Economics Letters 203 (2021) 109853

Contents lists available at ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/ecolet

How did European retirees respond to the COVID-19 pandemic?

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ARTICLE INFO

Article history:
Received 11 January 2021
Received in revised form 8 April 2021
Accepted 10 April 2021
Available online 13 April 2021

JEL classification:
I12
J14
J26

Keywords:
COVID-19
Retirement
SHARE

ABSTRACT

We investigate the role of retirement on the adoption of preventive behaviours and on mental health during the first wave of the pandemic. We address the endogeneity of the timing of retirement using variation in early retirement and old-age pension eligibility. We find that those who retired earlier responded to the pandemic by limiting their mobility more, and by adopting stricter preventive behaviours in public. These limitations affected the mental health of singles in retirement.

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1. Introduction

We investigate the role of retirement on the adoption of preventive behaviours and on mental health during the first wave of the COVID-19 pandemic.

Compared to workers of similar age, retirees can isolate themselves better because they do not need to leave their home for work-related purposes. Retirees may also become warier of health risks: several papers (see e.g. (Celidoni et al., 2017; Heller-Sahlgren, 2017; Mazzona and Peracchi, 2017; Bertoni et al., 2018)) have used country-specific, time-varying public pension eligibility rules to estimate a negative causal effect of early retirement on physical and mental health at later ages.

We use data from the Survey of Health Ageing and Retirement in Europe (SHARE) to assess if subjects who retired earlier were more likely to limit mobility and to adopt preventive behaviours in public for any given age. We find that this is the case. We also assess whether this higher degree of social isolation made them suffer from worse mental health due to the pandemic, but find limited evidence of this.

2. Data

2.1. Data sources and sample selection

We draw our data from SHARE,[1] a longitudinal dataset that collects face-to-face harmonized information about health and socio-economic status of community-dwelling Europeans and Israelis aged 50+. In March 2020, due to the outbreak of COVID-19, the planned data collection for the eighth wave was suspended in all participating countries and in June–July 2020 a new telephone administered survey collected data on the health-related and socio-economic impact of COVID-19 among elderly individuals.

We combine data from the COVID-19 survey with the information from previous SHARE waves on socio-demographic characteristics, health status and employment histories, as well as country and time-specific eligibility rules for early retirement and old-age pensions. We focus on individuals residing in 19 countries that took part in the SHARE-COVID survey and for whom we were able to reconstruct information on pension eligibility ages. Our final sample includes 31,882 individuals aged between 55 and 90. We start at 55 because all individuals aged below 55 in our data are not eligible to retire, and stop at 90 to avoid severe survival bias. Our reconstruction of pension eligibility rules concerns the evolution of early retirement as well as old-age pension eligibility ages over the last four decades. Details are in the Appendix.

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[1] Scherpenzeel et al. (2020) provides details on the switch from CAPI to CATI.

https://doi.org/10.1016/j.econlet.2021.109853
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Appendix Table B.1 reports descriptive statistics for the full sample and separately for individuals below and above age 67. While up to age 66 we observe variation in pension eligibility status conditional on age, from age 67 onwards everyone is eligible to retire, but there is considerable heterogeneity in time since retirement eligibility for any given age. As a result, we focus on the former sub-sample to study the short-term effects of retirement status, and on the latter to estimate the long-term effects of the time spent in retirement given age.

2.2. Measuring preventive behaviours and mental health

The following questions in the SHARE COVID-19 questionnaire investigate preventive behaviours during the pandemic:

1 Have you ever left home during the outbreak?

If respondents answer positively, a series of follow-up questions investigate how often they carried out the following activities:

2 Going shopping;
3 Going out for a walk;
4 Meeting more than 5 people outside the household;
5 Visiting other family member;
6 Wearing a face mask in public;
7 Keeping distance from others in public.

In analysing the data, we recode questions 2–7 in such a way that "never left home" appears as an independent answer option, and discard question 1. Respondents also report whether they:

8 Washed hands more than usual;
9 Used hand sanitizer more than usual;
10 Covered coughs and sneezes more than usual.

We reduce the dimensionality of the data by applying principal component analysis (PCA). Since answers were on discrete or ordinal scales, we use polychoric PCA. PCA is carried out separately in each sub-sample, but results are consistent. Two components have eigenvalues larger than one and explain roughly 70 percent of the total variance. Questions 2–7 load on the first principal component, while questions 8–10 load on the second one.

Mental health is assessed by asking respondents whether they:

1. Felt nervous, anxious, or on edge in the last month;
2. Felt sad or depressed in the last month;
3. Had trouble sleeping recently;
4. Felt lonely.

In case of a positive answer, the respondent reported if the problem was more so, less so, or about the same as before the outbreak of COVID-19. We applied PCA and obtained a single component with eigenvalue above 1 that explains 65 percent of the total variance. For both preventive behaviours and mental health, we standardize the resulting scores to have zero mean and unit standard deviation (SD) in each sub-sample. The signs of the scores are such that a higher value indicates higher adoption of preventive behaviours and worse mental health. Descriptive statistics for each item are reported in Appendix Tables B.2 and B.3.

3. Empirical strategy

We first focus on the sub-sample of individuals aged 55–66, for whom we observe variation in retirement eligibility conditional on age, and estimate the effect of retirement status on the adoption of preventive behaviours and mental health using the following linear model:

$$Y_i = \alpha + \beta\, Retire\, d_i + \gamma\, Age_i + X_i'\delta + v_i \tag{1}$$

In Eq. (1), Y_i is a vector of outcome variables that includes the two prevention scores and the mental health score as described; $Retired_i$ is a dummy variable equal to 1 if the individual reports being retired from work, and 0 otherwise. Age_i is a linear age trend; vector X_i includes the following set of additional controls: gender, marital status, education level dummies, number of limitations in (instrumental) daily activities and dummies for the wave when these were recorded (they are pre-determined). We also include country dummies, month of interview dummies and country-specific linear trends in the month of interview. Finally, v_i is an error term.

Since retirement status depends on individual health and preference for leisure, we instrument it with two dummies measuring individual eligibility for early retirement and old-age pension. Retirement rules vary both across countries for a given age and within countries across ages and reflect pension reforms that took place over the last four decades across most European countries. Considering that pension eligibility rules vary by country, cohort and gender, we cluster standard errors at this level.

In the second part of our analysis, we focus on the sub-sample of individuals aged 67+, for whom we observe no variation in retirement eligibility (everyone is eligible to retire) but large variability in the number of years since pension eligibility. We exploit this variation to estimate the long-term effects of time since retirement on preventive behaviours and mental health conditional on age using the following linear model

$$Y_i = \alpha + \beta\ Years\ In\ Retirement_i + \gamma\ Age_i + X_i'\delta + v_i \tag{2}$$

Eq. (2) is analogous to Eq. (1), but we condition on years in retirement instead of retirement status, and instrument it using years since eligibility for early retirement and old-age pension.

In both Eqs. (1) and (2) age enters as a linear trend. This helps us to benchmark the effects of (years in) retirement against those of age. However, estimation results are robust to including age dummies and country-specific age trends (see Appendix Table B.4).

4. Results

Table 1 reports the estimated effects of age and retirement on the outcomes.

We report OLS and TSLS estimates in odd and even columns, respectively. For TSLS estimates, we also report the p-values of the Hausman and Hansen tests as well as the Kleibergen–Paap first-stage F-statistic.

OLS results in Column (1) show that – compared to same-aged respondents still in the labour force – retirees more likely refrained from going out and adopted preventive measures when in public spaces (prevention score 1). This result is confirmed by the TSLS estimates in Column (2) and is most likely driven by retirees' not needing to leave home for work-related purposes. The effect is also large in magnitude, and equal to roughly 0.2–0.4 SD of the outcome. Columns (3) and (4) show that, consistent with their higher degree of isolation, retirees were less likely to adopt further preventive behaviours such as washing hands, using sanitizer or covering while coughing (prevention score 2). This effect is however small in magnitude, and insignificant with TSLS. Finally, while OLS reveals a positive association between retirement and mental health issues – see Column (5) – the relationship is negative and insignificant in Column (6) when

Table 1
The effects of retirement status on prevention and mental health.

	(1)	(2)	(3)	(4)	(5)	(6)
	Prevention score 1		Prevention score 2		Mental health score	
	OLS	TSLS	OLS	TSLS	OLS	TSLS
Retired	0.193***	0.377***	−0.110***	−0.082	0.053*	−0.027
	(0.025)	(0.098)	(0.027)	(0.099)	(0.028)	(0.104)
Age/10	0.135***	−0.011	−0.063*	−0.085	−0.058	0.006
	(0.037)	(0.085)	(0.036)	(0.085)	(0.041)	(0.089)
Hausman test (p-value)		0.044		0.722		0.473
Hansen test (p-value)		0.969		0.184		0.473
First stage F statistic		60.9		60.9		60.9

Notes: Observations: 9,669. Each model includes the set of additional controls described in the text. For TSLS models, retirement status is instrumented with eligibility for early retirement and old-age pension. Standard errors clustered by country, gender and year of birth are reported in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2
The effects of years in retirement on prevention and mental health.

	(1)	(2)	(3)	(4)	(5)	(6)
	Prevention score 1		Prevention score 2		Mental health score	
	OLS	TSLS	OLS	TSLS	OLS	TSLS
Years in retirement/10	0.072***	0.121***	0.016	−0.004	0.038***	−0.012
	(0.012)	(0.027)	(0.012)	(0.030)	(0.013)	(0.029)
Age/10	0.255***	0.207***	−0.193***	−0.172***	0.057***	0.107***
	(0.017)	(0.029)	(0.017)	(0.032)	(0.017)	(0.031)
Hausman test (p-value)		0.02		0.55		0.09
Hansen test (p-value)		0.14		0.17		0.10
First stage F statistic		440.4		440.4		440.4

Notes: Observations: 22,213. Each model includes the set of additional controls described in the text. For TSLS models, years in retirement is instrumented with years since eligibility for early retirement and old-age pension. Standard errors clustered by country, gender and year of birth are reported in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

we address the endogeneity of retirement using TSLS. The consequences of retirement on mental health during the first wave of the pandemic were overall immaterial. A notable exception is for singles (see Table B.5 in the Appendix): for them retirement has a strong, detrimental effect on mental health, as predicted by Hamermesh (2020) analysis of pre-COVID time use data.

In Table 2 we focus on respondents past retirement eligibility and verify whether, conditional on age, those who retired earlier behaved differently during the pandemic. Results are comparable to the ones for individuals below retirement eligibility: early retirees reacted by limiting their mobility and adopting preventive behaviours in public. On average, the adoption of behaviours summarised by the prevention score 1 increases by 0.2 SD every 10 years of age. The effect is 50% larger for retirees, suggesting that early retirement accelerates the take-up of preventive behaviours that comes with age. Mental health was instead not much affected by the pandemic, despite the adoption of these behaviours.

5. Conclusions

The reaction of European retirees to the first wave of the pandemic was to limit mobility and adopt preventive behaviours. Our key finding is that age has a strong, positive effect on such behaviours and an extra year in retirement increases by 50% the effect of age.

Acknowledgments

We gratefully acknowledge financial support from the European Commission-Horizon2020 (SHARE-COHESION: GA No870628 and SHARE-COVID19: GA No101015924). For the full SHARE data use acknowledgments see the Online Appendix.

Online appendix with supplementary material

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.econlet.2021.109853.

References

Bertoni, M., Maggi, S., Weber, G., 2018. Work, retirement and muscle strength loss in old age. Health Econom. 27, 115–128.
Celidoni, M., Dal Bianco, C., Weber, G., 2017. Retirement and cognitive decline: A longitudinal analysis using SHARE data. J. Health Econom. 56, 113–125.
Hamermesh, D.S., 2020. Lock-downs, loneliness and life satisfaction NBER WP no. 27018.
Heller-Sahlgren, G., 2017. Retirement blues. J. Health Econom. 54, 66–78.
Mazzona, F., Peracchi, F., 2017. Unhealthy retirement?. J. Hum. Resour. 52, 128–151.
Scherpenzeel, A., Axt, K., Bergmann, M., Douhou, S., Oepen, A., Sand, G., Schuller, K., Stuck, S., Wagner, M., Börsch-Supan, A., 2020. Collecting survey data among the 50+ population during the COVID-19 outbreak: The survey of health, ageing and retirement in Europe (SHARE). Surv. Res. Methods 14, 217–221.