The Impact of Covid-19 on Older Workers' Employment and Social Security Spillovers: Evidence from Year 2

Gopi Shah Goda Stanford University and NBER Emilie Jackson Michigan State University Lauren Hersch Nicholas University of Colorado Sarah See Stith University of New Mexico

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Motivation

- COVID-19 global pandemic created unprecedented economic and social disruption
- Particular threat to older and disabled workers
 - ▶ Higher rates of mortality among those at older ages (Rosenthal et al. 2020)
 - More vulnerable to permanent labor market exits during recessions (Coile and Levine 2007, 2011)
- Despite initial economic shock, unique characteristics of COVID limit generalizing from earlier recessions
 - Massive health crisis
 - Rapid policy response to send stimulus and unemployment \$
 - Increased availability of remote work
 - SSA office closures

Motivation

- ▶ In first year (March 2020 March 2021), among older workers we saw:
 - Large decline in employment *but* no corresponding increase in retirement benefit claiming
 - Declines in labor market exits due to disability and disability applications
- Since March 2021, many changes including availability of vaccines, new variants, expiration of pandemic unemployment benefits

- 1. How have older workers' labor market outcomes and Social Security disability and retirement applications evolved over the second year of the COVID-19 pandemic?
- 2. Was the expiration of pandemic unemployment insurance programs associated with changes in labor market outcomes and Social Security applications?

Related literature and contributions

- COVID-19 and the labor market: Bartik et al., 2020; Cajner et al., 2020; Coibion, Gorodnichenko and Weber, 2020; Forsythe et al., 2020; + more
- Retirement and economic conditions: Coile and Levine, 2007, 2011; Helppie McFall, 2011; Chan and Stevens, 1999; Gustman, Steinmeier and Tabatabai, 2010; Goda, Shoven and Slavov, 2011; Munnell and Rutledge 2013; Sierminska and Takhtamanova, 2011; Hoynes, Miller and Schaller, 2012; Neumark and Button, 2014
- Disability and economic conditions: Stapleton et al., 1998; Autor and Duggan, 2003; Coe, Haverstick et al., 2010; Cutler, Meara and Richards-Shubik, 2012; Maestas, Mullen and Strand, 2015, 2018; Schmidt, 2012; Black, Daniel and Sanders, 2002; Charles, Li and Stephens Jr, 2018; Lindner, 2016; Mueller, Rothstein and Von Wachter, 2016

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We contribute to this literature by:

- Focusing on the age 50-70 population and examining spillovers on the Social Security program
- Explore the effects of pandemic-related unemployment programs expiring on disability and retirement applications

Data Outline

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Data

Data Sources

- Current Population Survey [N = 2,847,633]
 - Individual-level data
 - Sample restrictions: Ages 50-70, January 2015 March 2022
 - Outcomes: Employed, Employed (Absent), Unemployed, Not in the Labor Force (NILF)
 - NILF further broken down into Retired, Disabled, Other summary

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 - Sample restrictions: Ages 50-70, January 2015 March 2022
 - Outcomes: Employed, Employed (Absent), Unemployed, Not in the Labor Force (NILF)
 - NILF further broken down into Retired, Disabled, Other summary
- SSA State Agency Monthly Workload (MOWL) [N = 4,300]
 - Number of applications at the state-by-month level from January 2015 February 2022
 - Convert outcomes to applications per 100,000 people aged 20-64 using state population counts from Census and SSA date translation table
 - Outcomes: SSDI only, SSI only, Concurrent (SSDI and SSI), Total summary

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 - Outcomes: SSDI only, SSI only, Concurrent (SSDI and SSI), Total summary
- SSA Monthly Retirements Applications [N = 86]
 - Number of applications each month from January 2015 February 2022
 - Convert outcomes to applications per 100,000 people aged 60-70 using state population counts from Census and SSA date translation table
 - Outcomes: Applications Filed via Internet, Filed Offline, Total summary

Empirical Methods

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Empirical Methods

Event Study Specification

Current Population Survey:

$$Y_{ist} = \alpha + \sum_{k=-5}^{-1} \beta_k \times \mathbb{1}[e(t) = k] + \sum_{k=1}^{25} \beta_k \times \mathbb{1}[e(t) = k] + \theta \times \mathbb{1}[e(t) < -5]$$
$$+ \mu_{m(t)} + \delta t + \omega_s + \beta X_{ist} + \varepsilon_{ist}$$
(1a)

SSA Applications:

$$Y_{st} = \alpha + \sum_{k=-5}^{-1} \beta_k \times \mathbf{1}[e(t) = k] + \sum_{k=1}^{24} \beta_k \times \mathbf{1}[e(t) = k] + \theta \times \mathbf{1}[e(t) < -5]$$
$$+ \mu_{m(t)} + \gamma_{y(t)} + \omega_s + \varepsilon_{st}$$
(1b)

▶ post

Results

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CPS Employment Outcomes Event Studies



Goda, Jackson, Nicholas and Stith

Results > Main Results

Results > Main Results

CPS Employment Outcomes Event Studies



Changes in Employment Categories Following COVID-19 Pandemic

A. 50-01 Year Olds				
	(1)	(2)	(3)	(4)
	Employed	Employed-Absent	Unemployed	NILF
Post Covid 1	-0.0549***	0.00586***	0.0344***	0.0146***
	(0.00301)	(0.000700)	(0.00245)	(0.00247)
Post Covid 2	-0.0314***	0.00193**	0.0126***	0.0169***
	(0.00338)	(0.000819)	(0.00170)	(0.00432)
Observations	1701077	1701077	1701077	1701077
Pre-Covid Mean	0.688	0.0263	0.0236	0.262
$T\text{-test}\;PC1=PC2$	4.12e-08	0.00000794	8.32e-24	0.463
	B. 62	2-70 Year Olds		
	(1)	(2)	(3)	(4)
	Employed	Employed-Absent	Unemployed	NILF
Post Covid 1	-0.0385***	0.00346***	0.0186***	0.0164***
	(0.00370)	(0.000676)	(0.00160)	(0.00293)
Post Covid 2	-0.0253***	-0.000295	0.00656***	0.0190***
	(0.00409)	(0.000904)	(0.00155)	(0.00409)
Observations	1146556	1146556	1146556	1146556
Pre-Covid Mean	0.363	0.0188	0.0126	0.606
$T\text{-test}\ PC1=PC2$	0.000354	0.000160	8.20e-15	0.418

Standard errors in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

Changes in NILF Categories Following COVID-19 Pandemic

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	A. 50-61 Year Olds			
	(1)	(2)	(3)	(4)
	NILF	Retired	Disabled	Other
Post Covid 1	0.0146***	0.00294*	-0.00490***	0.0165***
	(0.00247)	(0.00152)	(0.00172)	(0.00150)
Post Covid 2	0.0169***	0.00645**	0.000164	0.0103***
	(0.00432)	(0.00269)	(0.00331)	(0.00205)
Observations	1701077	1701077	1701077	1701077
Pre-Covid Mean	0.262	0.0799	0.105	0.0777
$T\text{-test}\;PC1=PC2$	0.463	0.0712	0.0419	0.000402
	B. 62-70 Year Olds			
	B. 62-7	0 Year O	lds	
	B. 62-7	0 Year O (2)	lds (3)	(4)
	B. 62-7 (1) NILF	0 Year 0 (2) Retired	(3) Disabled	(4) Other
Post Covid 1	B. 62-7 (1) NILF 0.0164***	0 Year 0 (2) Retired 0.0123***	(3) Disabled -0.00432*	(4) Other 0.00840***
Post Covid 1	B. 62-7 (1) NILF 0.0164*** (0.00293)	0 Year 0 (2) Retired 0.0123*** (0.00356)	(3) Disabled -0.00432* (0.00226)	(4) Other 0.00840*** (0.000989)
Post Covid 1 Post Covid 2	B. 62-7 (1) NILF 0.0164*** (0.00293) 0.0190***	0 Year 0 (2) Retired 0.0123*** (0.00356) 0.0192***	(3) Disabled -0.00432* (0.00226) -0.00501**	(4) Other 0.00840*** (0.000989) 0.00486***
Post Covid 1 Post Covid 2	B. 62-7 (1) NILF 0.0164*** (0.00293) 0.0190*** (0.00409)	0 Year 0 (2) Retired 0.0123*** (0.00356) 0.0192*** (0.00591)	lds (3) Disabled -0.00432* (0.00226) -0.00501** (0.00244)	(4) Other 0.00840*** (0.000989) 0.00486*** (0.00169)
Post Covid 1 Post Covid 2 Observations	B. 62-7 (1) NILF 0.0164*** (0.00293) 0.0190*** (0.00409) 1146556	0 Year O (2) Retired 0.0123*** (0.00356) 0.0192*** (0.00591) 1146556	lds (3) Disabled -0.00432* (0.00226) -0.00501** (0.00244) 1146556	(4) Other 0.00840*** (0.000989) 0.00486*** (0.00169) 1146556
Post Covid 1 Post Covid 2 Observations Pre-Covid Mean	B. 62-7 (1) NILF (0.0164*** (0.00293) 0.0190*** (0.00409) 1146556 0.606	0 Year O (2) Retired (0.0123*** (0.00356) 0.0192*** (0.00591) 1146556 0.491	Ids (3) Disabled -0.00432* (0.00226) -0.00501** (0.00244) 1146556 0.0789	(4) Other 0.00840*** (0.000989) 0.00486*** (0.00169) 1146556 0.0359

Standard errors in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

Social Security Disability Applications Event Studies



All SSDI/SSI

Results > Main Results

Social Security Disability Applications Event Studies



▶ Regs

Social Security Retirement Applications Event Studies



Total Retirement Applications

Social Security & Covid-19

Results > Main Results

Social Security Retirement Applications Event Studies



▶ Regs

Variation in UI expiration dates in 2021

During the pandemic, unemployment insurance (UI) was extended

- In generosity: Federal Pandemic Unemployment Compensation (FPUC)
- ► To previously ineligible groups: Pandemic Unemployment Assistance (PUA)

▶ All pandemic-related federal unemployment benefits expired on Sept. 6, 2021

- ▶ However, some states opted out early of the FPUC and PUA programs in June-August 2021
- Draw from Holzer, Hubbard, and Strain (2021) for state variation

Variation in UI expiration dates in 2021



Notes: All benefits expired on September 6, 2021. Various states opted to allow these programs to expire prior to their initial date. This figure depicts the month in which a state opted out of at least one of the two federal UI programs (FPUC and PUA).

Empirical Specification with UI Expiration

Current Population Survey:

$$Y_{ist} = \alpha + \delta_1 PostCovid1_{ist} + \delta_2 PostCovid2_{ist} + \delta_3 Ulexpiration_{ist} + \mu_{m(t)} + \eta t + \omega_s + \beta X_{ist} + \varepsilon_{st}$$
(2a)

SSA Applications:

$$Y_{st} = \alpha + \delta_1 PostCovid1_{st} + \delta_2 PostCovid2_{st} + \delta_3 Ulexpiration_{st} + \mu_{m(t)} + \gamma_{y(t)} + \omega_s + \varepsilon_{st}$$

 $Ulexpiration_{st}$ is defined as 1 in months after the state expiration of pandemic-related UI $PostCovid_{st}$ is defined as 1 between March 2020-March 2021 $PostCovid_{st}$ is defined as 1 between April 2021-March 2022

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(2b)

Changes in Employment Categories Following COVID-19 Pandemic

A. 50-61 Year Olds					
	(1)	(2)	(3)	(4)	
	Employed	Employed-Absent	Unemployed	NILF	
Post Covid 1	-0.0548***	0.00588***	0.0344***	0.0146***	
	(0.00302)	(0.000698)	(0.00244)	(0.00248)	
Post Covid 2	-0.0337***	0.000834	0.0157***	0.0172***	
	(0.00316)	(0.00110)	(0.00209)	(0.00428)	
UI Expiration	0.00353	0.00172**	-0.00474***	-0.000511	
	(0.00362)	(0.000844)	(0.00111)	(0.00369)	
Observations	1701077	1701077	1701077	1701077	
Pre-Covid Mean	0.688	0.0263	0.0236	0.262	
T-test $PC1 = PC2$	0.000000515	0.00000757	3.50e-18	0.451	

 $Ulexpiration_{st}$ is defined as 1 in months after the state expiration of pandemic-related UI, $PostCovid_{1st}$ is defined as 1 between March 2020-March 2021, $PostCovid_{2st}$ is defined as 1 between April 2021-March 2022

Changes in Employment Categories Following COVID-19 Pandemic

B. 62-70 Year Olds					
	(1)	(2)	(3)	(4)	
	Employed	Employed-Absent	Unemployed	NILF	
Post Covid 1	-0.0384***	0.00347***	0.0186***	0.0163***	
	(0.00370)	(0.000683)	(0.00159)	(0.00293)	
Post Covid 2	-0.0286***	-0.000575	0.00893***	0.0203***	
	(0.00588)	(0.00108)	(0.00220)	(0.00592)	
UI Expiration	0.00525	0.000438	-0.00371**	-0.00198	
	(0.00462)	(0.00107)	(0.00141)	(0.00482)	
Observations	1146556	1146556	1146556	1146556	
Pre-Covid Mean	0.363	0.0188	0.0126	0.606	
$T\text{-test}\ PC1=PC2$	0.0734	0.00221	0.00000786	0.461	
<u> </u>					

Standard errors in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

 $Ulexpiration_{st}$ is defined as 1 in months after the state expiration of pandemic-related UI, $PostCovid_{1st}$ is defined as 1 between March 2020-March 2021, $PostCovid_{2st}$ is defined as 1 between April 2021-March 2022

Changes in NILF Categories Following COVID-19 Pandemic

A. 50-61 Year Olds				
	(1)	(2)	(3)	(4)
	NILF	Retired	Disabled	Other
Post Covid 1	0.0146***	0.00294*	-0.00494***	0.0166***
	(0.00248)	(0.00153)	(0.00173)	(0.00150)
Post Covid 2	0.0172***	0.00639**	0.00200	0.00881^{***}
	(0.00428)	(0.00243)	(0.00374)	(0.00250)
UI Expiration	-0.000511	0.0000983	-0.00287	0.00226
	(0.00369)	(0.00331)	(0.00240)	(0.00195)
Observations	1701077	1701077	1701077	1701077
Pre-Covid Mean	0.262	0.0799	0.105	0.0777
$T\text{-test}\;PC1=PC2$	0.451	0.118	0.0439	0.000493

 $Ulexpiration_{st}$ is defined as 1 in months after the state expiration of pandemic-related UI, $PostCovid_{1st}$ is defined as 1 between March 2020-March 2021, $PostCovid_{2st}$ is defined as 1 between April 2021-March 2022

Changes in NILF Categories Following COVID-19 Pandemic

B. 62-70 Year Olds				
	(1)	(2)	(3)	(4)
	NILF	Retired	Disabled	Other
Post Covid 1	0.0163***	0.0122***	-0.00427*	0.00838***
	(0.00293)	(0.00357)	(0.00226)	(0.000985)
Post Covid 2	0.0203***	0.0212***	-0.00680**	0.00591***
	(0.00592)	(0.00657)	(0.00269)	(0.00142)
UI Expiration	-0.00198	-0.00313	0.00279	-0.00165
	(0.00482)	(0.00408)	(0.00265)	(0.00178)
Observations	1146556	1146556	1146556	1146556
Pre-Covid Mean	0.606	0.491	0.0789	0.0359
$T\text{-test}\;PC1=PC2$	0.461	0.0588	0.231	0.0441
Circle 1				

Standard errors in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

 $Ulexpiration_{st}$ is defined as 1 in months after the state expiration of pandemic-related UI, $PostCovid1_{st}$ is defined as 1 between March 2020-March 2021, $PostCovid2_{st}$ is defined as 1 between April 2021-March 2022

Changes in Disability Applications Following COVID-19 Pandemic

	(1)	(2)	(3)	(4)
	All	SSDI	SSI	Concurrent
Post Covid 1	-3.847***	-0.621***	-2.106***	-1.120***
	(0.510)	(0.193)	(0.219)	(0.156)
	F 000***	0 005***	0.000***	1 500***
Post Covid 2	-5.220	-0.835	-2.863	-1.522
	(0.860)	(0.306)	(0.379)	(0.232)
III Expiration	1 000***	0 504***	0.0276	0 559***
Of Expiration	1.090	0.504	0.0270	0.556
	(0.380)	(0.158)	(0.148)	(0.112)
N	4300	4300	4300	4300
Pre-Covid Mean	25.49	9.55	9.54	6.41
p-value	0.04	0.40	0.00	0.02

Robust and clustered (at state level) standard errors in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

Ulexpiration_{st} is defined as 1 in months after the state expiration of pandemic-related UI, *PostCovid1_{st}* is defined as 1 between March 2020-March 2021, *PostCovid2_{st}* is defined as 1 between April 2021-March 2022_{Social Security & Covid-19}. *Social Security & Covid-19*

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Findings to Date

- Employment and unemployment recovering throughout the second year of Covid-19, labor force non-participation remains elevated
 - Shift among labor force non-participants towards classifying themselves as "retired" rather than "other" (likely a wait-and-see group)

Findings to Date

- Employment and unemployment recovering throughout the second year of Covid-19, labor force non-participation remains elevated
 - Shift among labor force non-participants towards classifying themselves as "retired" rather than "other" (likely a wait-and-see group)
- Evidence of small increase in retirement applications at end of 2021
 - Change from first year (employment declines w/o substantial increases in retirement benefit claiming)
 - Retirement and Social Security claiming can lag unemployment; expanded UI benefits may have been playing a role

Findings to Date

- Employment and unemployment recovering throughout the second year of Covid-19, labor force non-participation remains elevated
 - Shift among labor force non-participants towards classifying themselves as "retired" rather than "other" (likely a wait-and-see group)

Evidence of small increase in retirement applications at end of 2021

- Change from first year (employment declines w/o substantial increases in retirement benefit claiming)
- Retirement and Social Security claiming can lag unemployment; expanded UI benefits may have been playing a role
- Disability applications remain depressed
 - Small increase (recovery) in SSDI and concurrent applications following the expiration of UI benefits

Thank you!

Employment Outcomes for Ages 50-61 and 62-70, 2015-2021



— 50-61 yrs -- 62-70 yrs

▶ back

Employment Outcomes for Ages 50-61 and 62-70, 2015-2021



▶ back

NILF Categories for Ages 50-61 and 62-70, 2015-2021



Retired





— 50-61 yrs -- 62-70 yrs



Extra Slides Weekly Disability Applications Rate



▶ back

Extra Slides Weekly Retirement Applications Rate



▶ back

Extra Slides Post-Covid DD Specification

Current Population Survey:

$$Y_{ist} = \alpha + \delta_1 PostCovid1_{ist} + \delta PostCovid2_{ist} + \mu_{m(t)} + \eta t + \omega_s + \beta X_{ist} + \varepsilon_{st}$$
(3a)

SSA Applications:

$$Y_{st} = \alpha + \delta_1 PostCovid1_{st} + \delta_2 PostCovid2_{st} + \mu_{m(t)} + \gamma_{y(t)} + \omega_s + \varepsilon_{st}$$
(3b)

▶ back

Changes in Disability Applications Following COVID-19 Pandemic

	(1)	(2)	(3)	(4)
	ÂÍ	SSDI	SSI	Concurrent
Post Covid 1	-3.847***	-0.621***	-2.106***	-1.120***
	(0.510)	(0.193)	(0.219)	(0.156)
Post Covid 2	-4.619***	-0.557*	-2.847***	-1.214***
	(0.871)	(0.314)	(0.382)	(0.239)
N	4300	4300	4300	4300
Pre-Covid Mean	25.49	9.55	9.54	6.41
p-value	0.23	0.80	0.00	0.57
Robust and clustered (at state level) standard errors in parentheses				

* p < 0.10, ** p < 0.05, *** p < 0.01



Changes in Retirement Applications Following COVID-19 Pandemic

	(1)	(2)	(3)	
	Total	Filed via Internet	Filed offline	
Post Covid 1	-4.304	14.79***	-19.09***	
	(2.903)	(2.398)	(1.549)	
Post Covid 2	10.47*	24.57***	-14.10***	
	(5.258)	(4.679)	(2.486)	
N	86	86	86	
Pre-Covid Mean	145.23	74.69	70.53	
p-value	0.00	0.01	0.00	
Robust and clustered (at state level) standard errors in parentheses				

* p < 0.10, ** p < 0.05, *** p < 0.01

