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Keywords

retirement, unemployment, recession, pandemic

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Abstract

The COVID-19 pandemic disrupted the US labor market, leading to an unprecedented loss of 22 million jobs in March and April 2020. Evidence from past recessions indicates that economic downturns are typically associated with an increase in retirements. In this study, we revisit the relationship between recessions and retirement in the COVID-19 era, using data from the Current Population Survey (CPS) supplemented by other data on economic and COVID conditions. We find that higher unemployment is associated with an increase in the probability of transitioning from employment to being out of the labor force during the pre-pandemic period, consistent with previous studies. Surprisingly, however, retirement transitions during the pandemic have been insensitive to local labor market conditions. Our finding that the probability of retirement increased during the pandemic but that retirements are largely unrelated to local economic or COVID conditions points to a potential role for common national factors such as generalized health concerns, government policies, or stock market gains.

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The COVID-19 pandemic is a public health crisis resulting in one million deaths in the US and over six million deaths globally during its first two years. The pandemic impacted life in myriad ways, interrupting education, health care access, travel, social activities, and more. The economic and labor market disruptions have been particularly severe. In March and April 2020, US employment fell by over 22 million jobs, abruptly ending the longest period of employment expansion in US history. This 15 percent decline in employment dwarfs job losses in other recent economic downturns, including the 6 percent decline that occurred during the Great Recession of 2007-2009 (Bureau of Labor Statistics 2021a).

Older workers are unlikely to be immune from the pandemic's labor market effects, for reasons related to both labor demand and supply. Over the past several decades, the rates of job loss for older and younger workers have converged, reducing the historical advantage of age (Farber 2017). Older workers are well represented in occupations that experienced heavy job losses during the pandemic, such as the service sector—in 2019, one in five service sector workers was age 55 or above, a figure only slightly below older workers' share of the overall workforce (Bureau of Labor Statistics 2019). Age discrimination tends to increase and the effectiveness of age discrimination protections diminish during recessions (Dahl and Knepper 2020; Neumark and Button 2014). On the supply side, older workers may be concerned about the health risks of work during the pandemic, given that COVID mortality is eight times higher for individuals 55 to 64 than for individuals under age 54, and far higher still for those age 65 plus (Yanez et al. 2020). Most workers age 62 and above also have access to social security benefits, an alternative source of income unavailable to younger workers.

Past research suggests that labor market conditions are a key factor in retirement decisions. The probability of retirement increases with the local unemployment rate, particularly for workers who have reached the social security eligibility age (Coile and Levine 2007; Gorodnichenko et al. 2013; Marmora and Ritter 2015). A similar relationship between labor market conditions and retirement has been observed among workers in the UK and Sweden (Hallberg 2011; Disney et al. 2015). Earlier retirement induced by labor market downturns can have important long-term consequences for retiree well-being. Workers who experience a weak labor market as they near the traditional retirement age tend to claim social security benefits earlier and to have lower retirement income in their 70s (Coile and Levine 2011). Such workers also have lower survival rates at older ages, plausibly due to the lower levels of employment, health insurance coverage, and health care utilization that near-retirement-age workers experience in the wake of an economic downturn (Coile et al. 2014).

The Great Recession of 2008-9 may offer lessons as to the eventual effects of the COVID-19 pandemic on retirement. This recession resulted in a loss of over eight million jobs, which would be expected to increase retirements. Nevertheless, concurrent sharp declines in stock and housing prices reduced median wealth by 15 percent for households age 55 to 64 between 2007 and 2009 (Bricker et al. 2011), which could have led some workers to delay retirement (Goda et al. 2011; Helppie McFall 2011; Ondrich and Falevich 2016). Based on workers' sensitivity to fluctuations in labor, equity, and housing markets, Coile and Levine (2011) predict a small net increase in retirements, of about 120,000, due to the Great Recession. Bosworth (2012) confirmed that the labor market effect was the more important determinant of retirement decisions during that period. The long-term trend of increasing labor force participation for older men and women continued unabated during this period, indicating that any net effect of the Great Recession on retirement was small relative to the trend (Burtless 2016).

There are reasons to believe that the COVID-19 pandemic will result in a substantial increase in retirements, even though this did not take place during the Great Recession. First, health concerns, which were unique to this recession, may lead some workers to retire early. Second, stock and housing market prices have risen sharply during the pandemic, working in tandem with the labor market downturn to raise retirements rather than lower them. Third, the federal government provided unprecedented support in response to the COVID-19 recession, providing stimulus payments and supplementing and expanding eligibility for unemployment insurance benefits.

Perhaps as a result of these factors, labor force participation at older ages has fallen since the pandemic began, reversing a decades-long trend. Between the last quarter of 2019 and the last quarter of 2021, the labor force participation rate for men and women age 55 to 64 fell by 1.3 and 0.4 percentage points, respectively. At older ages, the change was even more dramatic, as participation fell by 1.4 percentage points for men and 1.2 percentage points for women, or 5.4 and 7.0 percent relative to pre-pandemic levels.[1] According to one estimate based on pre-pandemic trends, by August 2021, roughly 2.4 million people had retired earlier that they otherwise would have (Faria-e-Castro 2021).

This paper revisits the relationship between recessions and retirement in the COVID-19 era, using data from the Current Population Survey (CPS) from January 2017 through November 2021. To capture the effect of economic conditions and other COVID-related factors, we supplement the CPS data with unemployment rate data from the Bureau of Labor Statistics, data on COVID cases from the New York Times, and data on local government responses to the pandemic from the Oxford COVID-19 Government Response Tracker, all measured at the state level. Making use of the fact that the CPS follows individuals over a 16-month period, we estimate regression models relating the probability of transitioning from being employed to being out of the labor force between one CPS interview and the next to the local unemployment rate, level of COVID cases per capita, and level of government response (an index encompassing containment and closure measures, economic responses, health system responses, and vaccination policies). Our models include a measure of whether the individual was in an occupation that lends itself to telework, following Dingel and Neiman (2020), as well as demographic characteristics and state and time fixed effects.

We have several key findings. First, we show that higher unemployment rates were associated with an increased probability of retirement prior to the pandemic, in line with earlier studies. Perhaps surprisingly, however, this effect essentially disappeared during the pandemic, indicating that retirement transitions since March 2020 were largely insensitive to local labor market conditions. We find no effect of local COVID cases on retirement transitions, yet we do provide evidence that a stronger government response to the pandemic was associated with a reduced probability of retirement. We observe that workers able to telework retire later than other workers, and this effect intensified during the pandemic. All these findings are stronger for workers age 62 and above. Overall, our conclusion that the probability of retirement increased during the pandemic, while retirements were largely unrelated to local economic conditions or local COVID-related factors, points to a potential role for common national factors. These include generalized fear of COVID (unrelated to recent local COVID conditions), the impact of common policies like federal pandemic relief, or higher equity and housing market returns, though we offer no direct tests of these hypotheses.

In what follows, we provide a review of relevant literature and describe our data and empirical methods. Following a presentation of the results, we conclude with thoughts about the implications of our findings.

Previous Literature

A number of recent studies have explored the effect of the pandemic on older workers. Several analyses compare the pandemic's impact on older vs. younger workers, and these studies have tended to find larger declines in employment for older workers in relative (percent) terms, but not necessarily in absolute (percentage point) terms, given that employment rates at older ages are low. Bui et al. (2020) found employment declines of 19 percent for women age 65 plus and of 17 percent for men of this age in April 2020, compared to declines of 10 to 14 percent for younger groups. Lee et al. (2021) reported that, while absolute changes in employment were initially larger for younger workers (age 20 to 49) than for older workers (age 50 to 65), changes were largely similar across age groups by November 2020. Davis (2021) showed that the larger relative decline in employment for older workers during the pandemic was the reverse of the pattern seen during the Great Recession, and it was not explained by differences in industry or occupation.

Other analyses examined how work and retirement decisions of older individuals changed due to the pandemic. Using the Current Population Survey, Goda et al. (2021) found that employment during the first year of the pandemic was 5.7 percentage points (8.3%) lower for 50--61-year-olds, and 3.9 percentage points (10.7%) lower for 62-70-year-olds, relative to what would have been predicted pre-pandemic. For the older group, the decrease in employment was largely accounted for by more unemployment (50%) and more labor force exits to retirement (30%); for the younger group, unemployment and labor force exits for reasons other than retirement or disability accounted for similar shares (63% and 30%, respectively) of the decline. Perhaps surprisingly, the authors did not find a rise in social security retired worker benefit claiming, suggesting that many older workers leaving employment were not accessing this alternative source of income right away. Davis (2021) reported that part-time workers were responsible for nearly 70 percent of the increase in retirements, well above their share of the older workforce.

Several studies have compared the pandemic's effect on retirement by demographic group. Sanzenbacher (2021) reported that the tendency of lower-income workers to transition to retirement at higher rates than higher-income workers increased during both the Great Recession and the COVID-19 pandemic. Interestingly, among workers age 62-70 (but not those 50-61), higher-income workers retired at a much higher rate during the pandemic than they had during the Great Recession, suggesting a possible role for wealth shocks or health concerns. Davis et al. (2021) similarly found that there was a larger increase in the retirement rate for college-educated individuals age 65-79, relative to pre-pandemic predictions, than in the retirement rate for non-college-educated individuals in this age group. By contrast, for individuals age 55-64, the retirement rate fell for the college-educated but rose for the non-college-educated. Among older workers (age 65-79), employment was slower to rebound for women than men and (after an initially smaller drop) for white than for Black or Hispanic workers (Davis 2021).

Relatively few analyses explore the reasons for the increase in retirements during the pandemic. In a paper with similarities to our analysis, Quinby et al. (2021) used CPS data to explore how retirement transitions were affected by local economic and COVID conditions. Both studies explore transitions out of employment, though Quinby et al. (2021) focused on a single transition per worker over a one-year period, while our analysis (described below) examines monthly transitions. Our study uses data through November 2021, while Quinby et al. (2021) used data through December 2020. A final difference is that we include a measure of state governments' response to the pandemic. A second relevant study is McEntarfer (forthcoming), who used the US Census Bureau's Longitudinal Employer-Household Dynamics data to examine quarterly flows between full-time work, partial retirement, and full retirement (defined based on earnings) between 2000 and 2021. We compare our results to those of these two studies below.

While we do not examine the effects of pandemic-induced early retirement on well-being, this is a high priority for future research. Abrams et al. (2022) showed that COVID-related employment transitions were associated with decreases in mental health in the short term. Several other essays have argued that the pandemic highlighted the need for a retirement system more resilient to labor market and other shocks (Freeman 2022; Mitchell 2020).

Data and Methods

The primary data source for the analysis is the monthly Current Population Survey, the leading source of labor statistics in the US. In a typical month, about 50,000 households, or 110,000 to 120,000 respondents, are surveyed.[2] Households are interviewed for four consecutive months, then not interviewed for eight months, then interviewed for an additional four months, for a total of eight interviews over 16 months. Interviews are conducted during a 'reference week' that contains the 12th of each month, and a new group of households ('rotation group') enters the survey each month.

We use the panel nature of the CPS to study monthly employment transitions.[3] We focus on individuals between age 55-74. We condition the sample on being employed at the first interview month and define retirement as occurring when we first observe the worker transition from being employed to being out of the labor force (if such a transition occurs during the sample period). Individuals contribute one person-month observation to the sample for each interview month (second through eighth interview) until they either exit the survey or report being out of the labor force, for a maximum of seven observations. In the analysis below, we cluster standard errors by individual. We use data from January 2017 through November 2021 in the analysis. As the pandemic's effects on the labor market were first observed in April 2020, this period includes employment transitions that occurred both before and during the pandemic.

We focus on exits from the labor force rather than exits from employment, so as to focus on the worker's decision to stop working or looking for work rather than on transitions from employment to unemployment that may reflect a job loss.[4] Our approach captures retirements that include a spell of unemployment if the worker ultimately exits the labor force during the sample period. One limitation of our definition is that some of the retirement transitions we observe may not be permanent. We do not impose the requirement that a worker be out of the labor force for some specified amount of time to be considered retired, since doing so would limit the sample to retirements that occur early enough to allow for a follow-up period. Similarly, we do not explicitly analyze labor force re-entry, due to the short nature of the CPS panel. Other retirement definitions that are sometimes used in the literature rely on earnings falling below a threshold, the receipt of social security benefits or other retirement income, or the worker indicating that she considers herself to be retired. These definitions are not well suited to an analysis of the CPS because the necessary information either is not available or is collected only annually.

We supplement the CPS data with information from several other sources. Seasonally-adjusted state-level monthly unemployment data were obtained from the Bureau of Labor Statistics (BLS),[5] and state-level COVID-19 cases are from the New York Times (NYT), collected from state and local health agencies. State government responses to the pandemic are from the Oxford

COVID-19 Government Response Tracker (Hale et al. 2021). The composite index variable we use (measured on a 100-point scale, where higher values correspond to more stringent actions) reflects government action along four dimensions: (1) containment and closure (e.g., stay at home requirements, school closings); (2) economic response (e.g., debt relief, income support); (3) health systems (e.g., public information campaign, facial coverings); and (4) vaccine policies (e.g., eligibility, availability).

Our analysis lags the economic, COVID, and government response variables by one month. For unemployment, for example, we match the June 2020 unemployment rate, measured by the BLS using June 2020 CPS survey data, to observations reflecting employment transitions made between the June and July 2020 surveys. For COVID-19 cases, we calculate the total number of new cases per 100 population between May 12 and June 11 (reference dates for the CPS surveys) and match this to June-to-July employment transitions. We similarly lag the government response tracker by one month. To address the eight-month gap between the fourth and fifth interview month, we use the averages of the monthly unemployment rates, COVID cases, and tracker values in the eight months between the interviews (lagged one month as described above).[6]

To address the possibility that peoples' ability to work remotely could have affected employment transitions during the pandemic,[7] we make use of occupation-level data from Dingel and Neiman (2020). These authors use the Occupation Information Network (O*NET), a survey of the requirements and characteristics of nearly 1,000 occupations in the US economy, to classify occupations as teleworkable or not teleworkable based on answers to questions about job characteristics, such as whether the job involves the use of email, entails working outside or significant walking, or requires the wearing of protective equipment, among others. We merge their measure with the CPS data, using the worker's occupation at the first interview.[8]

The empirical analysis conditions on employment at the first CPS interview so that we examine monthly transitions from employment to being out of the labor force. We estimate models of the following form:

$$Retire_{iast} = \beta_0 + \beta_1 UnemploymentRate_{st-1} + \beta_2 After_t \times UnemploymentRate_{st-1} + \beta_3 COVIDPer100_{st-1} + \beta_4 GovernmentIndex_{st-1} + \beta_5 Teleworkable_i + \beta_6 After_t \times Teleworkable_i + \beta_7 X_i + Interview4\_5_i + \gamma_a + \gamma_s + \gamma_t + \epsilon_{iast}$$

where $Retire_{iast}$ is a dummy variable equal to one if individual *i* of age *a* living in state *s* at time *t* transitions from employment to being out of the labor force, *UnemploymentRate* is the unemployment rate (lagged), *After* is a dummy variable equal to one for April 2020 and later months, *COVIDPer100* is the total number of COVID-19 cases per 100 population (lagged), *GovernmentIndex* is the value of the government response index (on a 0-100 scale, lagged), *Teleworkable* is a value between zero and one that corresponds to the probability that the individual can work remotely based on his or her occupation, and *X* is a vector of characteristics including race, Hispanic ethnicity, gender, and education. *UnemploymentRate* and *Teleworkable* are each interacted with *After* to allow the effect of these factors to differ during the pandemic versus pre-pandemic. *Interview4_5* is a dummy variable equal to one if the transition is between the fourth and fifth CPS interviews; it is included to account for the higher probability of retirement during the eight-month gap between the fourth and fifth interview, as opposed to the one-month gap between other interviews. Age, state, and year-month fixed effects are included as γ_a, γ_s, and γ_t, respectively. State fixed effects capture time-invariant differences across states in retirement behavior and year-month fixed effects capture time effects that are common across states, leaving the *UnemploymentRate* coefficient to measure the effect of bigger or smaller than average changes in the unemployment rate over time in particular states, a standard approach in the literature.

Summary statistics for the data are reported in Table 1. The average probability of retirement between one CPS interview and the next is 3.6 percent during the pre-pandemic period, and 4.0 percent during the pandemic, or about 10 percent higher than the pre-pandemic value.[9] The average unemployment rate is 3.8 percent pre-pandemic and 6.9 percent during the pandemic. Average total monthly COVID-19 cases are 0.7 per 100 and the average value of the government index during the pandemic is 46 out of 100.

Table 1 here

Results

Our primary regression results are presented in Table 2. The coefficient on the unemployment rate reflects the baseline effect of state-level economic conditions on individuals' transitions out of employment in the pre-pandemic period. The coefficient is positive and statistically significant, consistent with previous studies that have found that the probability of retirement is cyclical, increasing with local unemployment. The magnitude of the coefficient suggests that a 1 percentage point increase in the unemployment rate is associated with a 0.0018 percentage point increase in the probability of retirement, or a roughly 5 percent increase relative to the mean retirement rate (of 0.036 percent).

Table 2 here

The coefficient on *After* X *UnemploymentRate* reflects the additional effect of unemployment on employment transitions during the pandemic. Surprisingly, this coefficient is negative, statistically significant, and nearly equal in magnitude to the main unemployment rate effect. This implies that the net effect of the local unemployment rate on people's employment transitions during the pandemic was near zero, indicating that state-level labor market conditions were not an important determinant of pandemic-era retirement decisions.

The second specification on Table 2 adds the number of monthly COVID cases per 100 population (lagged). Its effect is negative but statistically insignificant, which is the opposite of what would be expected if people retired in response to health concerns. In the third column, we add the government response index. The inclusion of this variable reduces the magnitude of the *After* X *Unemployment Rate* coefficient by about one third and renders it statistically insignificant, as a result of the collinearity between the two variables. The government response index coefficient itself is negative and statistically significant. Taken at face value, this coefficient suggests that people were less likely to retire if the state government had a more assertive response to the pandemic, potentially because workers felt safer if the state took actions such as imposing mask mandates or school closures. The magnitude of the coefficient implies that a ten-point increase in the index increased the probability of making an employment transition by 0.0018 percentage points, about the same size effect as a one percentage point increase in unemployment in the pre-pandemic period. The model includes state and year-month fixed effects, so the effect of the index is identified from the large differences across states in how many actions were taken, how quickly actions were discontinued, and whether actions were reinstituted later in the pandemic.

The fourth specification in Table 2 adds a measure of whether the worker's job was teleworkable. Unlike the unemployment rate, COVID cases, and government response index variables, which varied only by state and month, this factor varied across individuals. The main *Teleworkable* coefficient measures the effect of having a job with this attribute in the pre-pandemic period. The coefficient is negative and statistically significant, indicating that workers with teleworkable jobs tended to retire later than other workers. This is the expected sign, given that jobs that allow individuals to work from home tend to require less physical activity and may have other desirable characteristics that encourage workers to work longer. The coefficient of -0.005 indicates that having a teleworkable job reduces the probability of retirement by about 15 percent relative to the mean retirement rate (0.036). The *After* X *Teleworkable* coefficient also has a negative and significant effect, of nearly the same size as the main teleworkable coefficient. This indicates that the tendency of those with teleworkable jobs to retire later was nearly twice as strong during the pandemic as it was pre-pandemic.

Other coefficients in the table are consistent with expectations and previous research: the probability of retirement is higher for female, non-white, and Hispanic workers, and it decreases with education. The *Interview4_5* coefficient is large and highly significant, reflecting the higher probability of transitioning out of employment during the eight months between these two surveys as compared to the transition probability between surveys in adjacent months.

To better illustrate the increase in the monthly probability of transitioning from being employed to being out of the labor force that occurred during the pandemic, we plot the year-month fixed effects in Figure 1. These coefficients show the estimated difference in the probability of retiring in a given month (relative to the probability in the omitted month) after accounting for other factors that may vary over time, like the unemployment rate. Values during the pandemic period are on the order of 0.010 to 0.015 higher than values in the pre-pandemic period, indicating that the probability of a monthly transition—if other factors are held constant—would be about one-third higher during the pandemic, relative to the pre-pandemic transition probability (0.036).

Figure 1 here

Overall, our results are broadly consistent with the previous literature. For instance, our estimates of the effect of unemployment on retirement in the pre-pandemic period is roughly three times the size of Coile and Levine (2007)'s estimate, evaluated relative to the mean, though their analysis used data from an earlier period and focused on retirement transitions over a one-year period. Quinby et al. (2021) estimated the effect of the minimum employment rate over the past 12 months on retirement transitions and found that a higher employment rate was associated with a decreased probability of retirement pre-pandemic, consistent with our findings; due to a lack of statistical precision, their study was not able to determine whether this effect reversed during the pandemic period, as we found. McEntarfer (forthcoming) found that transitions from full-time work to partial or full retirement increase with the unemployment rate, and used these results to estimate that almost five percent of workers over age 55 may have initiated retirement sooner than planned during the pandemic period. Her approach differed from ours in several respects. First, she did not explore whether the relationship between unemployment and retirement weakened during the pandemic, but rather used estimates from the full sample period (2000-2021) for her projections. Second, some unemployed individuals whom we treated as being in the labor force (and not retired) would be classified as retired in her analysis, based on a decline in their quarterly earnings. As already noted, we observe an increase in the mean retirement rate during the pandemic and an even larger increase in the year-month fixed effects (Figure 1), consistent with a substantial increase in retirements during the pandemic. A finding that is unique to our analysis and not contradicted by any other study is that retirement transitions were less responsive to local economic conditions during the pandemic than they had been prior to the pandemic.

Table 3 repeats the main regression analysis, now estimating models separately for those below and above age 62, the age of social security eligibility, and separately for females and males. For brevity, we only report results from the full model (the final specification in Table 2). Looking first at the main (pre-pandemic) unemployment coefficient, we see that the coefficient is six times as large for the age 62 and above group as for the below age 62 group: a 1 percentage point increase in the unemployment rate raised the probability of retirement by 0.0033 percentage points for the older group, vs. by 0.0006 points for the younger group. The effect is statistically significant only for the older group. While the older group has a higher probability of retirement, the effect of unemployment remains larger for this group, even when measured relative to the group-specific mean retirement rate. This is consistent with past findings that the sensitivity of retirement transitions to labor market conditions begins as workers near age 62 (Coile and Levine 2007; Gorodnichenko et al. 2013). The *After* X *Unemployment* coefficient is similarly much larger in the older group, so that the net effect of unemployment during the pandemic on employment transitions was near zero for this group. For the younger group, the interaction coefficient is not statistically significant. The coefficient on the government response index is essentially identical for the two groups. In the case of the *Teleworkable* variable and its interaction with the *After* variable, all coefficients are statistically significant for both age groups. The magnitude of the telework effect is larger for the older group in absolute terms, but not relative to their higher mean probability of retirement – during the pandemic, workers age 62 plus who could telework were 1.2 percentage points (or 22 percent) less likely to retire than those who could not, versus 0.7 percentage points (or 31 percent) for workers age 55-61.

Table 3 here

The final two columns in Table 3 compare results by gender. Employment transitions in the pre-pandemic period were more strongly influenced by labor market conditions for women as compared to men, while the effects of the government tracker were similar for both genders. The *Teleworkable* variable was more important for men in the pre-pandemic period, but the additional effect of this factor during the pandemic was similar for both genders and highly statistically significant. The year-month fixed effects from the analyses by age and gender (not shown) reflect a bigger increase in retirement during the pandemic for the older group and for women, the groups more responsive to labor market conditions in the pre-pandemic. Since these coefficients capture residual time trends in retirement behavior, they imply that retirement increased more during the pandemic for older workers and women for reasons other than changes in labor market or COVID conditions.

Finally, in Table 4, we explore whether the effect of labor market conditions, COVID cases, and the government response index varied with education. These results are less precise due to smaller sample sizes, but the pattern of coefficients is consistent with a larger effect of labor market conditions on transitions into retirement for less educated workers in the pre-pandemic period, and with a roughly zero effect of labor market conditions on retirement during the pandemic for all education groups. There is no clear pattern by education in the COVID or government response coefficients. With respect to jobs being teleworkable, this factor is an important determinant of retirement pre-pandemic for all education groups, with statistically significant coefficients for all but the high school dropout group. The *After* X *Teleworkable* coefficient is also sizeable for all groups and statistically significant for all but the college group, indicating the importance of this factor for all workers. Overall, while the estimates are not sufficiently precise to draw firm conclusions about differences by education, they are suggestive of stronger effects of labor market conditions for less educated groups in the pre-pandemic period, and similar results across education groups for the other factors.

Table 4 here

Conclusions

Our results present something of a puzzle. On the one hand, we find that the probability of making a transition from being employed to being out of the labor force rose during the pandemic, consistent with evidence from other studies that retirement rates increased during the pandemic. On the other hand, we fail to find the expected positive relationship between the unemployment rate and the probability of retirement during the pandemic, although we do observe a positive relationship in the pre-pandemic period, as had been found in previous studies.

In other words, while unemployment rates for older workers reached unprecedented levels during the pandemic, there is no evidence that older workers were more likely to retire in states where the rise in unemployment was sharpest. Nor can these results be explained by a few months of exceptionally high unemployment, as dropping the peak unemployment months just after the start of the pandemic from our analysis does not change results substantively.

Taken together, we conclude that retirements did increase during the pandemic, but this happened for reasons other than local economic or local COVID conditions. This points to a potential role for common national factors, such as generalized fear of COVID (unrelated to recent local COVID conditions), or the impact of policies affecting workers everywhere, like federal pandemic relief or expanded eligibility for unemployment insurance benefits. Alternatively, the increase in retirement could reflect wealth effects of the booming stock and housing markets. Additional research will be needed to better determine why retirements increased during the pandemic, and whether the early retirements that did occur will have negative long-term consequences for retiree well-being, as has been the case with past recessions.

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Endnotes

[1] Authors' calculations from Bureau of Labor Statistics data, series LNU01300190, LNU01300199, LNU01300347, and LNU01300354

[2] From May to August 2020, the sample size was about 90,000 to 100,000 respondents per month. Many interviews were conducted via phone during the pandemic; as a result, it was more difficult to reach respondents and thus the response rate was lower (Heffetz and Reeves 2021).

[3] We track individuals using CPSIDP, a numeric variable that identifies a person across different CPS survey months. To verify that CPSIPD uniquely identifies individuals, we check linkages to ensure that sex, race, and age are consistent over time. We find that approximately 1.5 percent of the sample has erroneous links and drop these observations.

[4] There was some misclassification of workers' employment status in the CPS early in the pandemic, as some workers who should have been classified as being in 'unemployment on temporary layoff' were classified as being in 'employment but not at work' (Bureau of Labor Statistics 2021b). As we focus on transitions from employment to being out of the labor force, this misclassification issue is not a major concern for this analysis.

[5] We focus on state-level unemployment rather than county-level because county-level geographic identifiers are available for only approximately 45 percent of CPS households.

[6] We also test the robustness of our results to dropping the fifth interview month and find qualitatively similar results.

[7] Interestingly, older individuals were about 5 percentage points more likely to be continuing to commute to work during the pandemic, compared to younger workers. Older workers were less likely to switch to remote work during the pandemic, in part because they were more likely to work remotely pre-pandemic (Brynjolfsson et al. 2020).

[8] We are able to match more than 98 percent of workers in the CPS to the Dingel and Neiman (2020) data.

[9] The mean monthly retirement rate excluding retirements in the 5th interview month (which occur over an eight-month period) during the pandemic period is 3.2 percent rather than 4.0 percent.

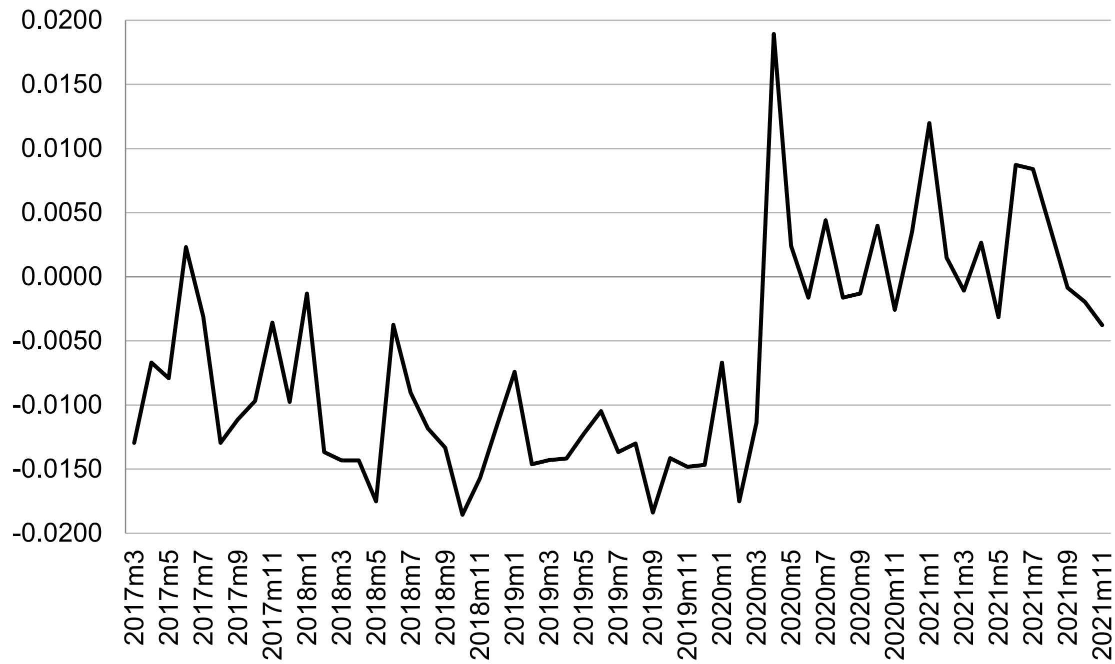

Figure 1: Monthly Retirement Probability, Relative to Reference Month

Note: Coefficients are year-month fixed effects from the estimated retirement regression shown in Table 2, specification 4.

Source: Authors' calculations.

Table 1. Summary Statistics

	(1) Pre-Pandemic		(2) Pandemic	
	Mean	Std. Deviation	Mean	Std. Deviation
Retire	0.036	0.185	0.040	0.196
Unemployment rate	3.798	0.794	6.872	3.142
COVID-19 cases per 100	0.000	0.000	0.685	0.732
Government response index	0.049	0.398	46.180	15.195
Teleworkable	0.433	0.466	0.450	0.467
Female	0.469	0.499	0.467	0.499
White	0.860	0.347	0.858	0.349
Hispanic	0.078	0.268	0.077	0.266
High school graduate	0.279	0.449	0.269	0.444
Some college but no degree	0.277	0.448	0.278	0.448
College degree or more	0.384	0.486	0.402	0.490
Interview month 4-5	0.117	0.322	0.140	0.347
N	307,665		165,144	

Notes: The table shows the summary statistics of the sample. The first two columns are the means and standard deviations of variables before the pandemic began in April 2020. The last two columns are the means and the standard deviations of variables after the pandemic began. The sample starts in February 2017 and ends in November 2021.

Source: Authors' calculations.

Table 2. Retirement Regressions

	(1)	(2)	(3)	(4)
Unemployment rate (x10)	0.018**	0.018**	0.018**	0.018**
	(0.008)	(0.008)	(0.008)	(0.008)
After × Unemployment rate (x10)	-0.015**	-0.014**	-0.010	-0.010
	(0.007)	(0.007)	(0.008)	(0.008)
COVID cases (x100)		-0.094	-0.099	-0.100
		(0.112)	(0.112)	(0.112)
Government index (x100)			-0.018***	-0.017***
			(0.006)	(0.006)
Teleworkable				-0.005***
				(0.001)
After × Teleworkable				-0.004***
				(0.001)
Female	0.008***	0.008***	0.008***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
White	-0.007***	-0.007***	-0.007***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)
Hispanic	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
High school graduate	-0.013***	-0.013***	-0.013***	-0.012***
	(0.002)	(0.002)	(0.002)	(0.002)
Some college but no degree	-0.018***	-0.018***	-0.018***	-0.016***
	(0.002)	(0.002)	(0.002)	(0.002)
College degree or more	-0.020***	-0.020***	-0.020***	-0.017***
	(0.002)	(0.002)	(0.002)	(0.002)
Interview month 4-5	0.055***	0.055***	0.055***	0.055***
	(0.001)	(0.001)	(0.001)	(0.001)
Age fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes	Yes

Mean of dep. variable	0.037	0.037	0.037	0.037
Observations	472,809	472,809	472,809	472,809

Notes: The table uses a linear probability model with full sample data. For each column, the dependent variable is a retirement dummy, defined as conditional on being employed when first entering the survey, the first time an older worker exits the labor force. The Unemployment Rate coefficient shows the effect of a 10-point change; the COVID cases coefficient shows the effect of an increase of 100 cases (per 100 population); the Government Index coefficient shows the effect of a 100-point change. Standard errors are in parentheses. Significance levels are $^{*}\ p < 0.10$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Source: Authors' calculations.

Table 3. Retirement Regressions, by Age and Gender

	(1) Above Age 62	(2) Below Age 62	(3) Female	(4) Male
Unemployment rate (x10)	0.033**	0.006	0.031***	0.006
	(0.014)	(0.009)	(0.012)	(0.011)
After × Unemployment rate (x10)	-0.028**	0.005	-0.019	-0.002
	(0.014)	(0.008)	(0.011)	(0.010)
COVID-19 cases (x100)	-0.071	-0.128	-0.231	0.022
	(0.200)	(0.119)	(0.171)	(0.148)
Government response index (x100)	-0.017	-0.017**	-0.018*	-0.016*
	(0.011)	(0.007)	(0.010)	(0.008)
Teleworkable	-0.007***	-0.004***	-0.004***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)
After × Teleworkable	-0.006**	-0.003**	-0.005**	-0.004**
	(0.002)	(0.001)	(0.002)	(0.002)
Female	0.010***	0.008***		
	(0.001)	(0.001)		
White	-0.006***	-0.006***	-0.003***	-0.009***
	(0.002)	(0.001)	(0.001)	(0.001)
Hispanic	0.002	0.004***	0.009***	-0.001
	(0.002)	(0.001)	(0.002)	(0.001)
High school graduate	-0.015***	-0.010***	-0.015***	-0.011***
	(0.003)	(0.002)	(0.003)	(0.002)
Some college but no degree	-0.021***	-0.012***	-0.019***	-0.014***
	(0.003)	(0.002)	(0.003)	(0.002)
College degree or more	-0.022***	-0.014***	-0.019***	-0.017***
	(0.003)	(0.002)	(0.003)	(0.002)
Interview month 4-5	0.080***	0.033***	0.061***	0.050***
	(0.002)	(0.001)	(0.002)	(0.002)
Age fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes	Yes

Mean of dep. variable	0.055	0.023	0.041	0.034
Observations	205,825	266,984	221,463	251,346

Notes: The table uses a linear probability model. The dependent variable is a retirement dummy, defined as conditional on being employed when first entering the survey, the first time an older worker exits the labor force. The Unemployment Rate coefficient shows the effect of a 10-point change; the COVID cases coefficient shows the effect of an increase of 100 cases (per 100 population); the Government Index coefficient shows the effect of a 100-point change. Column (1) restricts the regression to only older workers above age 62. Column (2) only includes observations below age 62. Column (3) and column (4) are regression results separately on female older workers and male older workers. Standard errors are in parentheses. Significance levels are * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Authors' calculations.

Table 4. Retirement Regressions, by Education

	(1) HS Less	(2) HS Grad	(3) Some College	(4) Above College
Unemployment rate (x10)	0.044	0.021	0.023	0.008
	(0.043)	(0.016)	(0.015)	(0.012)
After × Unemployment rate (x10)	-0.029	-0.011	-0.018	0.001
	(0.042)	(0.015)	(0.014)	(0.011)
COVID-19 cases (x100)	0.598	-0.460**	-0.184	0.127
	(0.583)	(0.234)	(0.204)	(0.168)
Government response index (x100)	0.018	-0.018	-0.031***	-0.013
	(0.035)	(0.013)	(0.012)	(0.010)
Teleworkable	0.005	-0.006***	-0.007***	-0.003***
	(0.006)	(0.002)	(0.001)	(0.001)
After × Teleworkable	-0.022**	-0.005*	-0.004*	-0.003
	(0.011)	(0.003)	(0.002)	(0.002)
Female	0.014***	0.008***	0.007***	0.011***
	(0.003)	(0.001)	(0.001)	(0.001)
White	-0.006	-0.009***	-0.008***	-0.002
	(0.004)	(0.002)	(0.002)	(0.001)
Hispanic	0.001	0.004*	0.003	0.002
	(0.004)	(0.002)	(0.002)	(0.002)
Interview month 4-5	0.061***	0.060***	0.056***	0.050***
	(0.006)	(0.002)	(0.002)	(0.002)
Age fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes	Yes
Mean of dep. variable	0.054	0.039	0.036	0.034
Observations	26,591	130,388	131,171	184,659

Notes: The table uses a linear probability model. The dependent variable is a retirement dummy, defined as conditional on being employed when first entering the survey, the first time an older worker exits the labor force. The Unemployment Rate coefficient shows the effect of a 10-point change; the COVID cases coefficient shows the effect of an increase of 100 cases (per 100 population); the Government Index coefficient shows the effect of a 100-point change. Column (1) restricts the regression to only older workers who are high school dropouts. Column (2) only includes older workers who are high school graduates. Column (3) has estimated coefficients for older workers who have some college experience but no degree. Column (4) has older workers who have college degrees or above. Standard errors are in parentheses. Significance levels are * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Authors' calculations.