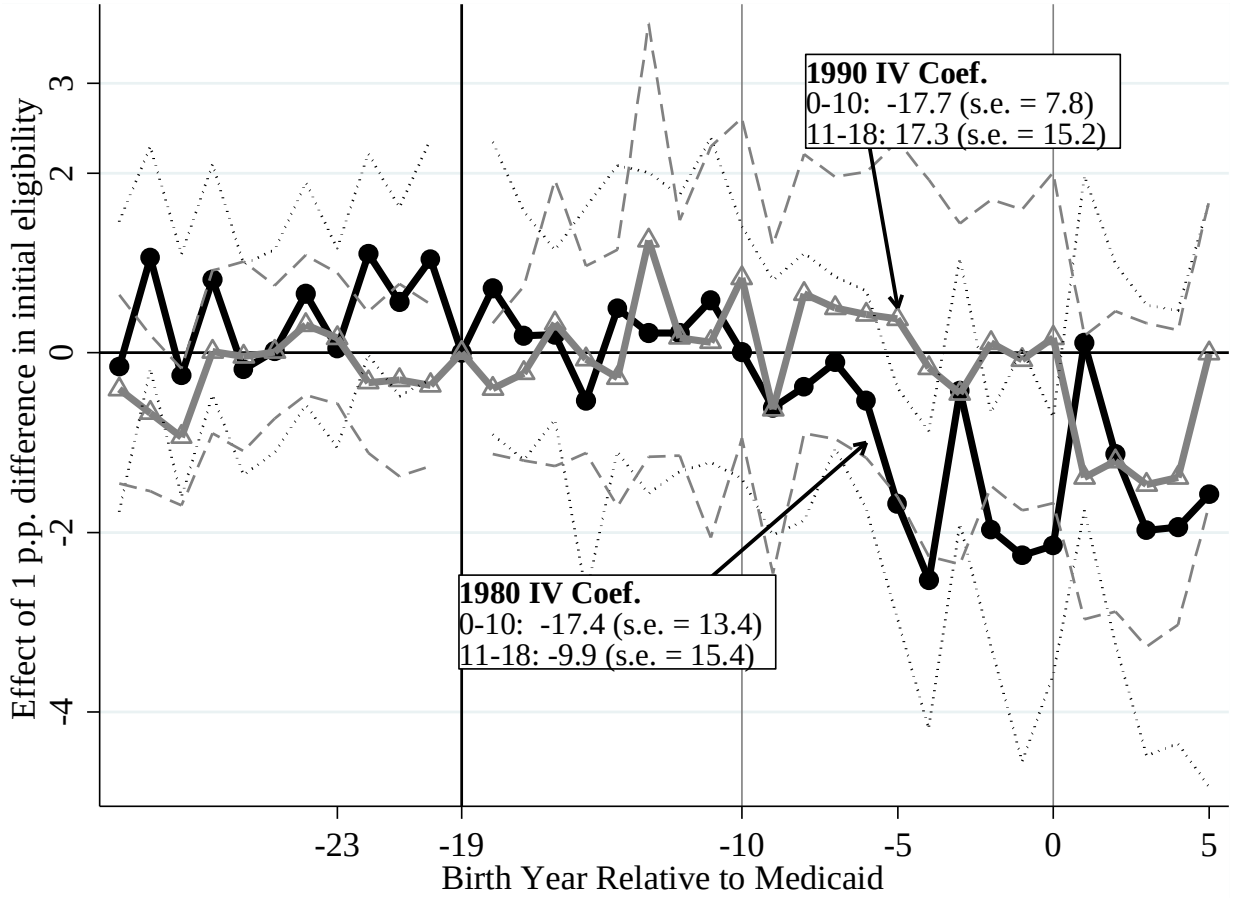
Notes: The specification corresponds to the one in figure 5, except that, to reduce noise, the event-study coefficients are in groups of two: [-23,-22], [-21,-20], [-18,-17], [-16,-15]…[2,3], [4,5].

Figure A3.5. Event-Study Estimates for Cause-Specific 20-Year Mortality



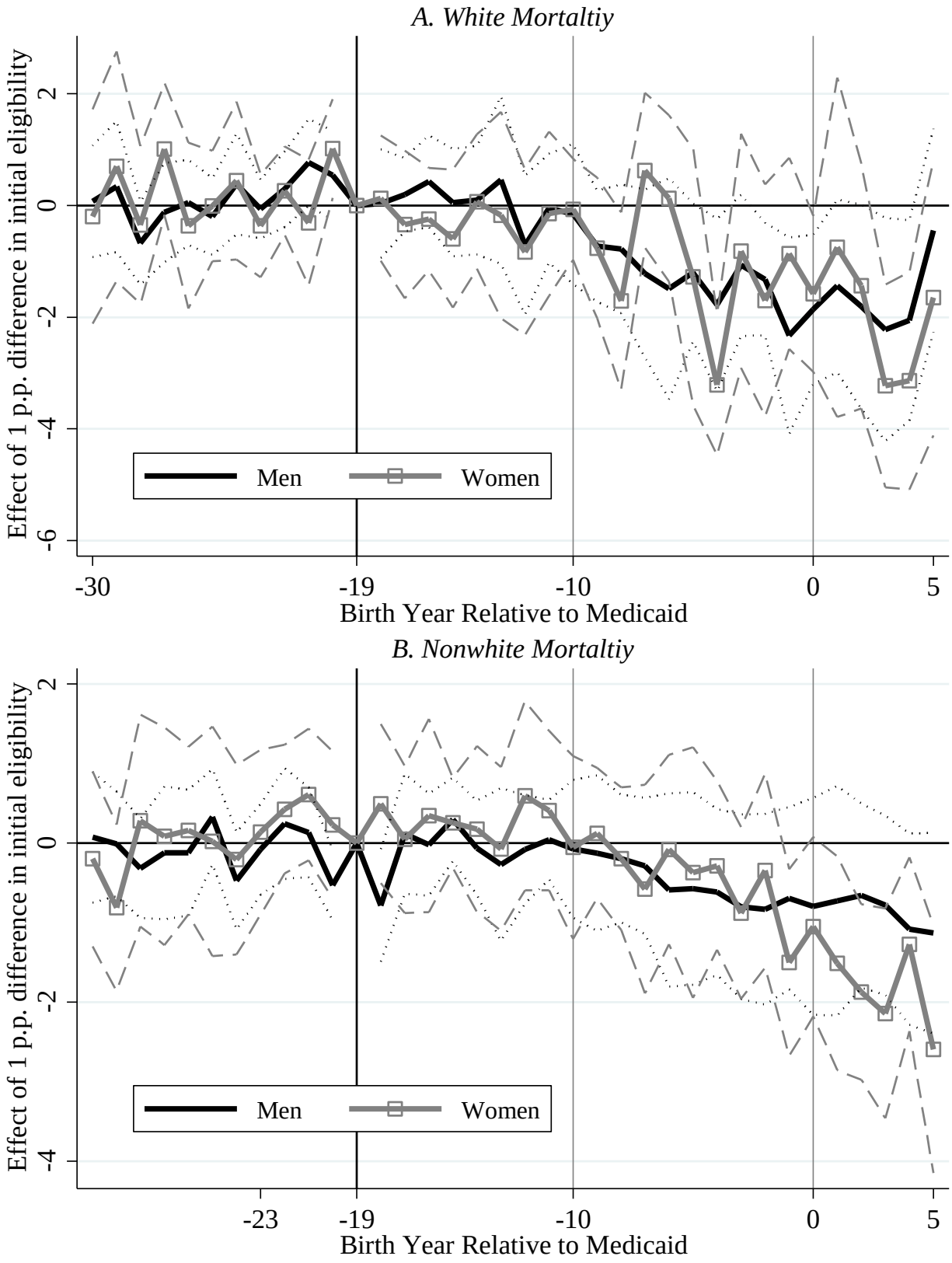
Notes: Estimates correspond to panel A of table 3.

Figure A3.6. Event-Study Estimates for 10-Year Cumulative Mortality Rates: 1980-1989, 1990-1999



Notes: The specification is the same as in figure 5, but the outcome variable equals the log of 10-year mortality rates, defined as the count of white deaths in each 10-year interval divided by Census-based population by birth state in 1980 and 1990.

Figure A3.7. Event-Study Estimates for 20-Year Mortality by Sex



Notes: see notes to figure 4.

Table A3.1. IV Estimates for Ambulatory Difficulty by Model, 2008-2014

	(1)	(2)	(3)	(4)	(5)	(6)
Childhood Medicaid Eligibility			*A. White Adults, 2008-2014*			
Ages 0-10	-1.11	-3.47	-4.17	-1.71	-3.29	-2.75
	[1.98]	[1.31]	[1.89]	[1.]	[1.3]	[0.76]
Ages 11-18	4.22	1.25	2.94	2.21	1.40	0.45
	[2.17]	[1.91]	[2.55]	[2.89]	[1.95]	[1.07]
H_0: 0-10 = 11-18 (*p*-val)	0.05	0.13	0.08	0.11	0.14	0.04
Observations			1,584		94,434	
Childhood Medicaid Eligibility			*B. Nonwhite Adults, 2008-2014*			
Ages 0-4	0.29	0.17	-1.88	0.42	0.52	-2.08
	[0.86]	[1.51]	[2.73]	[0.79]	[1.57]	[1.31]
Ages 5-18	0.09	0.00	-0.64	0.24	0.12	-0.24
	[0.59]	[0.83]	[1.21]	[0.46]	[0.84]	[0.86]
H_0: 0-4 = 5-18 (*p*-val)	0.80	0.85	0.68	0.82	0.66	0.03
Observations			1,583		138,182	60,362
Covariates	Initial eligibility + Time-to-Medicaid FE	(1) + State FE+ Year FE + Medicaid-Year-by-Cohort FE + Region-by-Cohort FE + Xst		(2) + State-specific cohort trends	(2) + Cohort-by-Year-by-Unemployment-Rate interactions	(2) + Cohort-by-state-of-residence FE
Weighted?	Y	Y	N	Y	Y	Y
Dataset		State-of-birth/cohort			State-of-residence/state-of-birth/cohort/year	State-of-residence/state-of-birth/cohort

Notes: The table is comparable to table 4, but the sample includes survey years 2008-2014, after the changes to disability question text. After 2007, the ambulatory difficulty question no longer includes “reaching, lifting, or carrying” in the prompt.

Table A3.2. IV Estimates for All Disability Measures by Sex, White Adults

	(1) Ambulatory Difficulty	(2) Hearing/Vision Difficulty	(3) Mobility Difficulty	(4) Self-Care Difficulty	(5) Cognitive Difficulty	(6) Work Limitation
Childhood Medicaid Eligibility			*A. White Men, 2000-2007*			
Ages 0-10	-5.14	-1.92	-2.29	-2.03	-2.45	-4.05
	[1.91]	[0.63]	[0.71]	[0.62]	[0.87]	[1.31]
Ages 11-18	-0.43	0.92	0.97	1.42	1.10	-2.39
	[1.58]	[0.82]	[0.6]	[0.63]	[1.2]	[1.37]
H_0: 0-10 = 11-18 (*p*-val)	0.13	0.01	0.01	<0.01	0.07	0.43
Mean Dependent Variable	8.26	3.84	3.42	2.09	4.37	8.49
Childhood Medicaid Eligibility			*B. White Women, 2000-2007*			
Ages 0-10	-2.57	-0.45	-0.45	-0.47	-0.99	-1.97
	[0.72]	[0.41]	[0.73]	[0.41]	[0.49]	[0.49]
Ages 11-18	-1.83	-0.32	-2.31	-0.70	-0.46	-1.91
	[1.62]	[0.81]	[1.1]	[0.67]	[0.59]	[1.27]
H_0: 0-10 = 11-18 (*p*-val)	0.69	0.91	0.27	0.81	0.57	0.96
Mean Dependent Variable	8.96	2.47	4.08	2.45	4.45	8.51
	Does this person have any of the following long-lasting conditions:		Because of a physical, mental, or emotional condition lasting ≥ 6 months does this person have any difficulty:			
Question Text	...that substantially limits ≥1 basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	Blindness, deafness, or a severe vision or hearing impairment?	Going outside the home alone to shop or visit a doctor's office?	Dressing, bathing, or getting around inside the home?	Learning, remembering, or concentrating?	Working at a job or business?

Notes: The table presents instrumental variables estimates of childhood Medicaid exposure on self-reported disabilities for whites by sex. See notes to table 5.

Table A3.3. IV Estimates for 20-Year Non-AIDS Mortality by Model

	(1)	(2)	(3)	(4)
Childhood Medicaid Eligibility		*A. White Adults, 1980-1999*		
Ages 0-10	-11.1	-15.5	-18.2	-18.4
	[4.0]	[5.4]	[8.9]	[7.4]
Ages 11-18	-4.7	-11.0	-7.0	-16.3
	[20.8]	[7.2]	[10.8]	[10.3]
H_0: 0-10 = 11-18 (*p*-val)	0.76	0.70	0.54	0.84
Observations		1,967		
Childhood Medicaid Eligibility		*B. Nonwhite Adults, 1980-1999*		
Ages 0-10	-8.9	-19.6	-43.8	-3.2
	[5.4]	[9.4]	[11.0]	[6.0]
Ages 11-18	4.6	4.8	-15.3	9.3
	[6.6]	[7.0]	[9.1]	[5.0]
H_0: 0-10 = 11-18 (*p*-val)	0.06	0.06	0.03	0.03
Observations		1,937		
Covariates	Initial eligibility + Time-to-Medicaid FE	(1) + State FE+ Year FE + Medicaid-Year-by-Cohort FE + Region-by-Cohort FE + Xst		(2) + State-specific cohort trends
Weighted?	Y	Y	N	Y

Notes: see notes to table 3.

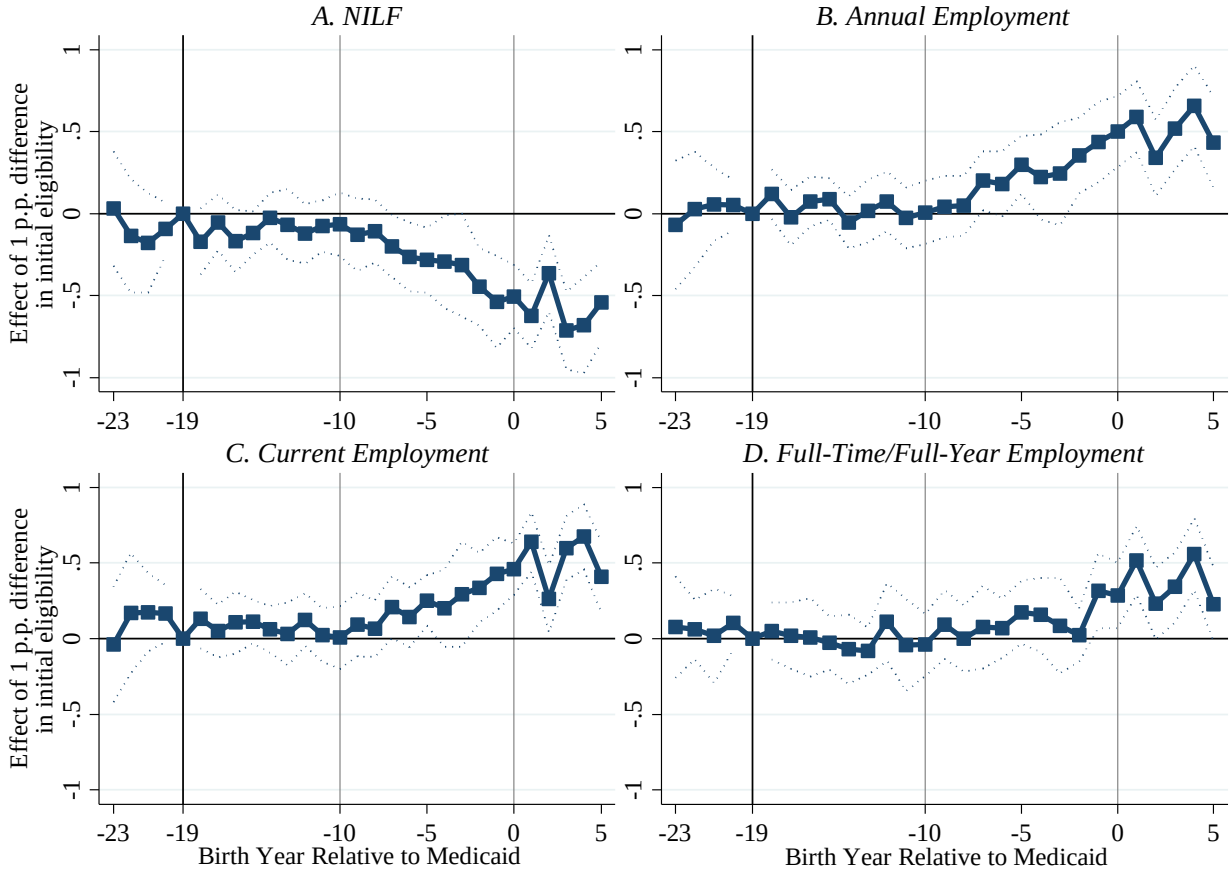
Table A3.4. IV Estimates for 20-Year Mortality by Sex

Cause of Death:	(1) All-Cause	(2) Non-AIDS	(3) Internal	(4) Cancer	(5) Cardiovascular	(6) Suicide	(7) External
Childhood Medicaid Eligibility			*A. White Men, 1980-1999*				
Ages 0-10	-26.8	-16.7	-39.5	-22.5	-31.4	-42.4	0.6
	[12.0]	[6.4]	[9.7]	[10.9]	[12.3]	[9.5]	[7.0]
Ages 11-18	8.7	-10.1	-9.5	9.5	38.2	-1.6	-12.4
	[17.2]	[8.6]	[10.0]	[11.2]	[14.0]	[12.1]	[14.4]
H_0: 0-10 = 11-18 (*p*-val)	0.21	0.63	0.11	0.07	0.00	0.05	0.50
Mean Dependent Variable (deaths per 100,000)	6,390	5,450	4,270	1,560	1,880	465	1,220
Childhood Medicaid Eligibility			*B. White Women, 1980-1999*				
Ages 0-10	-23.2	-17.1	-17.1	-21.5	-8.1	-39.4	-16.1
	[8.1]	[6.7]	[6.2]	[12.0]	[12.9]	[21.1]	[11.0]
Ages 11-18	12.3	-10.4	-4.6	-3.3	29.6	3.1	4.0
	[13.0]	[9.3]	[7.0]	[12.2]	[13.3]	[16.4]	[17.7]
H_0: 0-10 = 11-18 (*p*-val)	0.08	0.66	0.27	0.38	0.13	0.19	0.43
Mean Dependent Variable (deaths per 100,000)	4,410	3,810	3,360	1,840	1,040	144	459
Childhood Medicaid Eligibility			*C. Nonwhite Men, 1980-1999*				
Ages 0-10	-35.8	-20.8	-25.3	-11.8	-25.7	-9.9	-10.0
	[15.3]	[10.4]	[8.4]	[11.3]	[11.1]	[11.5]	[9.1]
Ages 11-18	5.4	2.2	2.4	-3.4	1.2	4.4	7.2
	[10.0]	[7.5]	[6.1]	[7.2]	[7.8]	[7.4]	[7.2]
H_0: 0-10 = 11-18 (*p*-val)	0.06	0.10	0.03	0.56	0.08	0.13	0.11
Mean Dependent Variable (deaths per 100,000)	13,800	9,920	7,120	2,440	3,800	312	2,950
Childhood Medicaid Eligibility			*D. Nonwhite Women, 1980-1999*				
Ages 0-10	-35.0	-30.3	-29.8	-26.6	-32.5	-6.1	-26.5
	[12.6]	[8.7]	[9.0]	[10.1]	[14.6]	[12.2]	[10.1]
Ages 11-18	16.9	10.4	12.9	10.1	13.2	-16.4	3.8
	[16.3]	[10.5]	[10.6]	[11.3]	[13.0]	[10.3]	[9.2]
H_0: 0-10 = 11-18 (*p*-val)	0.03	0.01	0.01	0.01	0.05	0.51	0.07
Mean Dependent Variable (deaths per 100,000)	10,500	7,660	6,840	2,770	3,410	75	877

Notes: see notes to table 3.

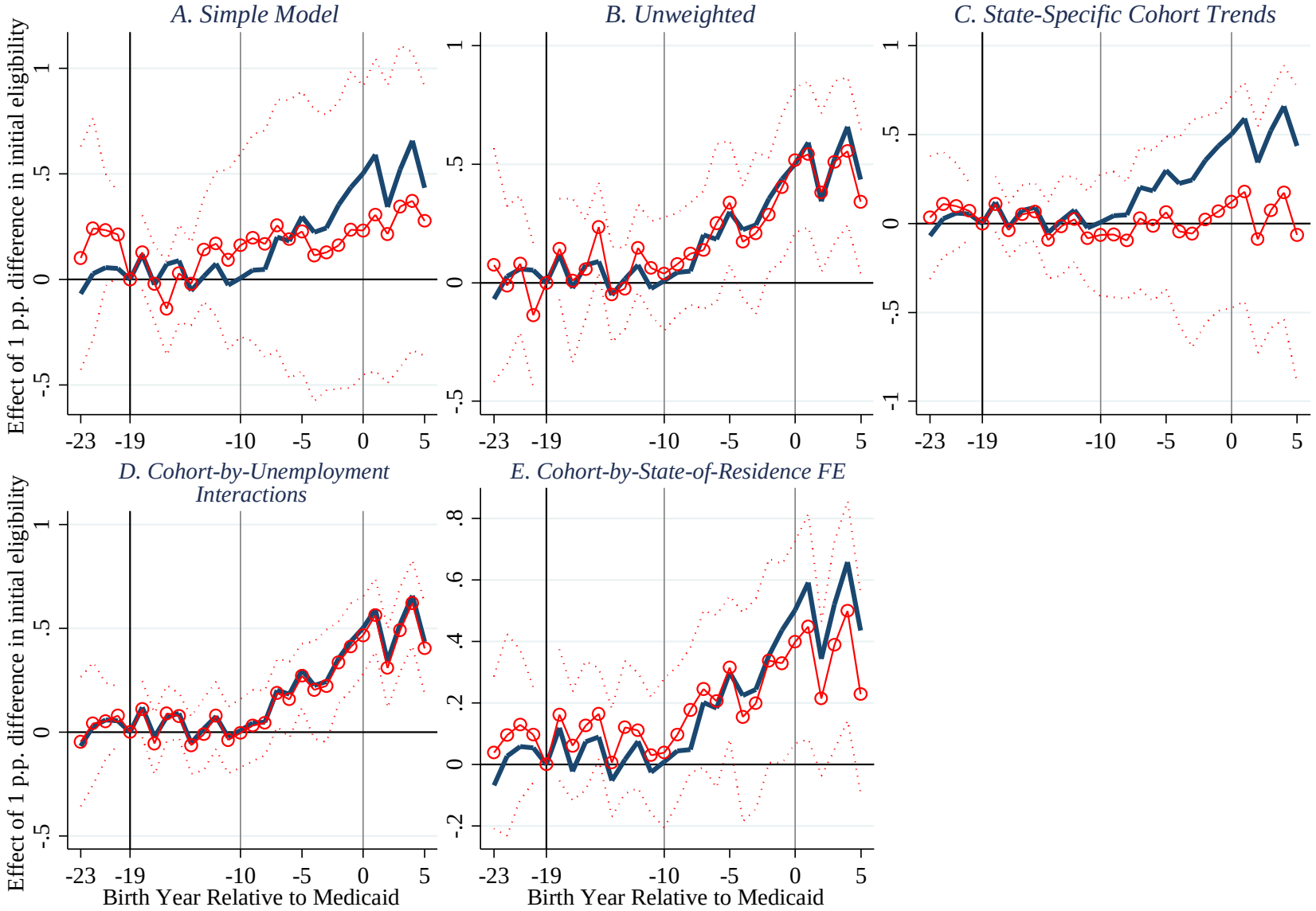
APPENDIX 4. ADDITIONAL LABOR SUPPLY AND PROGRAM PARTICIPATION RESULTS

Figure A4.1. Event-Study Estimates for All Labor Supply Measures



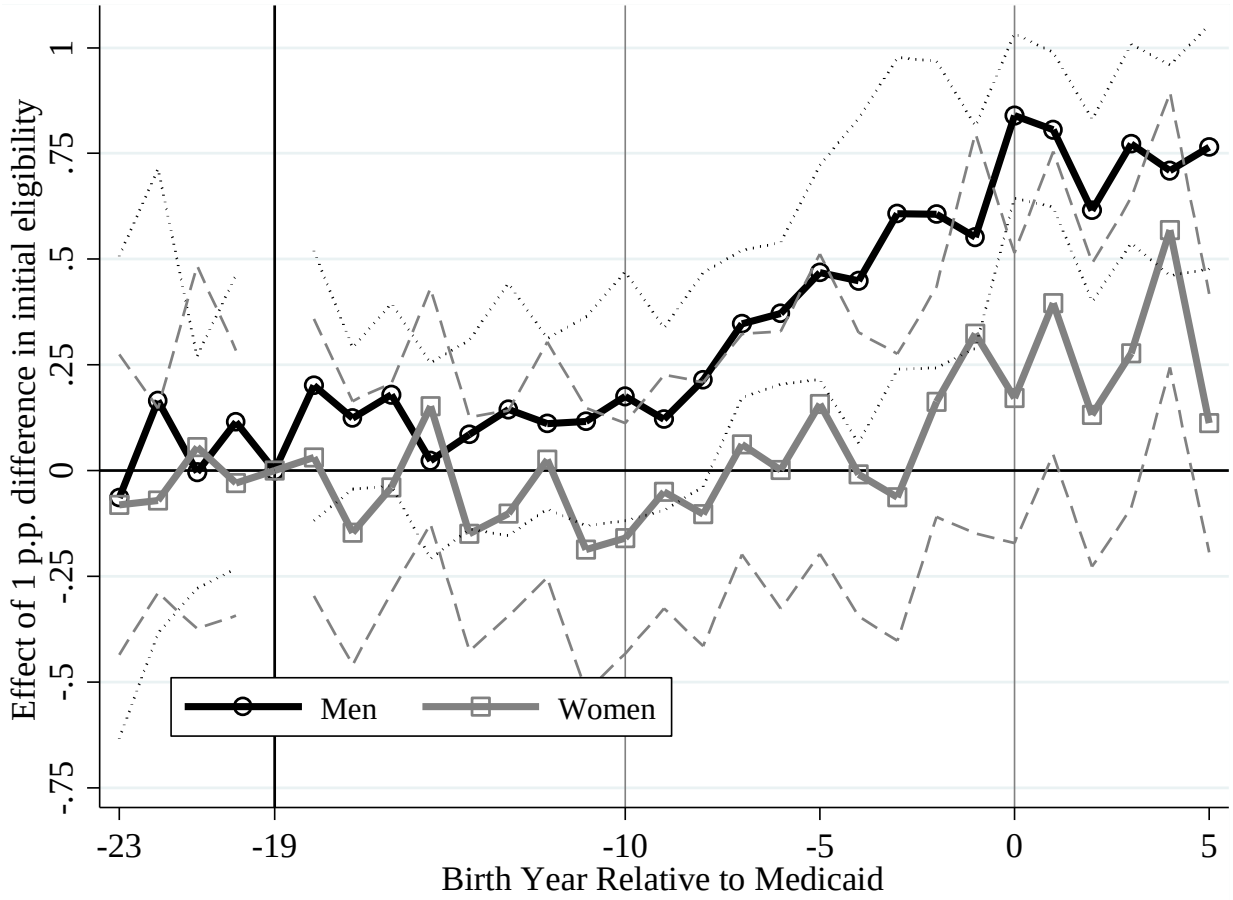
Notes: The estimates correspond to table 7.

Figure A4.2. Event-Study Estimates for Annual Employment by Model



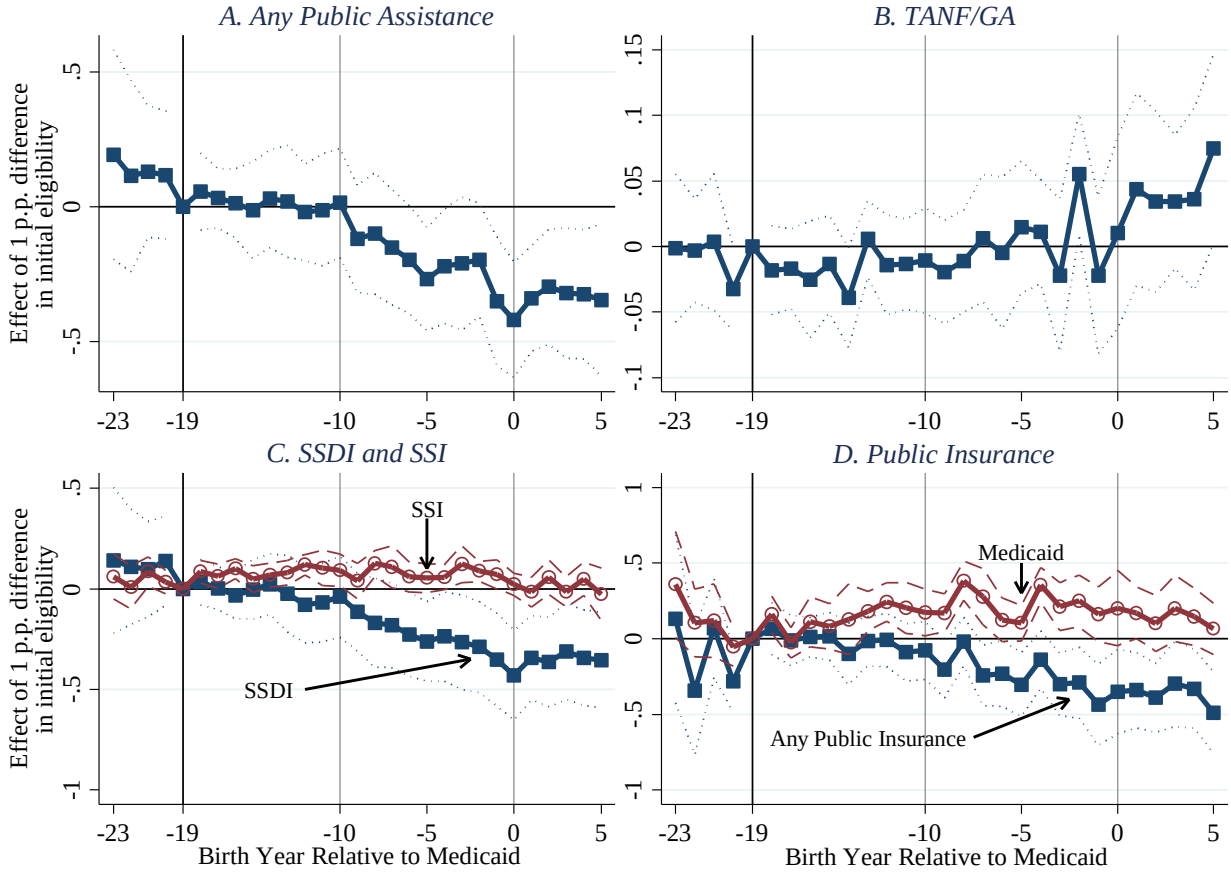
Notes: see notes to table 4. Sample includes 2000-2014 Census/ACS.

Figure A4.3. Event-Study Estimates for Annual Employment by Sex



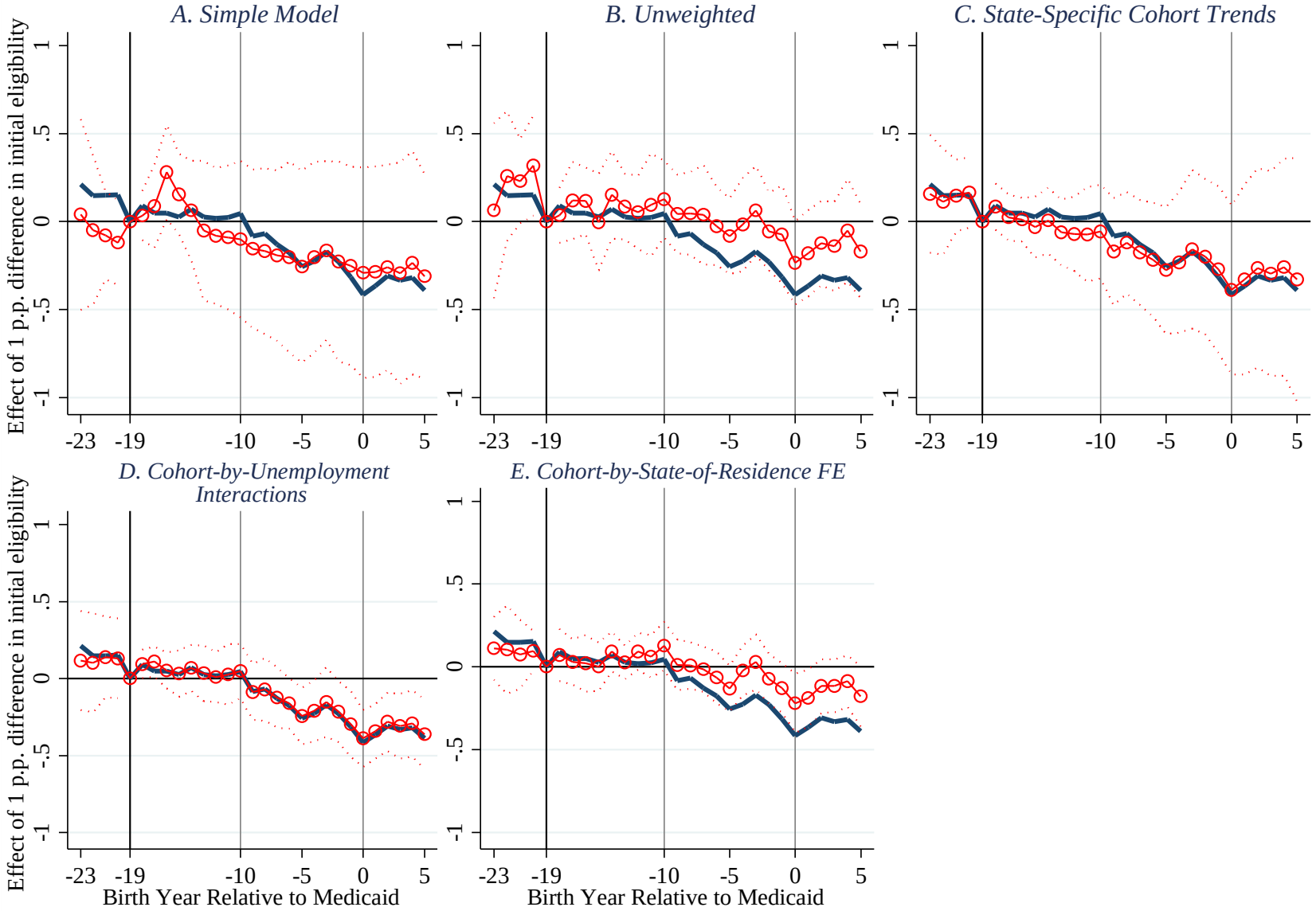
Notes: Estimates correspond to figure 6.

Figure A4.4. Event-Study Estimates for All Public Assistance Measures



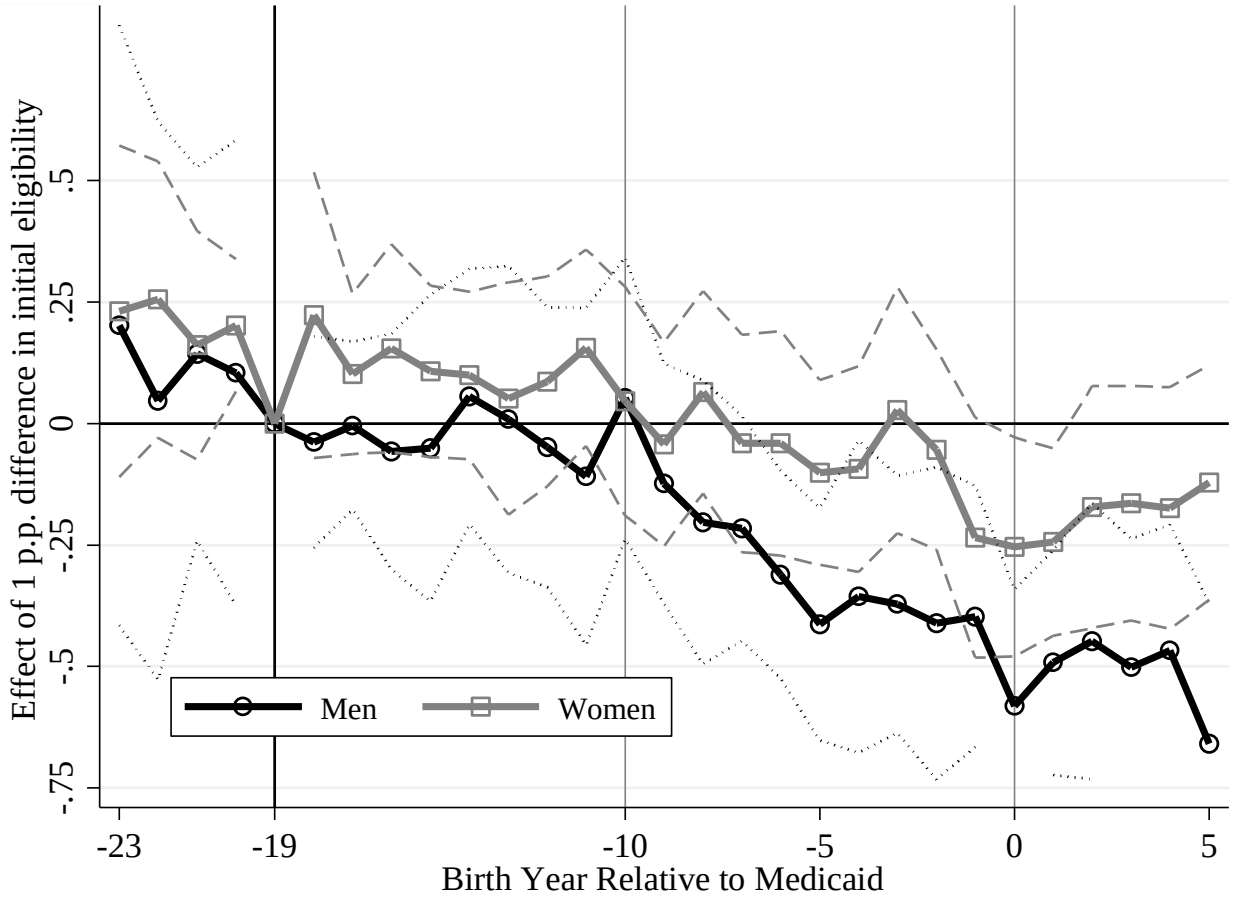
Notes: The estimates correspond to table 8. Effects on disability benefits are shown separately for Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI), and public insurance estimates are shown for both any public insurance and Medicaid.

Figure A4.5. Event-Study Estimates for Disability Benefits by Model



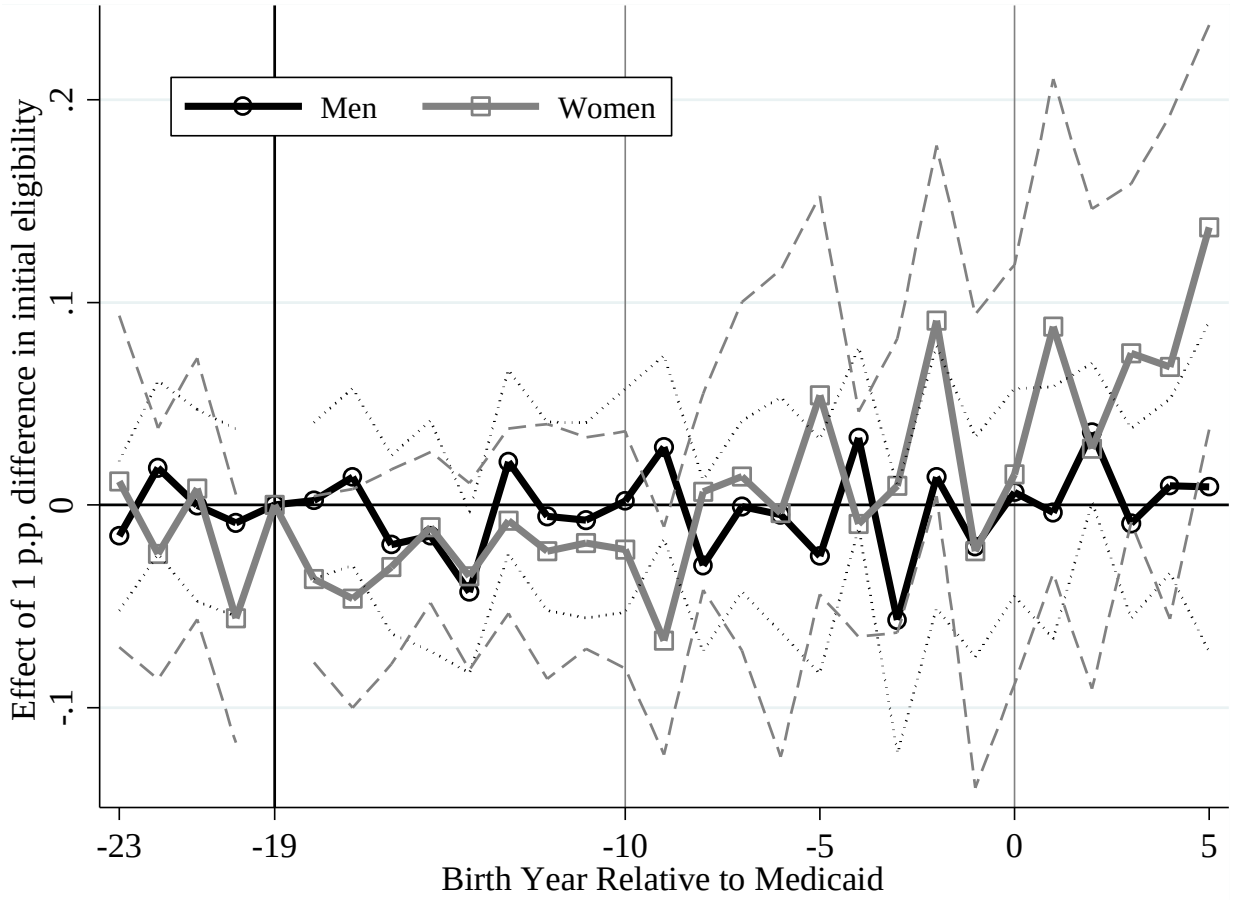
Notes: see notes to table 4.

Figure A4.6. Event-Study Estimates for Disability Benefits by Sex



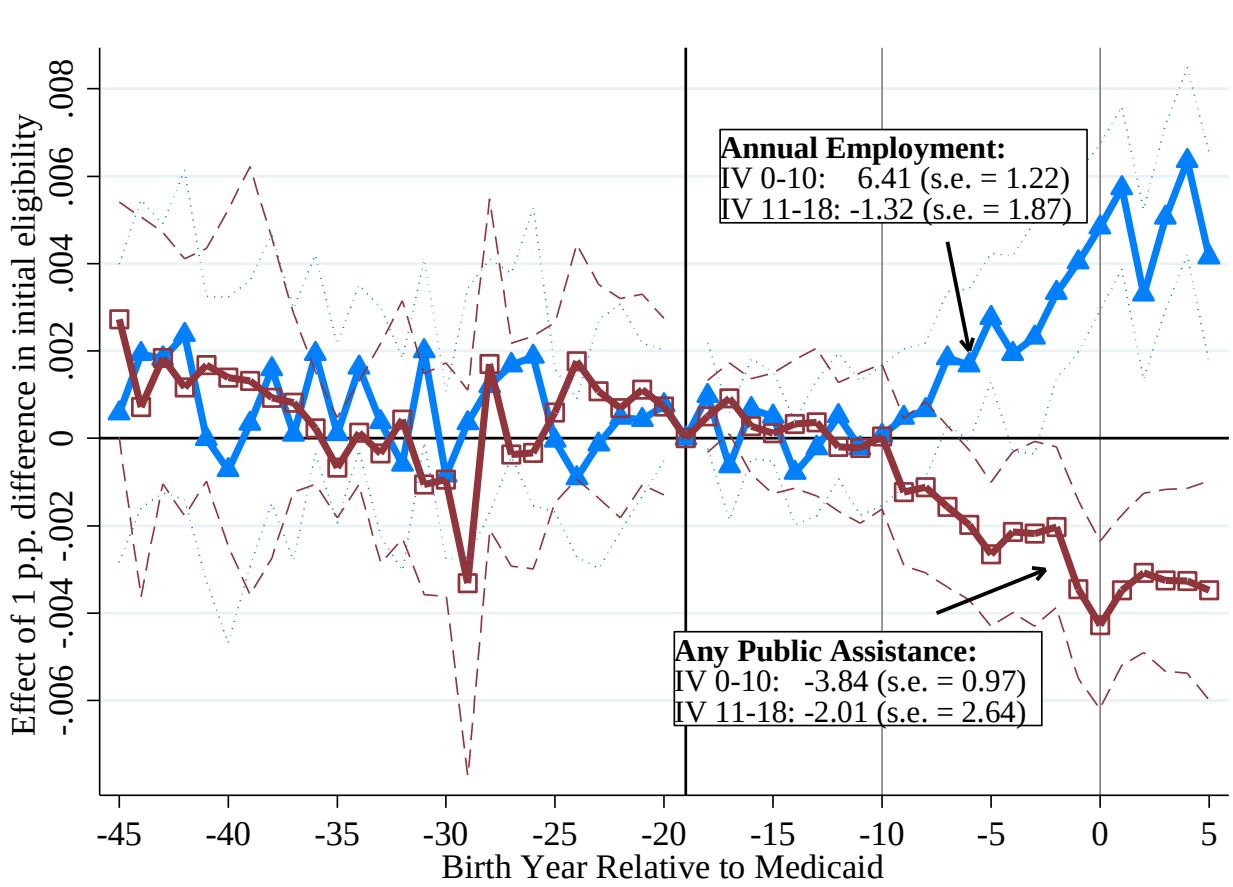
Notes: Estimates correspond to figure 6.

Figure A4.7. Event-Study Estimates for TANF/GA Receipt by Sex



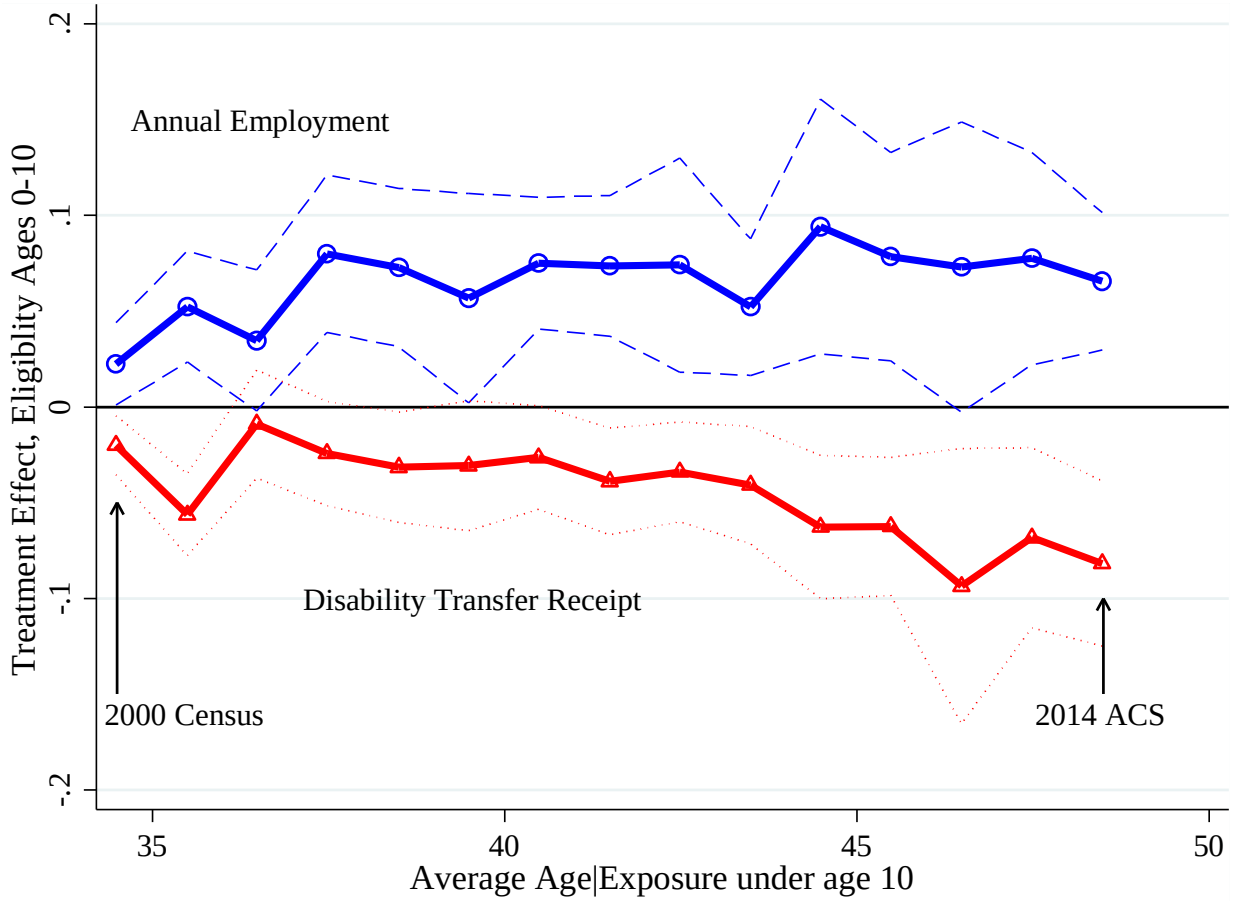
Notes: Estimates correspond to figure 6 and column 3 of table 8.

Figure A4.8. Event-Study Estimates for Employment and Any Public Assistance, Extended Sample



Notes: The estimates correspond to figure 6 except that the maroon series is for any public assistance (panel A of figure A4.4) rather than for disability public assistance. The specification interacts the region-by-year and Medicaid-by-year fixed effects with dummies for 1980 and 1990 Census years. The continuous covariates are not available in all years, so I set them to zero when they are missing and include dummies for cells in which they are available.

Figure A4.9. Instrumental Variables Estimates of the Effect of Medicaid Eligibility Before Age 10 on Disability Transfer Receipt and Employment by Survey Year



Notes: The figure plots IV estimates comparable to those in the main text but estimated separately for every survey year between 2000 and 2014, rather than on data collapsed across follow-up waves. Each point comes from a separate regression for a survey year, but the results are plotted against the average age of respondents with early childhood coverage. The average age of respondents with any childhood Medicaid exposure under age 10 increases from about 34.5 in 2000 to 48.5 in 2014.

Table A4.1. IV Estimates for Annual Employment by Model

	(1)	(2)	(3)	(4)	(5)	(6)
Childhood Medicaid Eligibility			*A. White Adults, 2000-2014*			
Ages 0-10	1.23	6.38	5.38	2.39	6.28	3.74
	[1.67]	[1.4]	[1.64]	[1.53]	[1.41]	[1.01]
Ages 11-18	0.67	-1.08	0.67	-2.19	-1.22	-0.11
	[4.7]	[2.13]	[2.71]	[2.83]	[1.94]	[1.28]
H0: 0-10 = 11-18 (*p-val*)	0.89	0.01	0.13	0.05	0.00	0.02
Observations			1,962			95,953
Childhood Medicaid Eligibility			*B. Nonwhite Adults, 2000-2014*			
Ages 0-4	2.18	2.91	-1.01	0.23	1.59	1.42
	[0.85]	[2.09]	[1.23]	[1.19]	[1.69]	[1.55]
Ages 5-18	0.00	0.62	-0.13	-0.03	0.26	0.42
	[0.44]	[1.07]	[0.82]	[0.79]	[0.97]	[0.83]
H0: 0-4 = 5-18 (*p-val*)	0.01	0.09	0.52	0.75	0.20	0.30
Observations			1,962			65,843
Covariates	Initial eligibility + Time-to-Medicaid FE	(1) + State FE+ Year FE + Medicaid-Year-by-Cohort Fe + Region-by-Cohort FE + Xst		(2) + State-specific cohort trends	(2) + Cohort-by-Year-by-Unemployment-Rate interactions	(2) + Cohort-by-state-of-residence FE
Weighted?	Y	Y	N	Y	Y	Y
Dataset		State-of-birth/cohort			State-of-residence/state-of-birth/cohort	State-of-residence/state-of-birth/cohort/year

Notes: see notes to table 4.

Table A4.2. IV Estimates for All Labor Supply Measures by Sex

	(1) Out of the Labor Force	(2) Currently Employed	(3) Any Employment Last Year	(4) Full-Time/Full-Year Employment
Childhood Medicaid Eligibility		*A. White Men, 2000-2014*		
Ages 0-10	-7.16	6.44	7.36	5.60
	[1.96]	[1.76]	[1.97]	[1.0]
Ages 11-18	-2.27	1.09	1.93	-2.22
	[2.45]	[2.25]	[2.13]	[2.20]
H_0: 0-10 = 11-18 (*p*-val)	0.09	0.06	0.04	<0.01
Mean Dependent Variable	15.8	80.0	86.5	63.5
Childhood Medicaid Eligibility		*B. White Women, 2000-2014*		
Ages 0-10	-6.50	5.70	5.73	4.33
	[1.61]	[1.38]	[1.47]	[1.43]
Ages 11-18	5.28	-5.46	-4.07	-2.48
	[2.42]	[2.22]	[2.14]	[2.5]
H_0: 0-10 = 11-18 (*p*-val)	<0.01	<0.01	<0.01	0.03
Mean Dependent Variable	28.1	68.5	75.5	39.5

Table A4.3. IV Estimates for Disability Benefits by Model

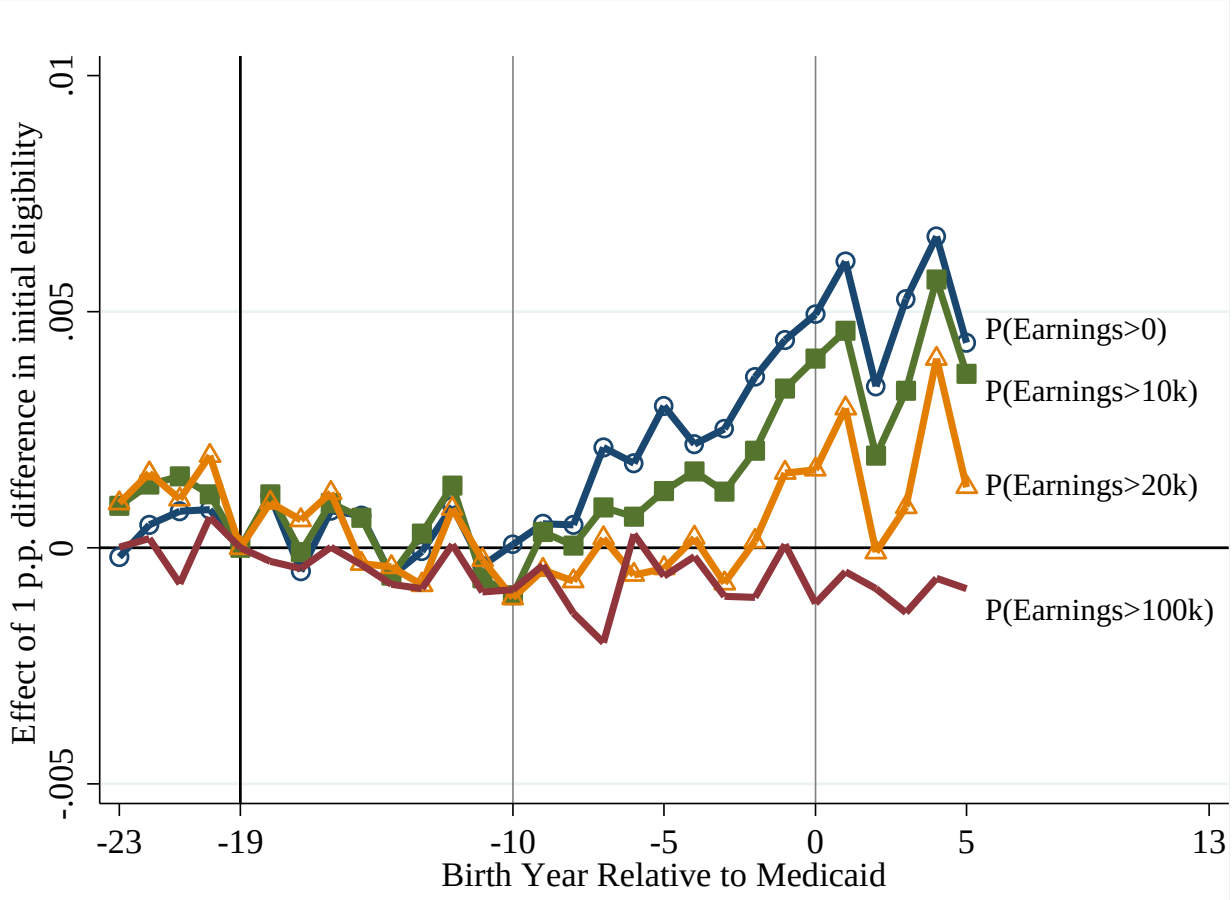
	(1)	(2)	(3)	(4)	(5)	(6)
Childhood Medicaid Eligibility			*A. White Adults, 2000-2014*			
Ages 0-10	-1.92	-4.42	-4.21	-2.24	-4.36	-2.74
	[1.23]	[1.09]	[1.66]	[1.17]	[1.09]	[0.72]
Ages 11-18	-1.54	-2.02	1.23	-2.65	-1.71	0.54
	[5.56]	[2.73]	[3.25]	[3.06]	[2.79]	[1.24]
H0: 0-10 = 11-18 (*p-val*)	0.94	0.40	0.14	0.89	0.35	0.02
Observations			1,962			95,953
Childhood Medicaid Eligibility			*B. Nonwhite Adults, 2000-2014*			
Ages 0-4	-2.48	-0.15	-3.15	-1.65	0.31	-0.83
	[0.72]	[1.15]	[0.78]	[3.14]	[1.06]	[1.22]
Ages 5-18	0.02	-0.03	-0.36	-0.93	0.13	-0.56
	[0.49]	[0.61]	[1.25]	[1.42]	[0.54]	[0.73]
H0: 0-4 = 5-18 (*p-val*)	0.00	0.88	0.03	0.70	0.80	0.74
Observations			1,962			65,843
Covariates	Initial eligibility + Time-to-Medicaid FE	(1) + State FE+ Year FE + Medicaid-Year-by-Cohort Fe + Region-by-Cohort FE + Xst		(2) + State-specific cohort trends	(2) + Cohort-by-Year-by-Unemployment-Rate interactions	(2) + Cohort-by-state-of-residence FE
Weighted?	Y	Y	N	Y	Y	Y
Dataset		State-of-birth/cohort			State-of-residence/state-of-birth/cohort	State-of-residence/state-of-birth/cohort/year

Table A4.5. IV Estimates for All Public Assistance Measures by Sex

	(1) Any Public Assistance	(2) Disability Benefits (SSDI or SSI)	(3) SSDI	(4) SSI	(5) TANF or General Assistance	(6) Public Insurance	(7) Medicaid	(8) Any Insurance
Childhood Medicaid Eligibility				*A. White Men, 2000-2014*				
Ages 0-10	-5.19	-5.47	-4.31	-1.37	0.24	-5.63	-1.85	0.03
	[1.56]	[1.67]	[1.42]	[0.37]	[0.14]	[1.64]	[0.94]	[1.04]
Ages 11-18	-3.31	-3.02	-4.29	1.71	-0.17	1.10	6.37	-1.01
	[2.67]	[2.66]	[2.91]	[0.72]	[0.38]	[2.44]	[2.85]	[1.99]
H0: 0-10 = 11-18 (*p-val*)	0.50	0.38	1.00	0.00	0.38	0.05	0.02	0.67
Mean Dependent Variable	8.9	8.3	6.7	2.0	0.9	14.1	7.1	87.0
Childhood Medicaid Eligibility				*B. White Women, 2000-2014*				
Ages 0-10	-2.17	-3.40	-2.26	-1.36	1.30	-2.58	-0.56	-2.30
	[0.87]	[0.82]	[0.82]	[0.37]	[0.25]	[1.09]	[1.]	[1.2]
Ages 11-18	-1.60	-1.10	-2.27	1.43	-0.35	-1.37	2.27	2.30
	[3.1]	[2.87]	[3.16]	[0.83]	[0.38]	[2.1]	[0.9]	[1.48]
H0: 0-10 = 11-18 (*p-val*)	0.87	0.48	1.00	0.02	0.00	0.63	0.08	0.02
Mean Dependent Variable	10.1	9.2	7.2	2.5	1.4	12.0	8.3	88.8

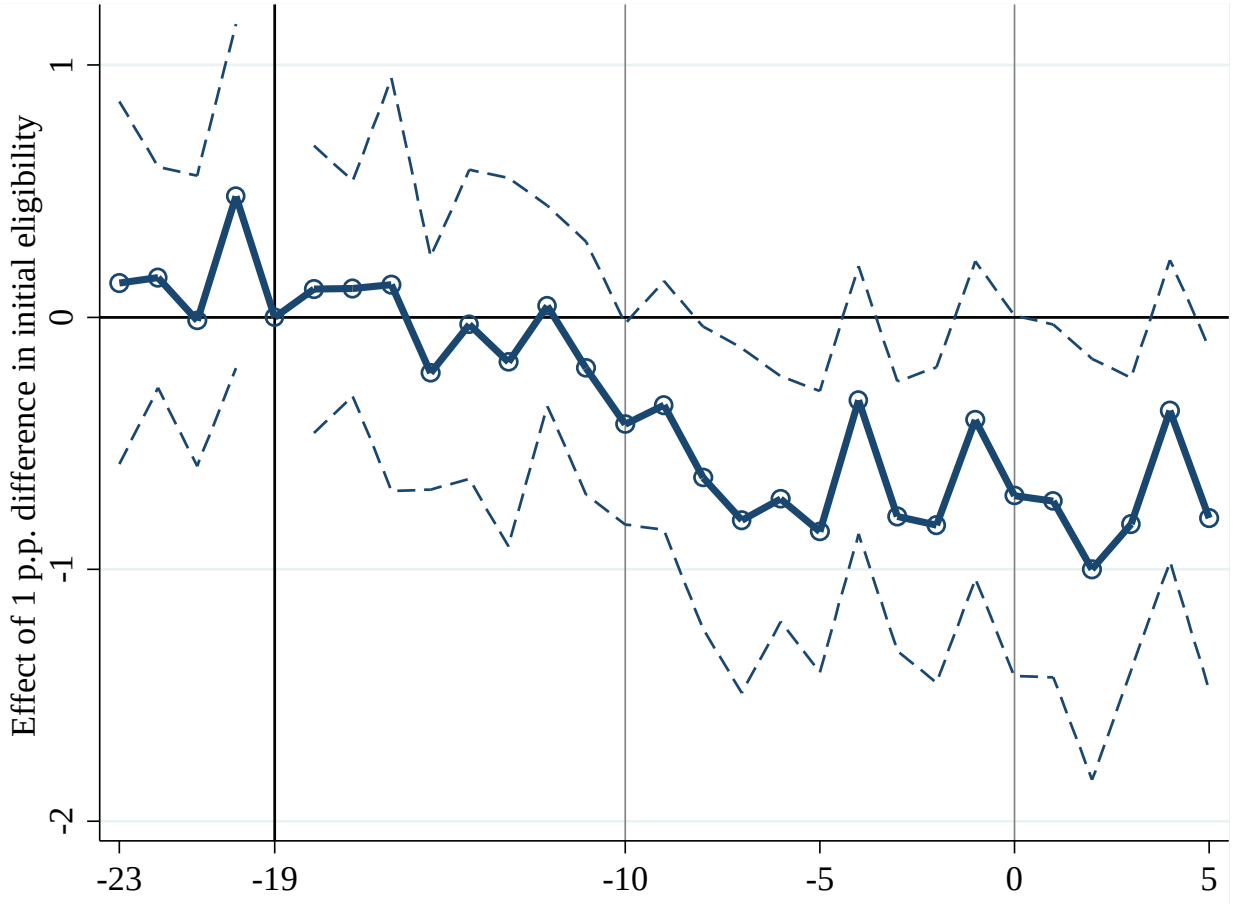
APPENDIX 5. ADDITIONAL INCOME RESULTS

Figure A5.1. Event-Study Estimates for Selected Points in the Earnings Distribution



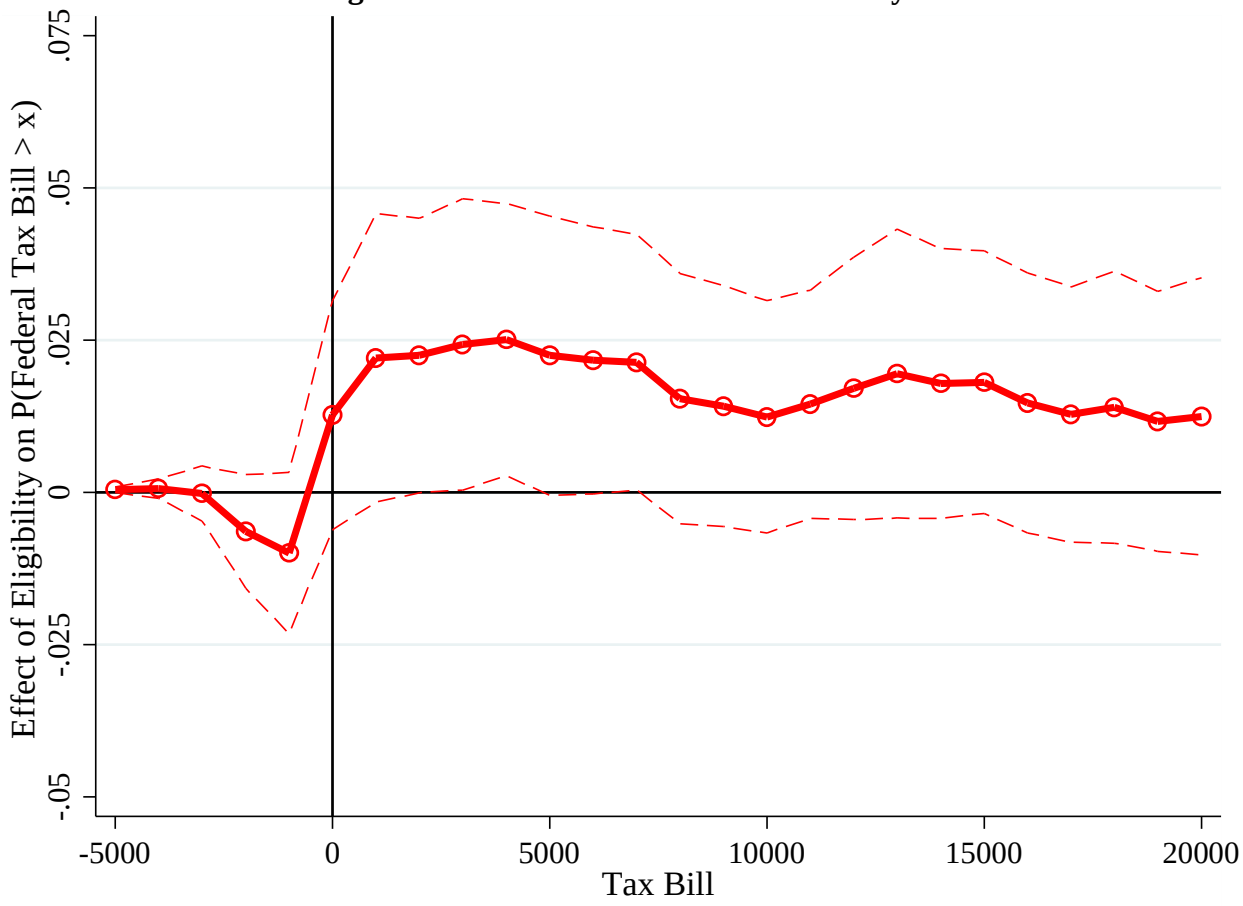
Notes: The figure plots event-study estimates corresponding to selected IV coefficients plotted in figure 7.

Figure A5.2. Selection via Employment: Event-Study Estimates for Log Earnings



Notes: The figure plots event-study estimates for log earnings. Consistent with the large increases in employment at low earnings documented in figure 7, negative selection drives this reduction in log earnings.

Figure A5.3. Instrumental Variables Estimates of the Effect of Medicaid Eligibility Before Age 10 on the Distribution of Tax Liability



The point estimates for positive tax liabilities have the same interpretation as the income results in figure 9. They show that the probability of any tax liability (including payroll taxes) grew. The negative coefficients for negative tax liabilities show that Medicaid increased the amount of mass in the left tail of the tax liability distribution. The difference between estimates at a smaller minus larger cutoff equals the change in the probability of a tax bill in that bin. To see this, note that the estimate at a larger value is roughly $\Delta p(b > x_1)$, and the estimate at a smaller value is roughly $\Delta p(b > x_0) = \Delta p(b > x_1) + \Delta p(x_0 < b \leq x_1)$. Therefore, $\Delta p(b > x_0) - \Delta p(b > x_1)$ equals the change in the probability of a refund between x_0 and x_1. The small point estimates for -5,000, -4,000, and -3,000 show that the probability of very large refunds did not change. The point estimate for -2,000 is negative, which suggests that the probability of refunds between -2,000 and -3,000 went up by a small amount ($\Delta p(b > -3{,}000) - \Delta p(b > -2{,}000) \approx 0 - -0.008 = 0.008$).

APPENDIX 6: RE-SCALING INTENTION-TO-TREAT EFFECTS TO AVERAGE TREATMENT EFFECTS ON THE TREATED

A. Average Treatment Effect on the Treated for log 20-year Mortality Rates

Consider a simple difference-in-differences IV estimate comparing log mortality between two cohorts in two states (0 and 1) with different levels of cumulative eligibility ($m_1^{POST} > m_0^{POST}$ and $m_1^{PRE} = m_0^{PRE} = 0$, defined in equation 1):

$$DD^{ITT} = \frac{[\ln(Y_1^{POST}) - \ln(Y_0^{POST})] - [\ln(Y_1^{PRE}) - \ln(Y_0^{PRE})]}{[m_1^{POST} - m_0^{POST}] - [m_1^{PRE} - m_0^{PRE}]}$$

Let the shares of adults with any childhood eligibility be d_1 and d_0, which implies that cumulative eligibility among the treated is $\frac{m_0^{POST}}{d_0}$ and $\frac{m_1^{POST}}{d_1}$. (Note that the dose among the treated is not ordered even though cumulative eligibility is.) The proportional effect on mortality per year of eligibility is assumed to be constant and equal to δ. Assume also that a fixed share p of every cohort is poor, that their mortality rates are greater than the non-poor by $(1+\sigma)$, and that the treated are only drawn from the poor. For simplicity, assume that $p = d_1 > d_0$ (this is not crucial). This yields the following expressions for pre/post high/low log mortality rates:

$$\ln(Y_j^{PRE}) = \ln\big(p(1+\sigma)y_j^{PRE} + (1-p)y_j^{PRE}\big) = \ln\big(p(1+\sigma) + (1-p)\big) + \ln(y_j^{PRE}) \quad (A1)$$

$$\ln(Y_1^{POST}) = \ln\left(p(1+\sigma)\left(1 + \frac{m_1^{POST}}{d_1}\delta\right)y_1^{POST} + (1-p)y_1^{POST}\right)$$

$$= \ln\Big((1+\sigma)m_1^{POST}\delta + p\sigma + 1\Big) + \ln(y_1^{POST}) \quad (A2)$$

$$\ln(Y_0^{POST}) = \ln(d_0(1+\sigma)(1 + \frac{m_0^{POST}}{d_0}\delta)y_0^{POST} + (p-d_0)(1+\sigma)y_0^{POST} + (1-p)y_0^{POST})$$

$$= \ln\Big((1+\sigma)m_0^{POST}\delta + p\sigma + 1\Big) + \ln(y_0^{POST}) \quad (A3)$$

The numerator of the IV estimate is:

$$\ln\Big((1+\sigma)m_1^{POST}\delta + p\sigma + 1\Big) - \ln\Big((1+\sigma)m_1^{POST}\delta + p\sigma + 1\Big) +$$
$$[\ln(y_1^{POST}) - \ln(y_0^{POST})] - [\ln(y_1^{PRE}) - \ln(y_0^{PRE})]$$

The second line is zero under the common trends assumption. Using $\ln(1+\mathrm{x}) \approx \mathrm{x}$, the terms in the first line approximately equal:

$$(1+\sigma)m_1^{POST}\delta - (1+\sigma)m_0^{POST}\delta = (m_1^{POST} - m_0^{POST})(1+\sigma)\delta$$

The denominator of the DD IV estimator is $(m_1^{POST} - m_0^{POST})$, so the DD ITT effect is approximately equal to the proportional treatment effect per year among the treated times a factor measuring underlying differences in mortality between treated and untreated groups:

$$DD^{ITT} \approx (1+\sigma)\delta \qquad (A4)$$

How can we estimate $(1+\sigma)$? One way is to compute the ratio of poor to non-poor mortality rates for untreated periods or cohorts: $\frac{(1+\sigma)y_1^{PRE}}{y_1^{PRE}} = \frac{(1+\sigma)y_0^{PRE}}{y_0^{PRE}} = (1+\sigma)$. That is the strategy used in (Goodman-Bacon forthcoming, appendix 4). But when such data are not available, the only thing we can do is compare *observed* mortality between, say, the poor and non-poor in the post-period. What does that comparison equal?

$$\frac{y^{POOR}}{y^{NON}} = \frac{(1+\sigma)\left(1+\frac{\overline{m}}{d}\delta\right)y^{POST}}{y^{POST}} = (1+\sigma)\left(1+\frac{\overline{m}}{d}\delta\right)$$

The poor will have higher mortality rates because of σ, but this comparison will *understate* the counterfactual difference because some share of the poor, who have average cumulative eligibility equal to $\frac{\overline{m}}{d}$, *benefit* from the program $\left(1+\frac{\overline{m}}{d}\delta\right) < 1$. Call this ratio $(1+\tilde{\sigma})$. Substituting for $(1+\sigma)$ shows that, under these assumptions, the DD estimate is

$$DD^{ITT} = \frac{(1+\tilde{\sigma})}{\left(1+\frac{\overline{m}}{d}\delta\right)}\delta$$

Solving this expression for δ shows how to use a DD intention-to-treat (IV) estimate along with information on treatment dose and post-treatment differences in the outcome to infer the ATET.

$$\frac{DD^{ITT}}{\left[1+\tilde{\sigma}-DD^{ITT}\frac{\overline{m}}{d}\right]} = \delta \qquad (A5)$$

The denominator shows that the counterfactual mortality rate among the treated is higher because of observed differences $(1+\tilde{\sigma})$ and because of the effect of the program $(-DD^{ITT}\frac{\overline{m}}{d})$For the white mortality result in table 2, DD^{ITT}= -14.8, $(1+\tilde{\sigma}) = 1.55$ (from the NLMS), and $\frac{\overline{m}}{d} = 2$ (Berger and Black 1998, Smith and Yeung 1998). This implies an effect of treatment on the treated for log mortality of (-0.148)/(1.55 – -0.148*2) = -8 percent.[2] For

[2] Using the 1968 National Mortality Followback Survey to obtain a direct estimate of $(1+\sigma)$ among untreated cohorts of adults yields an even larger difference between poor and non-poor mortality. Using -0.083 as the treatment on the treated, the poor/non-poor counterfactual difference based on NLMS data is 1.85 (1.55/(1-2*0.083)), but the poor/non-poor ratio for adults (35-50) in 1968 is 3.95. The mortality rate among the poor is $\frac{D^{poor}}{N^{poor}} = \frac{p^D D}{p^N N}$ and among the non-poor is $\frac{D^{nonpoor}}{N^{nonpoor}} = \frac{(1-p^D)D}{(1-p^N)N}$, where p^D is the poverty rate among decedents (available in the NMFBS) and p^N is the poverty rate in the population (available in the CPS). In 1968, $p^D = 0.19$ for white adults and $p^N = 0.056$, so the ratio of poor to non-poor mortality equals (.19/.056)/(.81/.944). Using direct data on poor/non-poor mortality rates from 1968 implies a treatment effect on the treated of 6.05 percent.

nonwhite children, DD^{ITT}= -17.7, $\frac{\bar{m}}{d} = 3.35$, and $(1 + \tilde{\sigma}) = 1.19$, so the implied ATET is -9.9 percent.

B. Average Treatment Effect on the Treated in Levels

Begin with the same diff-in-diff expression as above, but in levels of Y not logs.

$$DD^{ITT} = \frac{[Y_1^{POST} - Y_0^{POST}] - [Y_1^{PRE} - Y_0^{PRE}]}{[m_1^{POST} - m_0^{POST}] - [m_1^{PRE} - m_0^{PRE}]}$$

Maintain the assumption that poor and non-poor outcomes differ proportionally by $(1 + \sigma)$, but now add an additive treatment effect, Δ. Post-treatment mortality in state 1, for example, is

$$p\left((1 + \sigma)y_1^{POST} + \frac{m_1^{POST}}{d_1}\Delta\right) + (1 - p)y_1^{POST}$$

This set-up simplifies immediately to

$$DD^{ITT} = \frac{\left[10(D_1 - D_0)\Delta + \ [(y_1^{POST} - y_0^{POST}) - (y_1^{PRE} - y_0^{PRE})]\right]}{[m_1^{POST} - m_0^{POST}]}$$

The second term is zero by common trends (in levels this time), meaning that the DD^{ITT} estimate in levels is the *same* effect per year of coverage as the ATET. The total effect of the policy is, of course, larger among the treated subset than among the full population, but this is because they have more years of coverage. The question when assessing magnitudes in this context is what baseline mortality rate to use as a denominator. For each year of coverage, mortality falls by Δ, and without the policy post-treatment mortality among the treated would have been

$$(1 + \sigma)y^{POST} = y_{poor}^{POST} - \frac{\bar{m}}{d_1}\Delta$$

To assess the magnitude of ITT effects in levels, I use auxiliary data to obtain an estimate of the rate among the poor (or some other measure of the treated) and then subtract the total effect of treatment on the outcomes of the treated: $\frac{\bar{m}}{d_1}\Delta$.

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