

Caregiving and Labor Force Participation: New Evidence from Administrative Data

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Introduction

- Long-term care (LTC) need is a reality of aging
 - 1 out of every 5 people will be 65+ in 2030
 - 70% will need assistance with basic functions in their lifetimes
 - Formal care is expensive

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 - Formal care is expensive

- Over half of all LTC is provided informally, by family members

Caregiving and Work

Why Aren't More Women Working? They're Caring for Parents



Aisha Adkins in the Atlanta area with her mother, Rose, whose dementia was diagnosed six years ago. The elder Ms. Adkins can't be left alone. Lynsey Weatherspoon for The New York Times

By Eduardo Porter

Aug. 29, 2019



Some Seniors Face Shrinking Nest Eggs As They Care For Loved Ones During Pandemic

January 25, 2021 · 5:00 AM ET

Heard on [Morning Edition](#)

SALLY HERSHIPS



Anna Romero had to quit her part-time job during the coronavirus pandemic to care for her husband, Ivan, who has dementia.

Anna Romero

Caregiving and Work

- Caring for family affects labor supply on intensive and extensive margins (Fahle & McGarry, 2017; Van Houtven, Coe & Skira, 2013; Skira, 2015; Ettner 1996; Schmitz & Westphal 2017; Bolin, Lindgren, & Lundborg, 2008)
 - Economic conditions also affect caregiving (Mommaerts & Truskinovsky 2020)

Caregiving and Work

- Caring for family affects labor supply on intensive and extensive margins (Fahle & McGarry, 2017; Van Houtven, Coe & Skira, 2013; Skira, 2015; Ettner 1996; Schmitz & Westphal 2017; Bolin, Lindgren, & Lundborg, 2008)
 - Economic conditions also affect caregiving (Mommaerts & Truskinovsky 2020)
- Much of what we know comes from the Health and Retirement Study
 - Representative survey of the US population over 50
 - Caregiving to parents, spouses
 - Biennial panel; no window into short-run dynamics
- *How rapidly* do caregivers stop working, retire, see wage decreases?
- How do future caregivers plan for caregiving?
 - Important as we are thinking about policies like PFL or paid sick leave

Research Question & Approach

- What do employment outcomes of caregivers look like in the years before and after caregiving starts?

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- What do employment outcomes of caregivers look like in the years before and after caregiving starts?
- Build data set combining caregiving outcomes w/longitudinal labor supply
 - Survey of Income and Program Participation (SIPP)
 - Link to 40 years of Social Security administrative data
- Use multiple panel data approaches to describe employment trajectories
 - Event study, “stacked” difference in differences

Life-cycle view on caregiving

Life-cycle view on caregiving

- New analysis of dynamic effects of caregiving
 - Skira, 2015; Schmitz & Westphal 2017
 - Caregiving anticipation effects
 - May be important for calculating overall costs, policy impacts
- Long view of caregiving only possible with administrative data
 - Observe outcomes for 25 years around a caregiving spell
- SIPP caregivers more representative of age, caregiving roles

Data and Descriptive Statistics

Survey of Income and Program Participation

- 40,000 households per “Panel”
 - Using 1996, 2001, 2004 & 2008 panels
- Households surveyed once every 4 months (“wave”) for 4-6 years
 - Core questionnaire with employment outcomes and program participation
 - Cross-sectional topical modules
- Informal care module approximately 2 years into each panel
- SIPP linked to SSA detailed earnings record (DER) for 40 years of annual observations

SIPP Informal Care Module

- “There are situations in which people provide regular unpaid care or assistance to a family member or friend who has a long-term illness or a disability. During the past month, did you provide any such care or assistance to a family member or friend living here or living elsewhere?”
 - N = 12,911; 4.8%
- “For how long have you been providing this care?”
 - within past year (N= 2,789; 22%)
 - 1 year ago (1,483; 12.7%)
 - 2 years ago (N = 1,982; 15.3%)
 - 3+ years ago (N = 5,455; 51.2%)

Descriptive Statistics: Caregiving

	SIPP
<i>Full Sample</i>	(N= 237,385)
Any caregiving	0.05
<i>Caregiver Sample</i>	(N=12,743)
Hours of care per week	10.9
Num Adults caring for	1.18
Care recipient in household	0.42
Caring for:	
Spouse	0.15
Parents or in-laws	0.22
Other relative	0.19
Other non relative	0.25
Child	0.24

Descriptive Statistics: Demographic Characteristics

	Caregivers		Non
	<3 years	3+ years	Caregivers
Age	51.8	54.3	46.3
Female	0.64	0.61	0.51
White	0.74	0.76	0.71
Black	0.11	0.10	0.11
Hispanic	0.08	0.09	0.12
Married	0.61	0.64	0.57
College	0.24	0.25	0.25
Employed	0.55	0.53	0.65
Usual hours	32.3	34.2	35.1
Unemployed	0.05	0.04	0.04
Not in LF	0.41	0.44	0.31
Retired	0.22	0.25	0.15

Sample Construction

- Adults caring for adults for two years or less from each SIPP panel
- Create a caregiving panel
 - Using retrospective caregiving information, backdate the start of the caregiving spell within the SIPP panel
 - Do not observe the end of a spell
 - Self reports subject to recall bias and measurement error
- Match each SIPP individual with their SSA Detailed Earnings Record (DER)
 - Observe outcomes up to 15 years before and 10 years after the reported start of a care spell

Approach 1: Event Study

Event Study Model

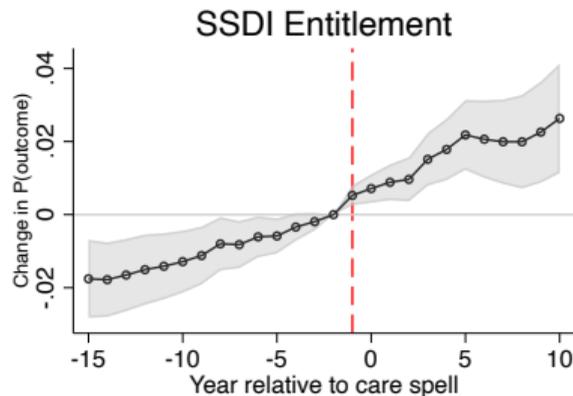
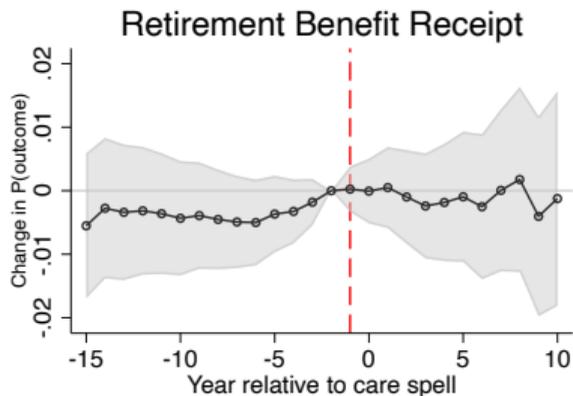
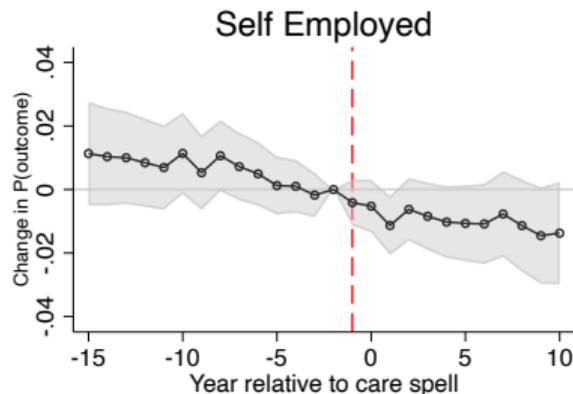
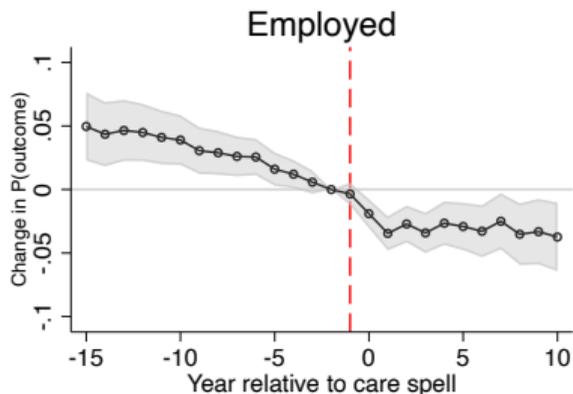
$$y_{i\tau} = \gamma_t + X_{i\tau}\beta_0 + \sum_{\tau} D_{\tau}\mu_{\tau} + \varepsilon_{i\tau}$$

Where

- $y_{i\tau}$ is the outcome of interest for individual i at event time τ
- γ_t is a calendar time fixed effect
- $X_{i\tau}$ is a vector of time-varying controls (age)
- μ_{τ} are coefficients on indicators for time relative to start of care spell.

Event Study-Administrative Data

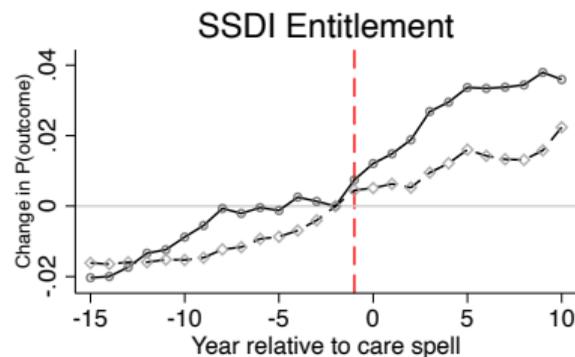
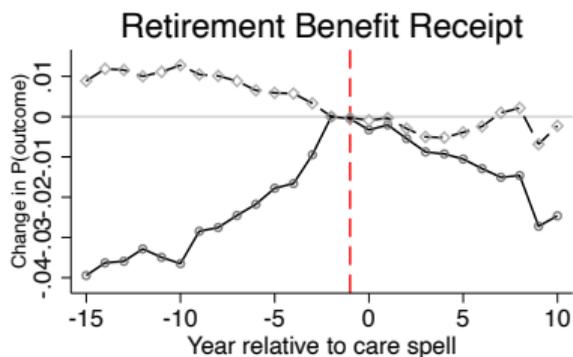
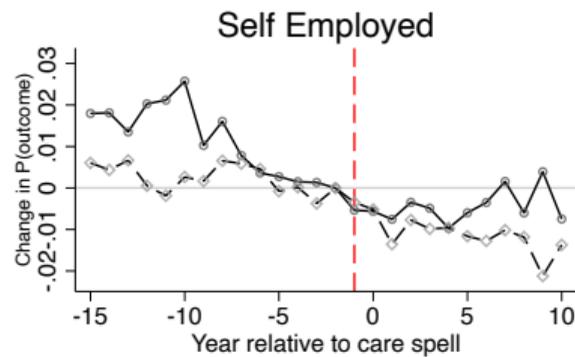
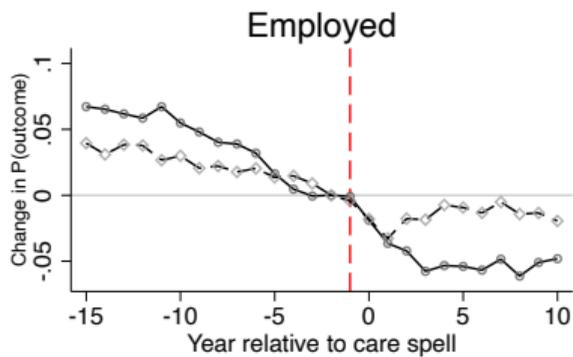
Event Study-Administrative Data



Event Study - Administrative Data by age



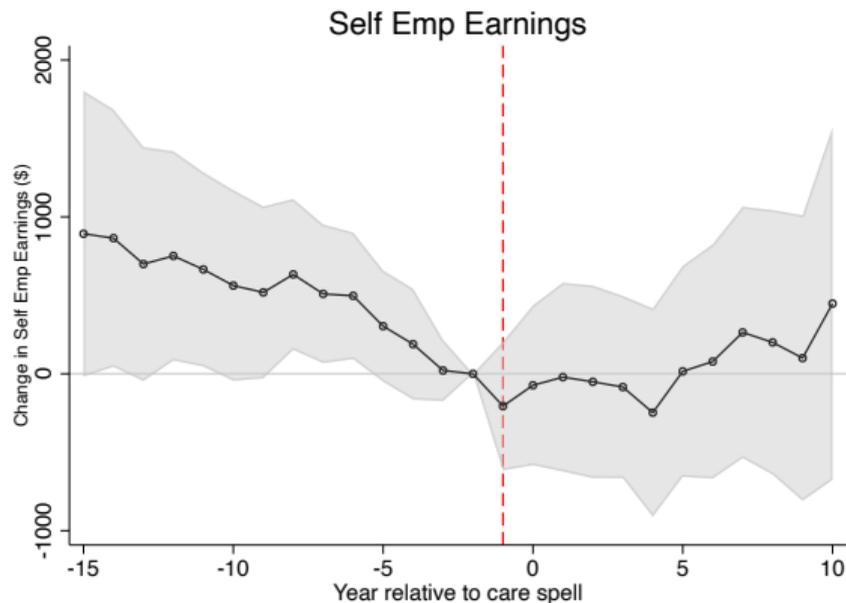
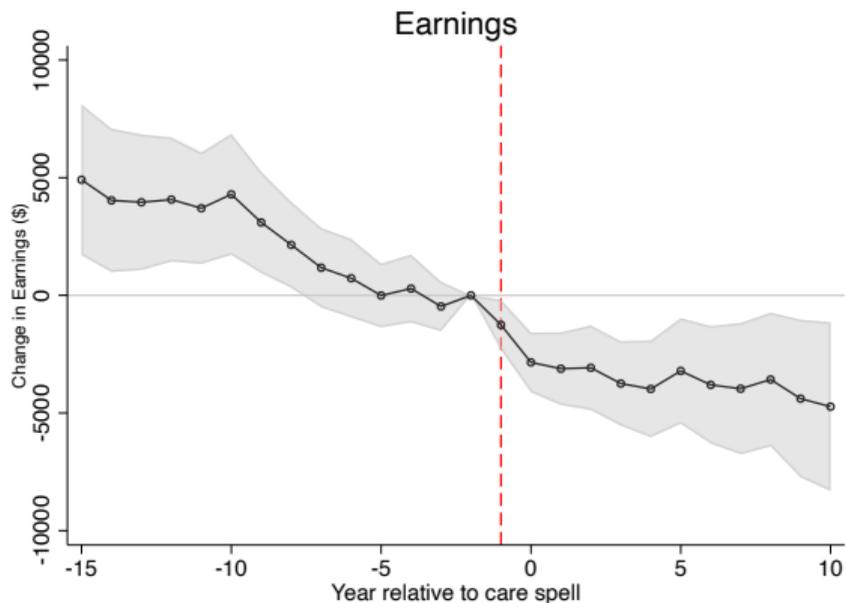
Event Study - Administrative Data by gender



—○— Male - - -○- - - Female

Event Study - Administrative Earnings

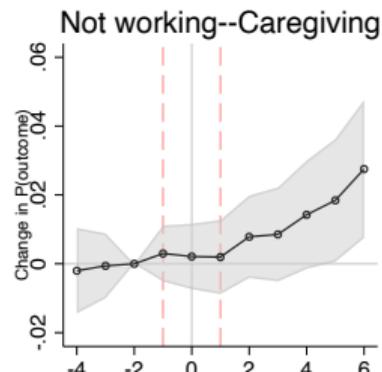
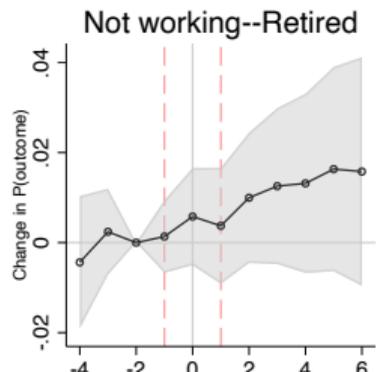
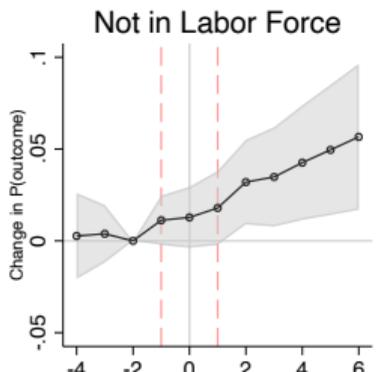
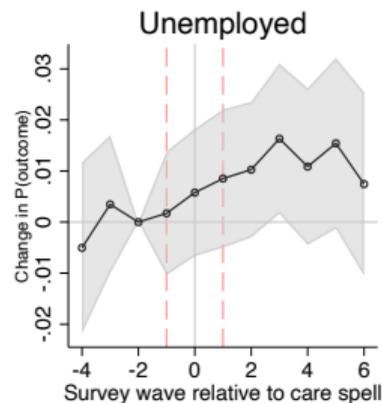
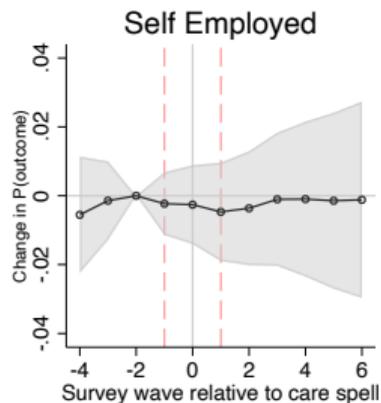
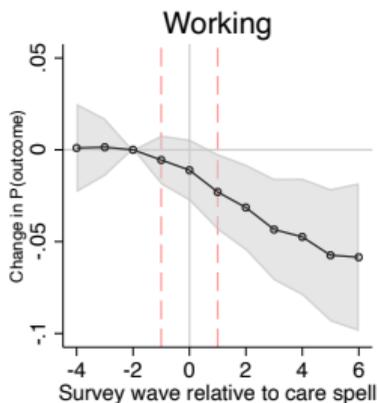
► By quintile



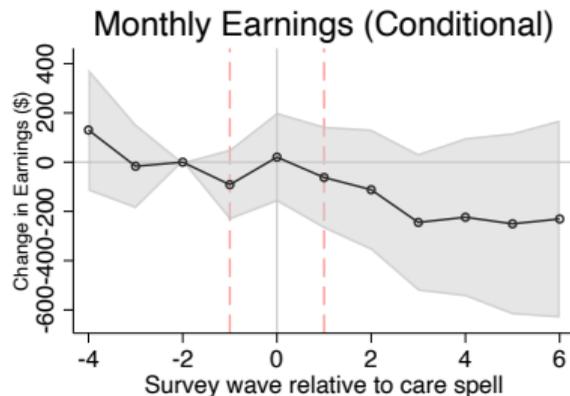
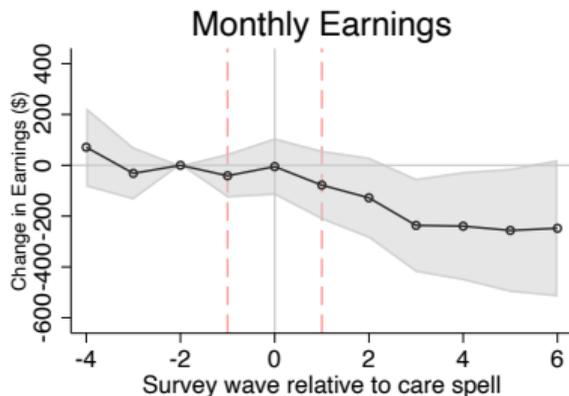
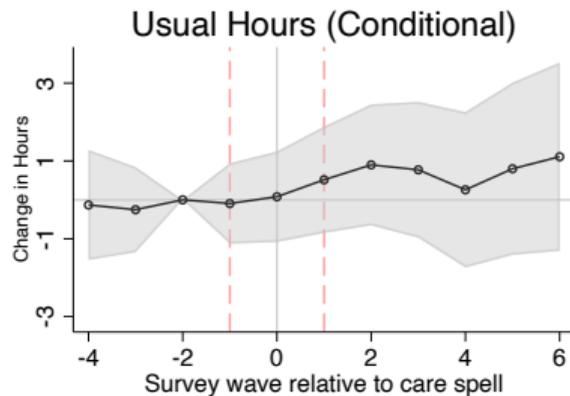
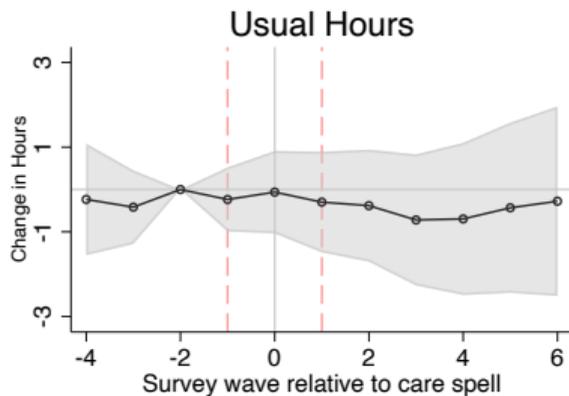
Event Study - SIPP

Event Study - SIPP

- ▶ By age
- ▶ By gender



Event Study -SIPP



Approach 2: Stacked Difference-in-Differences

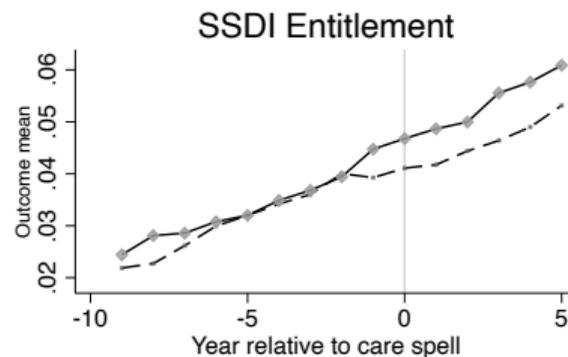
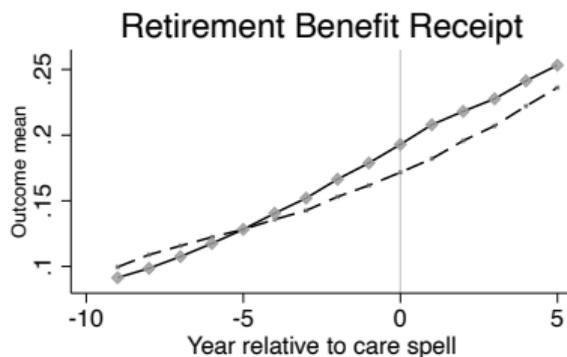
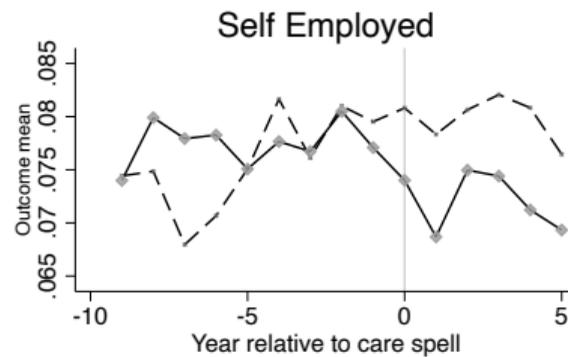
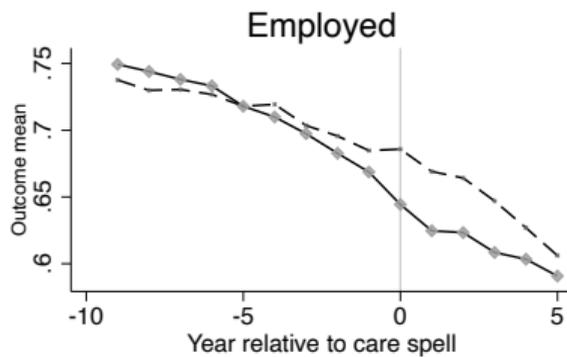
Better identification?

- Significant pre-trends suggest important anticipatory effects
- Ideally: control group of potential caregivers who have the same ex ante expectations about caregiving but haven't started yet
- We take advantage of the timing of shocks to compare caregivers (treatment group) to those who will start caregiving in the near future (control group)
 - Fadlon and Nielsen, forthcoming; Deshpande and Li, 2019

Stacked Difference-in-Differences

- For each calendar year, define the treatment group as those who start caregiving in that year
- Define the control group as those who start caregiving 6 years in the future
- For the control group, define a placebo “shock” as happening 6 years *before* the actual shock
- Center the data around event-time 0 (when the caregiving “shock” begins)
- Limitations on how far in the future we pick the control group are data driven.

Stacked Difference in Differences



--- Control —◆— Treated

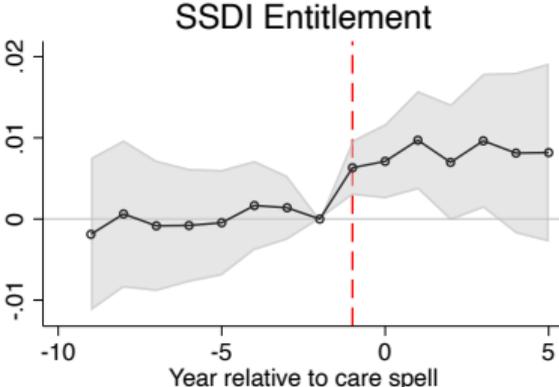
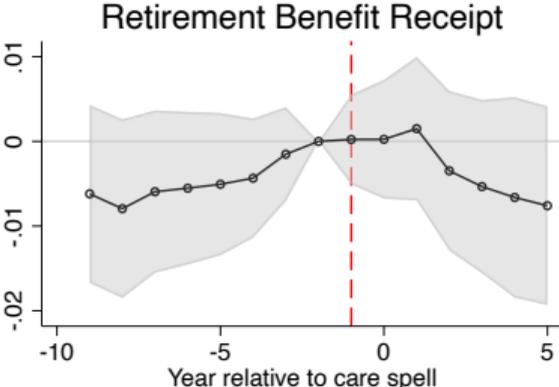
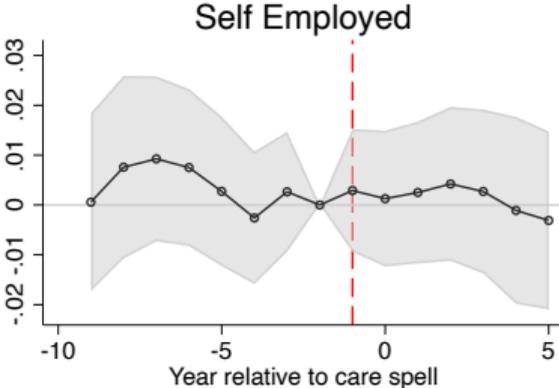
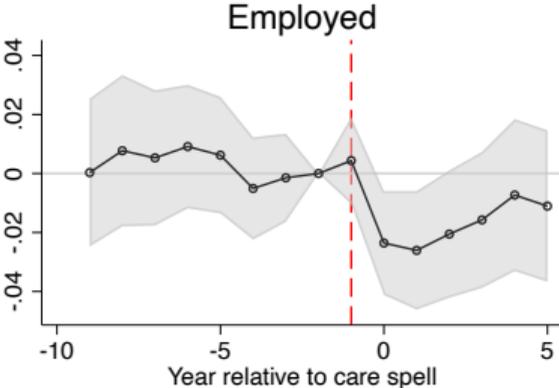
Stacked Difference in Differences

$$y_{i\tau} = \alpha_i + \gamma_t + X_{i\tau}\beta_0 + \beta_1 \text{Treat}_i + \sum_{\tau} \mu_r D^{\tau} + \sum_{\tau} \eta_r (\text{Treat}_i \times D^{\tau}) + \varepsilon_{i\tau}$$

Where

- $y_{i\tau}$ is the outcome of interest for individual i at event time τ
- D^{τ} is an event time indicator
- α_i is an individual fixed effect
- γ_t is a calendar time fixed effect
- X_{it} is a vector of time-varying controls (age)
- Treat_i is an indicator for if the household belongs to the treatment group
- η_r coefficient of interest

Stacked DD-Administrative data



Stacked DD Administrative Data

	Employed	Self-Emp	Retirement Receipt	SSDI Entitl.
Treat × Post	-0.0209*** (0.0078)	-0.0021 (0.0050)	0.0007 (0.0037)	0.0075** (0.0033)
Treat × Post (Year 0-2)				
Treat × Post (Year 3-5)				
Pre-caregiving Mean	0.72	0.08	0.13	0.03
Unique Obs	4280	4280	4280	4280

Stacked DD Administrative Data

	Employed	Self-Emp	Retirement Receipt	SSDI Entitl.
Treat \times Post	-0.0209*** (0.0078)	-0.0021 (0.0050)	0.0007 (0.0037)	0.0075** (0.0033)
Treat \times Post (Year 0-2)	-0.0262*** (0.0079)	-0.0007 (0.0053)	0.0033 (0.0038)	0.0070** (0.0031)
Treat \times Post (Year 3-5)	-0.0146 (0.0093)	-0.0038 (0.0060)	-0.0023 (0.0046)	0.0080* (0.0042)
Pre-caregiving Mean	0.72	0.08	0.13	0.03
Unique Obs	4280	4280	4280	4280

► By age and gender

Stacked DD Earnings

	Earnings \$	Q1	Q2	Q3	Q4	Q5
		Any				
Treat × Post	-673.5 (778.7)	-0.0209*** (0.0078)	-0.0100 (0.0082)	-0.0029 (0.0082)	-0.0074 (0.0073)	-0.0009 (0.0063)
Treat × Post (Year 0-2)	-594.3 (810.2)	-0.0262*** (0.0079)	-0.0165* (0.0084)	-0.0076 (0.0084)	-0.0123* (0.0074)	-0.0047 (0.0063)
Treat × Post (Year 3-5)	-769.1 (902.3)	-0.0146 (0.0094)	-0.0022 (0.0099)	0.0027 (0.0096)	-0.0016 (0.0087)	0.0035 (0.0073)
Pre-caregiving Mean	31,193	0.718	0.574	0.431	0.287	0.144
		Self Employment Earnings				
Treat × Post	151.4 (436.9)	-0.0021 (0.0050)	-0.0014 (0.0045)	0.0015 (0.0040)	0.0032 (0.0033)	0.0018 (0.0022)
Treat × Post (Year 0-2)	57.1 (435.4)	-0.0007 (0.0053)	-0.0002 (0.0047)	0.0014 (0.0041)	0.0041 (0.0034)	0.0014 (0.0023)
Treat × Post (Year 3-5)	265.0 (467.1)	-0.0038 (0.0060)	-0.0028 (0.0054)	0.0017 (0.0048)	0.0022 (0.0039)	0.0024 (0.0026)
Pre-caregiving Mean	22,059	0.078	0.062	0.047	0.031	0.0155

Conclusion

- Immediate effects of starting caregiving are at the extensive margin
 - 3% decrease in employment over 2 years, no change in self employment
 - 20% increase in SSDI entitlement, no change in retirement claiming
 - Changes in employment reverse for some caregivers, are permanent for others
- Observable pre-trends over 10 years may correspond to anticipation effects
- Evidence from Survey Data
 - Drop in employment corresponds to increase in both unemployment and non-participation
- Highlight dynamic relationship between caregiving and employment outcomes
 - Trade-off: lose strictly causal interpretation but dynamic effects are important

Conclusion

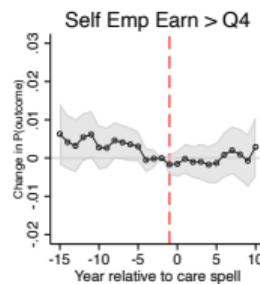
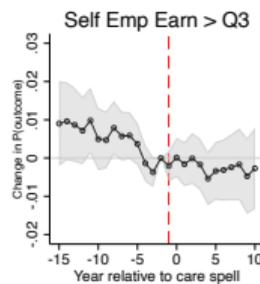
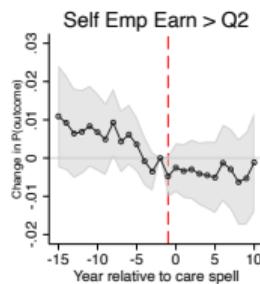
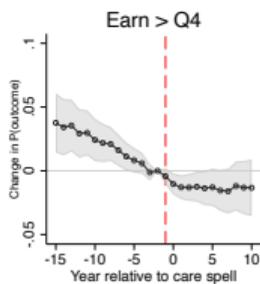
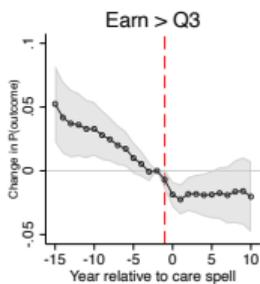
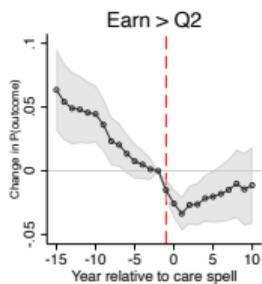
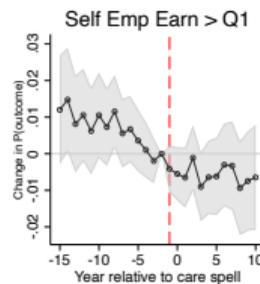
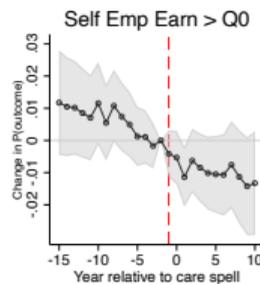
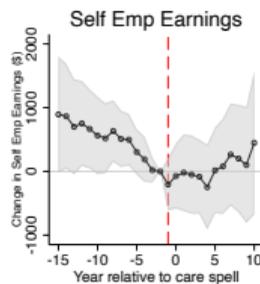
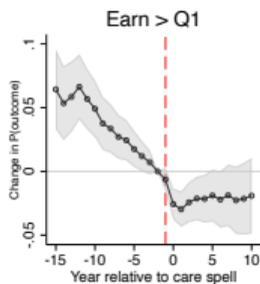
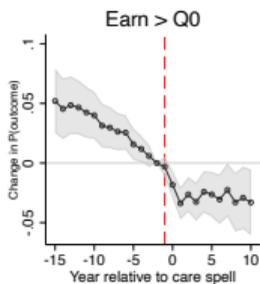
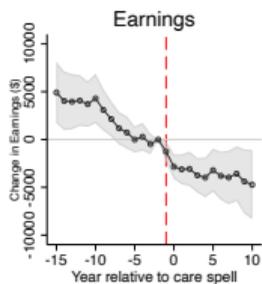
- Self-identified caregivers are a policy relevant group
- When do people self id as caregivers and if they are eligible for paid leave/sick leave
- Can access to paid/sick leave impact the anticipation effects as well as the post caregiving effect
- Life cycle perspective on caregiving roles - how do earlier caregiving experiences and time out of the labor market link to later life caregiving and labor force participation

Thank You!

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Event Study - Administrative Earnings

▶ Back



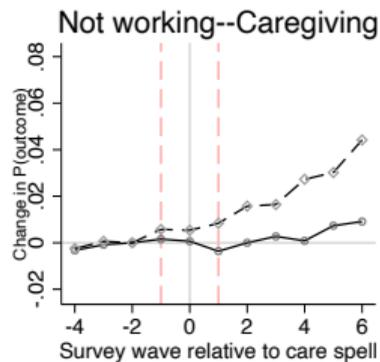
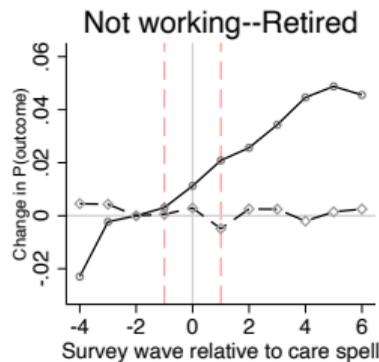
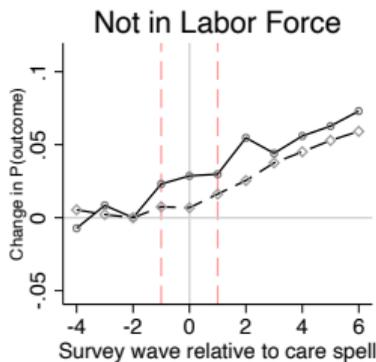
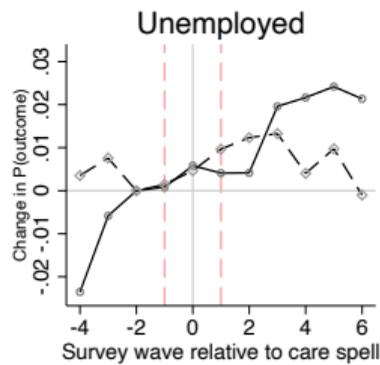
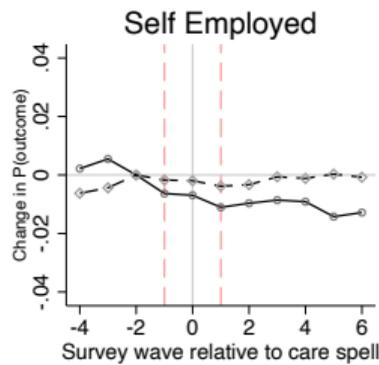
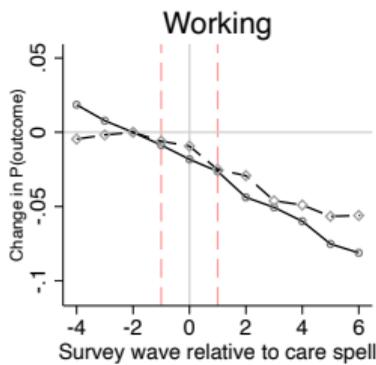
Stacked DD Administrative Data- Heterogeneity

▶ Back

	Men	Women	<40	40-61	62+
Working, Years 0-2	-0.0232* (0.0130)	-0.0284*** (0.0099)	-0.0127 (0.0145)	-0.0383*** (0.0115)	0.0022 (0.0201)
Working, Years 3-5	-0.0327** (0.0157)	-0.0055 (0.0117)	-0.0033 (0.0167)	-0.0124 (0.0146)	0.0124 (0.0243)
Self-Employed, Years 0-2	0.0082 (0.0101)	-0.0064 (0.0062)	0.0037 (0.0101)	0.0029 (0.0082)	0.0039 (0.0116)
Self-Employed, Years 3-5	-0.0001 (0.0117)	-0.0064 (0.0067)	0.0079 (0.0119)	-0.0013 (0.0091)	-0.0118 (0.0141)
Retirement Benefit Receipt, Years 0-2	-0.0010 (0.0061)	0.0050 (0.0047)		0.0049 (0.0058)	-0.00001 (0.0126)
Retirement Benefit Receipt, Years 3-5	-0.0059 (0.0069)	0.0003 (0.0059)		-0.0064 (0.0083)	-0.0186* (0.0105)
SSDI Entitlement, Years 0-2	0.0031 (0.0059)	0.0095*** (0.0036)	0.0118*** (0.0043)	0.0137*** (0.0051)	-0.0138* (0.0080)
SSDI Entitlement, Years 3-5	0.0181** (0.0079)	0.0031 (0.0048)	0.0114* (0.0067)	0.0124* (0.0072)	-0.0014 (0.0063)

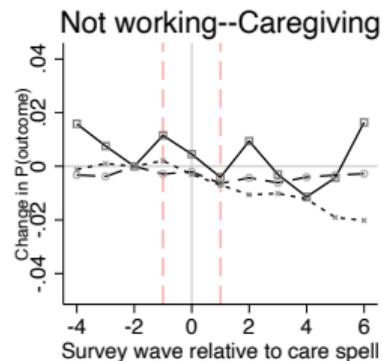
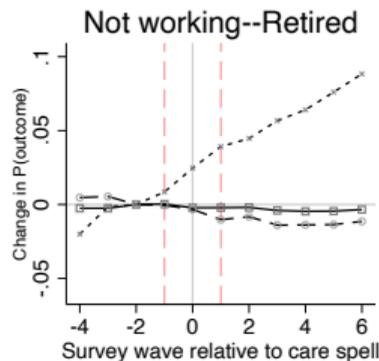
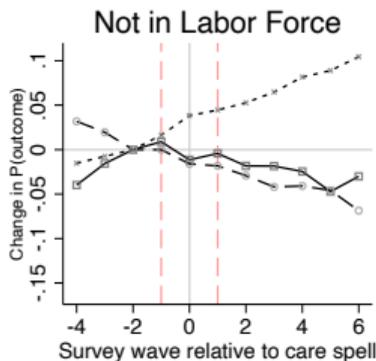
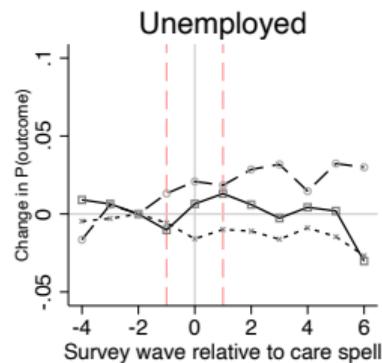
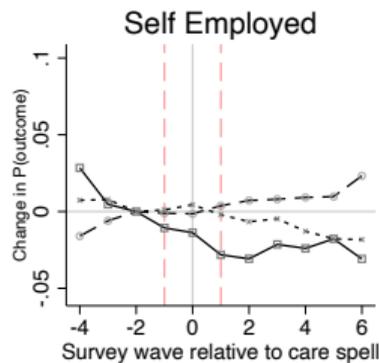
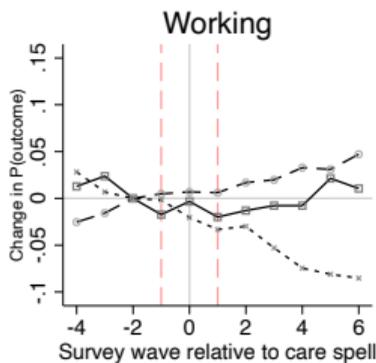
Event Study - SIPP (by gender)

▶ Back



Event Study - SIPP (by age)

▶ Back



Event Study - Earnings and Hours (SIPP)

