# Retirement During the COVID-19 Pandemic

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Federal Reserve Bank of Boston 66th Economic Conference
November 18, 2022

Older Workers are a Large and Growing Share of US Labor Force
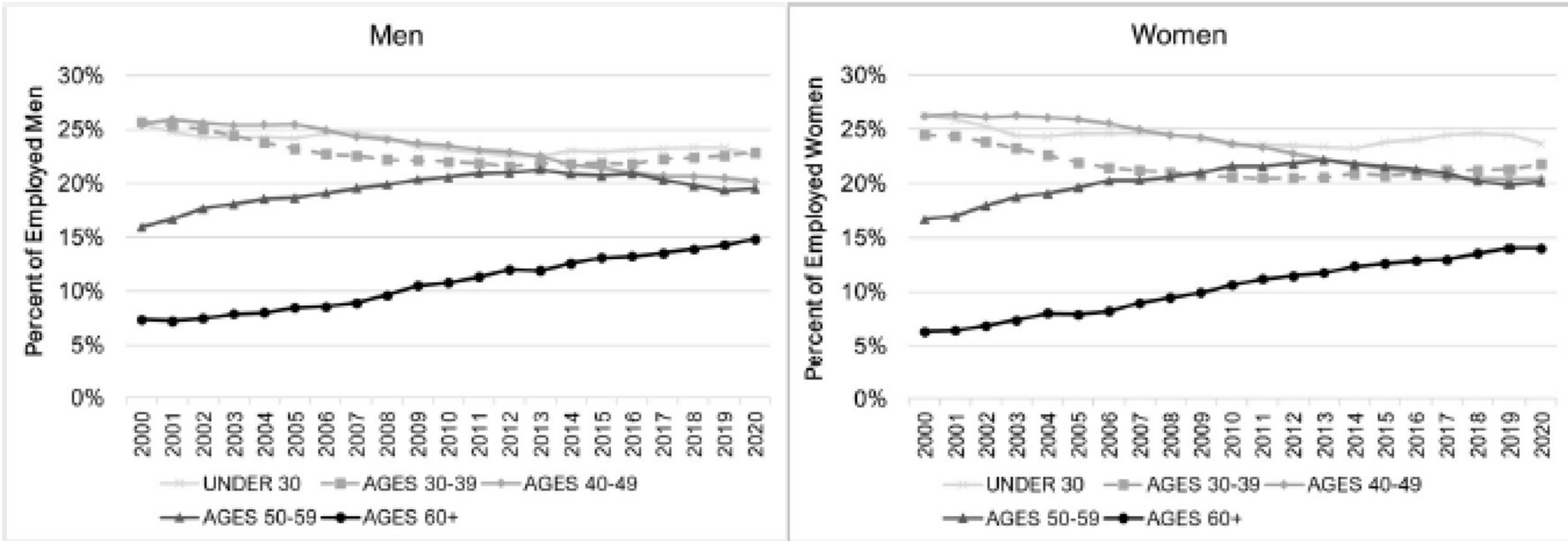
**Figure 1: US Male Labor Force Participation Rate
by Age, 1990-2021**
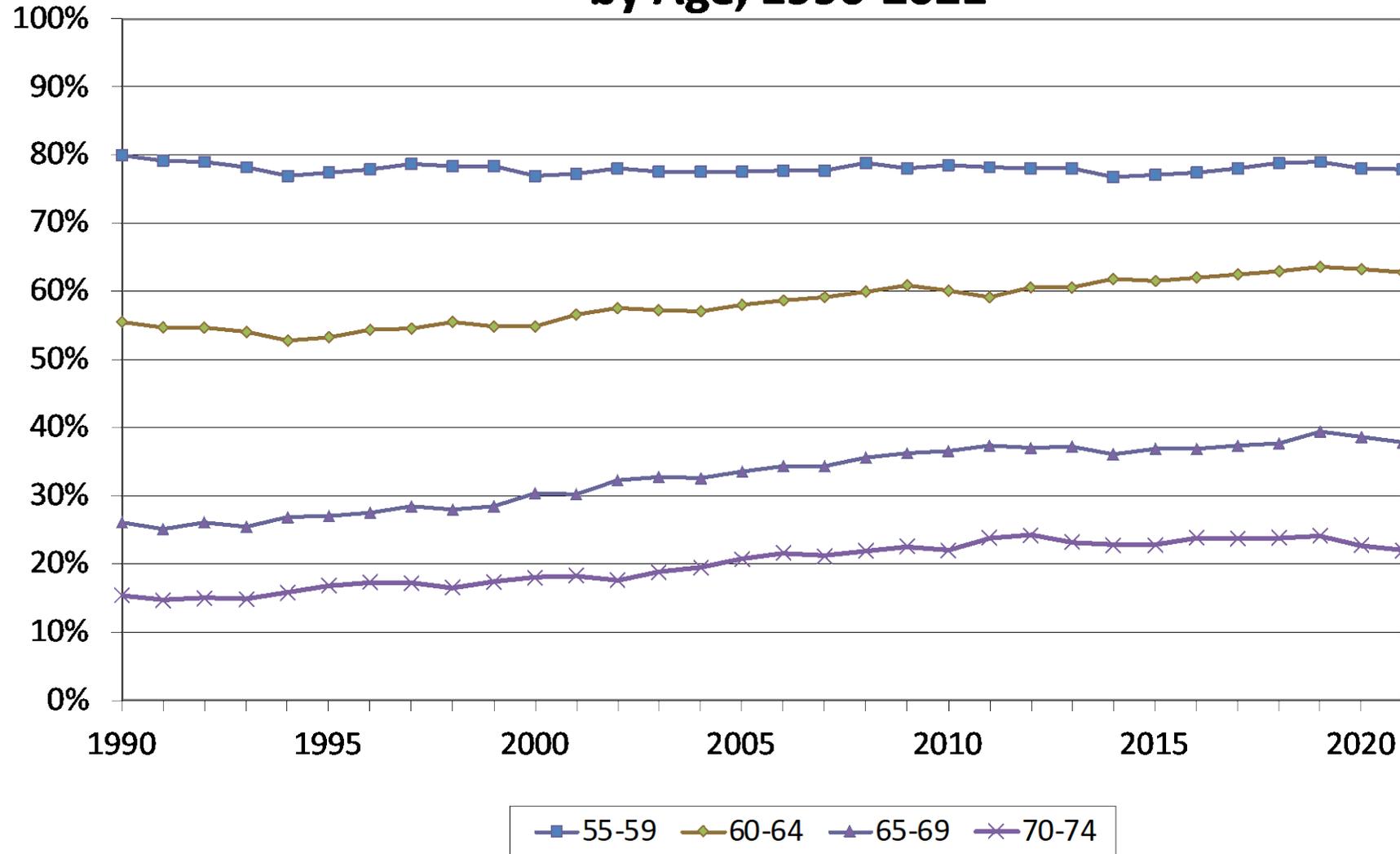
Increases
1990- 2019:

55-59: -1% pts

60-64: +8% pts

65-69: +13% pts

70-74: +9% pts

55-59   60-64   65-69   70-74

.Source: BLS series LNU01300189, LNU1300197, LNU01300203, LUN01324939

**Figure 2: US Female Labor Force Participation Rate
by Age, 1990-2021**
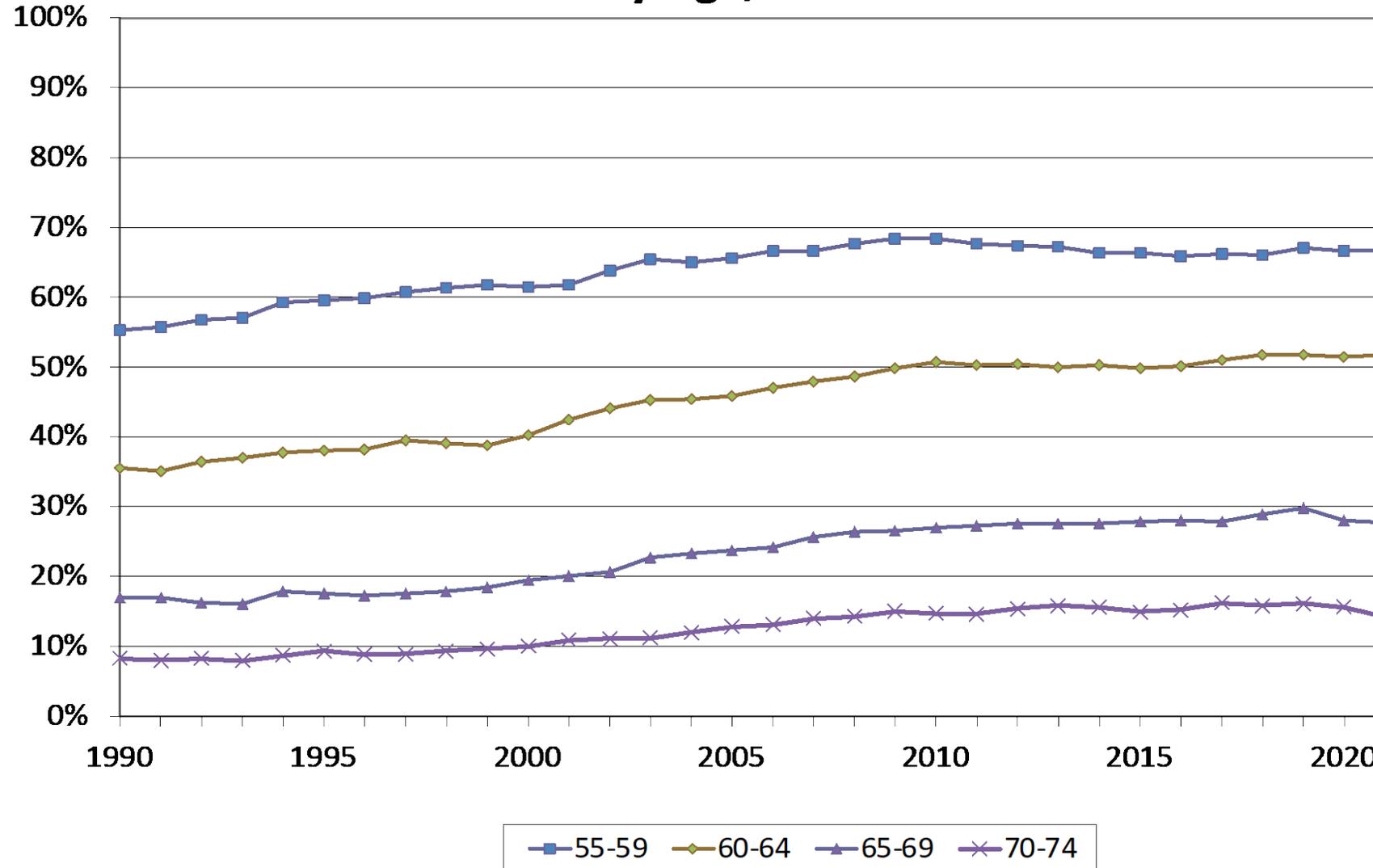
Increases
1990-2019:

55-59: +12% pts

60-64: +16% pts

65-69: +13% pts

70-74: +8% pts

Legend: 55-59, 60-64, 65-69, 70-74

- Many factors at play
  - Increases in longevity and health (Bloom et al., 2014)
  - Increases in education and shift towards "age-friendly" jobs (Rutledge, 2018; Acemoglu et al., 2022)
  - Shift from DB to DC pensions and decline in retiree health insurance (Friedberg and Webb, 2005)
  - Changes to Social Security (Coile, 2019)
- The promise and pitfalls of working longer
  - The best way to promote retirement security given a changing retirement landscape (Bronshtein et al., 2019)
  - Not as feasible for some groups due to health/labor inequalities (Berkman and Truesdale, 2022)

- Record job loss
  - Civilian employment fell by 21 million, UE rate rose from 3.6 to 13.0 percent from 2019Q4 to 2020Q2
- Dramatic changes in the workplace
  - More than 1/3 of all employees shifted to telework
  - New health risks for workers in non-telework jobs
- Unprecedented government assistance
  - Largest expansion of federal UI: weekly supplements, coverage for independent workers, duration extended by 53 weeks
  - Stimulus payments ($6,400 for a married couple or $11,400 with two kids)
  - PPP and other programs for businesses
- Volatile stock market, surging housing market
- Some of these factors *could* be more salient for older workers

Goal: explore how the COVID-19 pandemic has affected employment at older ages and retirement

Roadmap:

1) How have labor, stock, and housing market fluctuations affected retirement in the past?

2) Was there an increase in retirement during the Great Recession?

3) What has happened to employment at older ages during the pandemic?

4) What factors influenced retirement decisions during the pandemic?

- Job loss is a serious risk for older workers
  - Older workers face growing risk of job loss, lower probability of re-employment, and larger wage declines than younger workers (Farber, 2017)
  - Age discrimination *increases* and effectiveness of AD protections *decreases* during recessions (Dahl and Knepper, 2020; Neumark and Button, 2014)
- A rising unemployment rate leads to more retirements
  - This effect is stronger for those age 62+ (Coile and Levine, 2007; Gorodnichenko et al., 2013; Marmora and Ritter, 2015)
- Long-term effects on well-being
  - Experiencing a weak labor market in one's early 60s is associated with earlier SS claiming and lower retirement income (Coile and Levine, 2011a)
  - Lower survival due to loss of income, health insurance (Coile et al., 2014)

- Stock market fluctuations
  - Recessions usually accompanied by declining stock prices (Kroencke, 2022), which are expected to lead workers to *delay* retirement
  - Evidence from "dot-com" boom-bust is not supportive (Coile and Levine, 2006; Hurd et al., 2009); other studies find higher returns raise retirements for college grads (Bosworth and Burtless, 2010; Coile and Levine, 2011b)
  - Limited stockholdings among older households – nearly half (42%) have no stock assets and 70% have <$80K in 2016 (Parker and Fry, 2020)
- Housing market fluctuations
  - Recessions can be coincident with home price declines (Terrones et al., 2008), similarly expected to lead workers to *delay* retirement
  - 75% of older HH own homes and median assets are substantial ($115K in 2016; JCHS, 2018), little evidence that house price fluctuations affect retirement – may be because house equity spent late in life (Mayer, 2017)

Job Losses in Recent Recessions

Figure 3: Employment Relative to Pre-Recession Peak
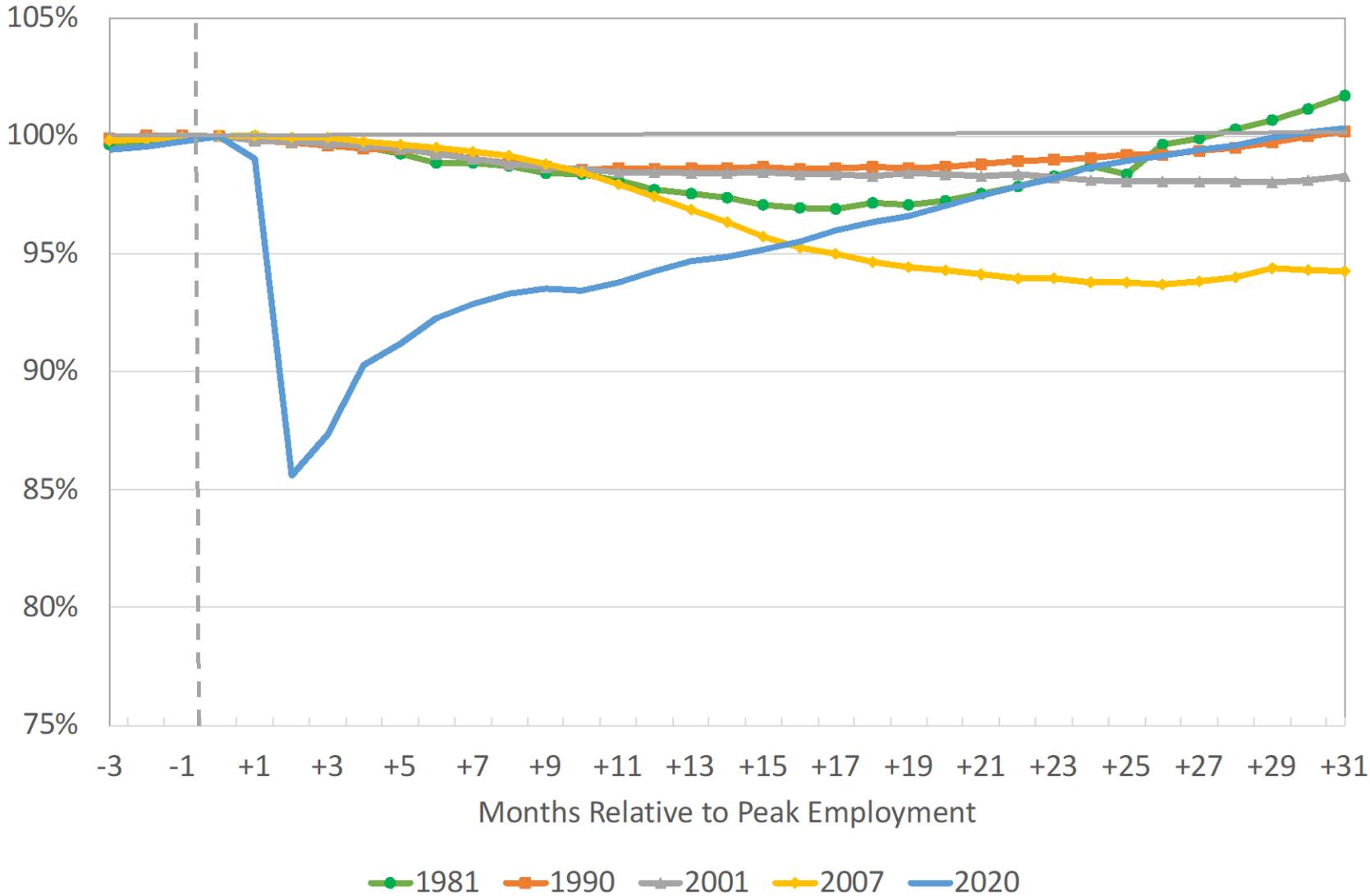
X-axis: Months Relative to Peak Employment

Legend: 1981, 1990, 2001, 2007, 2020

- Key features of GR
  - Large job losses (8.6 million jobs, increase in unemployment rate from 5% to 10%) and slow recovery
  - Large stock market losses (>50% drop in S&P 500 Index) and home price declines (average US home prices fell by over 20%; Weinberg, 2013)
- Potential effect of GR on retirement
  - Increase in retirement due to higher unemployment or decrease in retirement due to stock and housing market losses?

Changes in Employment during Great Recession

Figure 4: Absolute Change in Employment-to-Population Ratio (2007 Baseline)

Legend: 25-54, 55-64, 65-69, 70-74
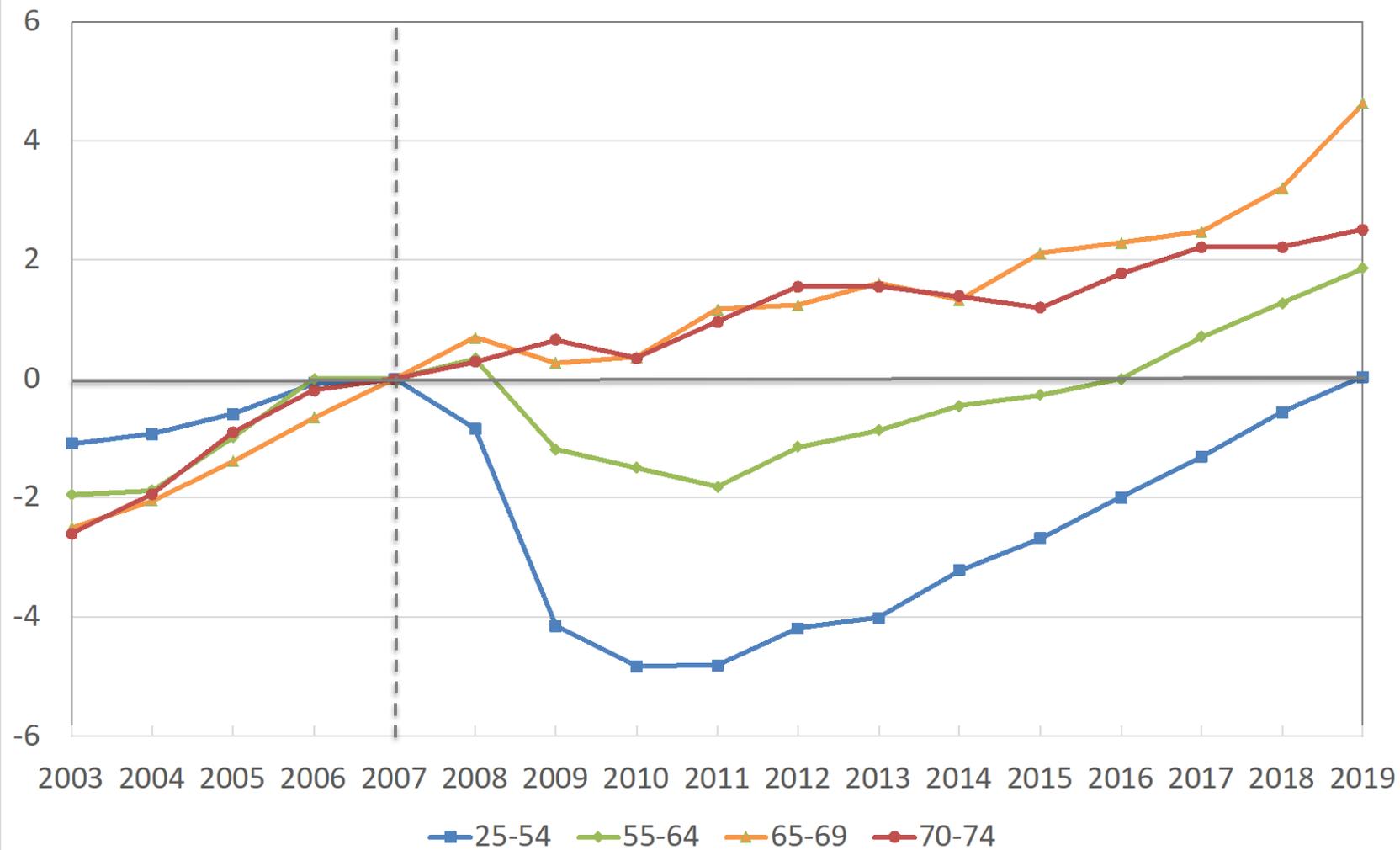
- GR led to a small increase in retirements
  - This is suggested by changes in employment-to-pop ratio
  - One projection: 380,000 workers retire early due to layoffs & 260,000 retire later due to stock losses, net increase of ~120,000 retirements over 5 years (relative to 2 million retirements/year; Coile and Levine, 2011b)
  - Another author concludes that "retirement decisions were influenced both by variations in household wealth and labor market conditions, but that the labor market was the more important determinant" (Bosworth, 2012)
- Welfare effects of losses vs. layoffs
  - Rising employment during GR reflect continued decline in *voluntary exit rates* among employed & worsening *reemployment rates* among unemployed – more laid off workers who found it harder to find a job (Burtless, 2016).
  - 380,000 who retired early (~4% of all retirees during this period) face risk of permanently lower retirement income and higher mortality

- Expect bigger retirements than in GR
  - Stock and housing market surges rather than declines – working in tandem with labor market
  - Unprecedented government assistance
  - Health concerns
  - BUT: shift to telework could make it easier to work longer – evidence of increase in disability employment (Ne'eman and Maestas, 2022)

Figure 5: Absolute Change in Employment-to-Population Ratio (February 2020 Baseline)

.Source: BLS series LNu02300060, LNU02300095, LNU02324938, LNU02324941
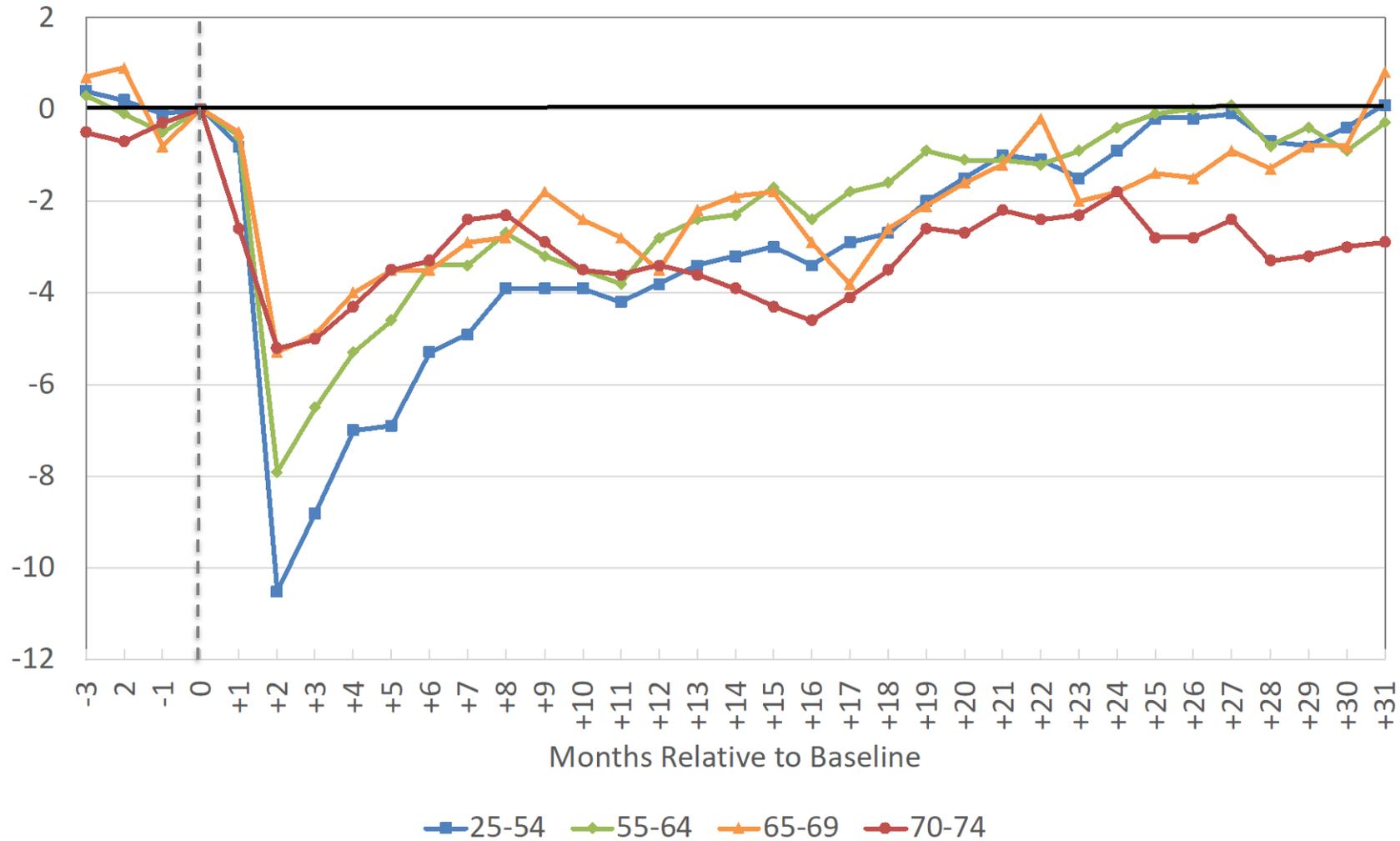
Figure 6: Relative Change in Employment-to-Population Ratio (February 2020 Baseline)

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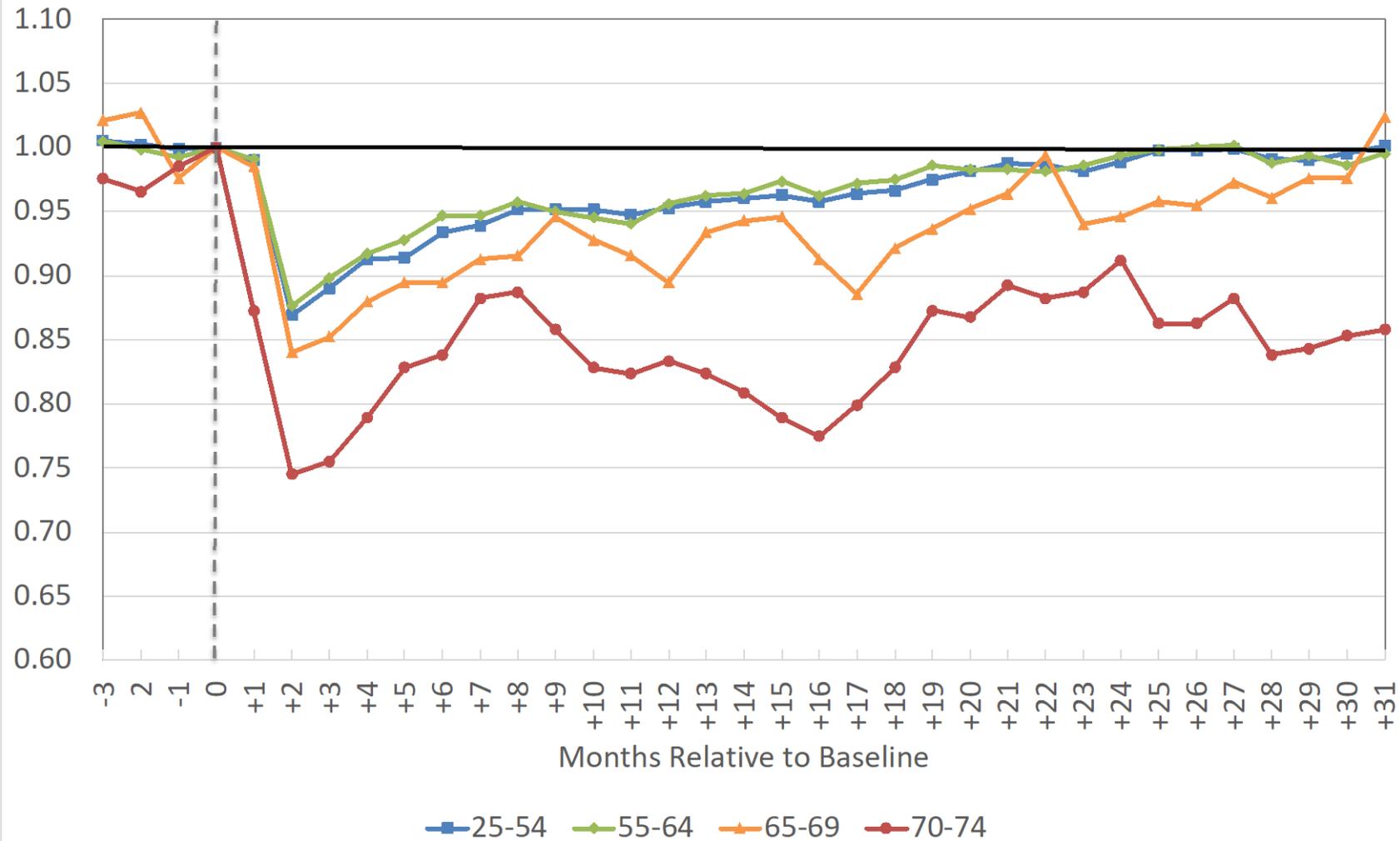
- Employment-to-population ratio back to pre-pandemic levels for all but age 70-74 group
- Decline in oldest group has consequences for labor force
  - Workers 70+ are ~3% of US workforce (National Academies, 2022), so losing ~15% of these workers is a loss of around 0.45% of US labor force
- Increase in retirements?
  - Back-of-envelope calculation suggests *could* be around 400,000, based on ~10% increase in average probability of retirement during vs. pre-pandemic

- Data from Current Population Survey (CPS)
  - Short panel: households interviewed for 4 months, out for 8 months, then interviewed for 4 more months
  - Select individuals working at 1st interview, examine transition to retirement over 15 months; retirement = first report of being out of the labor force
  - Using Jan 2017-Sept 2022 data, sample of ~600,000 person-month obs
- Other data sources (mostly state-level)
  - Monthly UE rates (BLS); S&P 500 Index values; quarterly housing index (Federal Housing Finance Agency)
  - Monthly COVID cases (NYT); Oxford COVID-19 government response index; UI maximum benefits/weeks
  - Occupation-level data on telework (Dingel and Neiman, 2020)

- In the empirical model, transition to retirement depends on:
  - Economic fluctuations: 1) unemployment rate; 2) 12-month change in housing index; 3) 12-month change in S&P 500 index interacted with indicator for being college graduate
  - COVID variables: COVID cases; COVID policy response; UI policies (UI bonus, maximum benefit/weeks), teleworkable job
  - Allow different effect of economic Xs/telework pre vs. pandemic ("after")
  - Individual characteristics (gender, race/ethnicity, education)
  - Age, state, year-month; interview occurring after gap

$$
\begin{aligned}
Retire_{iast} = \beta_0 &+ \beta_1 UnemploymentRate_{st} + \beta_2 After_t \times UnemploymentRate_{st} \\
&+ \beta_3 FHFAChg_{st} + \beta_4 After_t \times FHFAChg_{st} + \beta_5 SP500Chg_t \times College_i \\
&+ \beta_6 SP500Chg_t \times College_i \times After_t + \beta_5 COVIDPer100_{st} \\
&+ \beta_6 Teleworkable_i + \beta_7 After_t \times Teleworkable_i + \beta_8 COVIDPolicies_{st} \\
&+ \beta_9 X_i + Interview4\_5_i + \gamma_a + \gamma_s + \gamma_t + \epsilon_{iast}
\end{aligned}
$$

Empirical Analysis of Retirement Decisions during Pandemic

Table 1 : Retirement Regressions

	(1)	(2)	(3)
Unemployment Rate	0.0012*	0.00114*	0.0008
	(0.0007)	(0.0007)	(0.0007)
After X Unem Rate	-0.0011	-0.0010	-0.0007
	(0.0006)	(0.0006)	(0.0007)
College X S&P500 Change	0.0186***	0.0149**	0.0146**
	(0.0070)	(0.0070)	(0.0073)
After X College X S&P500Chg	-0.0156**	-0.0098	-0.0089
	(0.0063)	(0.0065)	(0.0066)
FHFA Change	-0.0310	-0.0310	-0.0230
	(0.0266)	(0.0266)	(0.0276)
After X FHFA Change	0.0139	0.0134	-0.0017
	(0.0236)	(0.0236)	(0.0252)
Mean of Dependent Variable	0.037	0.037	0.037
Observations	577,724	577,724	550,991
R-squared	0.021	0.022	0.022
Age/State/Year-Month	YES	YES	YES

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

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	(1)	(2)	(3)
COVID Cases per 100 Pop		-8.69e-05	-4.84e-05
		(6.78e-05)	(7.03e-05)
Government Response Index			-0.0002***
			(7.13e-05)
Teleworkable		-0.0046***	-0.0046***
		(0.0007)	(0.0007)
After X Teleworkable		-0.0040***	-0.0045***
		(0.0011)	(0.0012)
Mean of Dependent Variable	0.037	0.037	0.037
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Empirical Analysis of Retirement Decisions during Pandemic

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	(1)	(2)	(3)
UI Max Benefit			2.51e-06
			(1.61e-05)
After X UI Max Benefit			5.54e-06
			(3.91e-06)
UI Max Weeks			0.0002
			(0.0002)
After X UI Max Weeks			-0.0001
			(0.0002)
UI Bonus			1.72e-05***
			(5.88e-06)
Mean of Dependent Variable	0.037	0.037	0.037
Observations	577,724	577,724	550,991
R-squared	0.021	0.022	0.022
Age/State/Year-Month	YES	YES	YES

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Empirical Analysis of Retirement Decisions during Pandemic

Table 2: Retirement Regressions, by Age and Gender

VARIABLES	(1) Age 62+	(2) <Age 62	(3) Female	(4) Male
Unemployment Rate (x10)	0.0023*	-9.64e-05	0.0023**	-0.0002
	(0.0013)	(0.0008)	(0.0011)	(0.0010)
After X Unem Rate	-0.0024*	0.0004	-0.0021**	0.00026
	(0.0012)	(0.0007)	(0.0010)	(0.0009)
Government Response Index	-0.0002*	-0.0002**	-0.0002**	-0.0002*
	(0.0001)	(7.84e-05)	(0.0001)	(9.51e-05)
Teleworkable	-0.0062***	-0.0037***	-0.0031***	-0.0064***
	(0.0014)	(0.0008)	(0.0011)	(0.0010)
After X Teleworkable	-0.0065***	-0.0029**	-0.0055***	-0.0044***
	(0.0021)	(0.0012)	(0.0018)	(0.0016)
UI Bonus	2.17e-05**	1.24e-05*	3.25e-05***	1.13e-06
	(1.04e-05)	(6.49e-06)	(8.96e-06)	(7.82e-06)
Mean of Dependent Variable	0.055	0.023	0.041	0.034
Observations	236,644	314,347	258,023	292,968
R-squared	0.017	0.008	0.013	0.011
Age/State/Year-Month	YES	YES	YES	YES

- Economic fluctuations
  - Higher UE rate is associated with higher prob of retirement *before* the pandemic (consistent with past lit), but there is no such association *during* the pandemic
  - Effect of UE on retirement is *only* for workers 62+ (consistent) and for women
  - Higher stock market returns are associated with higher prob of retirement *before* but not *during* pandemic, but interpret with caution (imperfect strategy)
  - No effect of house price fluctuations (consistent)
- COVID factors
  - Local COVID cases do not affect retirement, but stronger local government response to pandemic is associated with *lower* probability of retirement
  - UI bonus payments are associated with *higher* retirement, but caution warranted
  - Workers who can telework are *less likely* to retire & this effect is *stronger* during the pandemic

Conclusions

- Return of emp-to-pop ratio to pre-pandemic level suggests effects of pandemic on retirement are now mostly in the past
- People *did* retire at a higher rate during vs. pre-pandemic, but why?
  - Were not more likely to do so in areas with more UE or COVID
  - Telework became more important – could be health concerns or that more widespread use (Bloom et al., 2021) makes this attribute more valuable
  - Factors that are harder to test empirically could still play a role – generalized fear of COVID, universal policies like stimulus payments, change in preferences
- Effects on well-being – different this time?
  - Tight labor market means displaced workers should not be having as much difficulty finding new work as during Great Recession
  - Participation effects are concentrated among those age 70-74 – they are already receiving Social Security and more often in part-time work
- Will working longer trend resume? Only time will tell!

Thank you!