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Long-term health consequences of recessions during working years

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ABSTRACT

Economic crises may have severe consequences for population health. We investigate the long-term effects of macroeconomic crises experienced during prime working age (20–50) on health outcomes later in life using SHARE data (Survey of Health Aging and Retirement in Europe) from eleven European countries. Analyses are based on the first two waves of SHARE data collected in 2004 and 2006 (N = 22,886) and retrospective life history data from SHARELIFE collected in 2008 (N = 13,732). Experiencing a severe crisis in which GDP dropped by at least 1% significantly reduces health later in life. Specifically, respondents hit by such a shock rate their subjective health as worse, are more likely to suffer from chronic diseases and mobility limitations, and have lower grip strength. The effects are twice as large among low-educated respondents. A deeper analysis of critical periods in life reveals that respondents' health is more affected by crises experienced later in the career (between age 41 and 50). The labor market patterns show that these people drop out of the labor force. While men retire early, women are more likely to become home makers. In line with the literature on the negative consequences of retirement on health, this suggests that early retirement in times of economic crises might be detrimental to health.

1. Introduction

The recent economic crises and high unemployment rates, especially among young Europeans, have spiked a debate about the short- and long-term effects of macroeconomic conditions on population well-being. We contribute to this debate by reporting evidence of negative long-term effects of past economic crises experienced during prime working age on health later in life. We determine the most sensitive periods in peoples' working lives and investigate how crises, labor market outcomes, and later-life health are related.

Economic crises are seen as times of severe economic downturn, i.e., times of low economic growth and high unemployment. Generally, they are perceived to put a burden on population health. Shocks to wealth and income, less access to social protection and health care, and an increase in stress due to job loss or job insecurity are detrimental for health (see, e.g., Bucher-Koenen and Mazzonna, 2013; Sullivan and von Wachter, 2009 for recent evidence). On the other hand, aggregate mortality has been shown to be positively correlated with business cycle fluctuations: in times of economic growth mortality increases and in recessions mortality declines (see, e.g., Gerdtham and Ruhm, 2006; Ruhm, 2005, 2000). The explanations put forward are that during economic downturns opportunity costs of time decrease and individuals may follow healthier lifestyles, i.e. smoke and drink less and spend more time exercising and eating healthy. Additionally, there are fewer costs due to external effects like pollution and congestion that have detrimental effects on health (see Ruhm, 2015 for a review of the literature). However, evidence from the recent economic crisis shows deviations from the pro-cyclical behavior of mortality (e.g., Karanikolos et al., 2016; Ruhm, 2015). This was, for example, observed in Greece—a country that was severely hit by the consequences of the economic crisis and the subsequent debt crisis (Drydakis, 2015). Such evidence seems to point out that the health effects of small business cycle fluctuations might be very different from that of severe recessions.

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Fewer studies have looked into the long-term effects of economic fluctuations because those effects are hard to identify. In particular, it is complicated to define a proper control group, since when a crisis hits a country, it might potentially affect all its citizens. One way to overcome this problem is to consider crises experienced during very specific critical periods in life such as early childhood (see, e.g., van den Berg et al., 2009, 2006; Doblhammer et al., 2013) or early adulthood (see, e.g., Cutler et al., 2014; Hessel and Avendano, 2013). Favorable economic conditions at the time of birth have been found to lower mortality and increase cognitive functioning later in life. Good economic conditions during early adulthood lead to better labor market trajectories for graduating cohorts compared to those graduating during a crisis (see, e.g., Kahn, 2010; Oreopoulos et al., 2012), which in turn is related to better health later in life (Cutler et al., 2014).

However, little is known about the (long-term) effects of crises experienced during adulthood. A notable exception is the work by Burstrom et al. (2012) that shows the presence of delayed effects of the Swedish recession in the 1990s on the employment opportunities and take-up of disability pensions of people from low socio-economic groups.

Our objective is to study the effects of severe macroeconomic shocks which occur during the years when a person is most likely to be active on the labor market (age 20 to 50) on various health outcomes later in life. We examine a broad set of subjective and objective physical and mental health indicators. Thus, we test if severe macro-economic shocks experienced during prime working age (20–50) have detrimental long-term effects for health. Moreover, we split this rather large period into 5-year windows to identify critical periods in which individuals are most vulnerable. Leist et al. (2013) use a similar approach to analyze the effect of business cycle fluctuations on cognitive functioning.

Different from the previous literature (e.g., van den Berg et al., 2009; Leist et al., 2013) we are interested in the effects of severe macroeconomic shocks and not in the effects of business cycle fluctuations. Specifically, we define a crisis year as a year in which GDP dropped by more than 0.95% compared to the previous year. In post-war Europe, this corresponds to the 5% worst years in terms of GDP growth across countries and we cover periods such as the oil crisis in the 1970ies and the European Monetary System crisis in the beginning of the 1990ies. The effect of economic downturns on individuals' health is determined by comparing different cohorts across different European countries. Differing crisis periods between European countries and between cohorts within a country make our study particularly powerful.

We use the first two waves of the Survey of Health Ageing and Retirement in Europe (SHARE) and focus on respondents between age 50 and 70. Specifically, we use data from more than 20,000 individuals living in eleven European countries who experienced different macroeconomic and labor market conditions during their working lives. We calculate the number of country-specific macroeconomic crises during individuals' working years (age 20 to 50) based on GDP data and match those data to the individual-level SHARE data. The SHARE data offers a very rich set of subjective as well as more objective self-reported and measured health variables allowing us to draw a very broad picture of the effect of macro-economic shocks on health later in life.

We find significant negative effects of the number of crises experienced between age 20 and 50 on health later in life. Self-reported health is rated as significantly worse by respondents hit by a macroeconomic shock compared to respondents who experienced no shocks. The effect of experiencing one additional severe crisis is approximately equivalent in size to becoming two years older. Moreover, respondents who experienced a severe macro-economic downturn suffer from more chronic health problems and mobility limitations, and have lower grip strength. The effects are substantially stronger (up to twice the size) for respondents with low levels of education. In addition, the low-educated are more likely to suffer from depression after having experienced a severe macro-economic shock. These results are in line with our initial conjecture that severe macro-economic shocks experienced during adulthood might have detrimental long-term effects for health.

Moreover, our analysis of more specific critical periods shows that in particular individuals experiencing crises, when they are between age 41 and 50, have worse health outcomes later in life. In order to understand possible underlying mechanisms we investigate the relationship between crises and labor market trajectories at that age. We find that individuals who experienced a crisis in their forties are significantly more likely to drop out of the labor force permanently. In particular, low educated men affected by a crisis during their forties are more likely to retire early, whereas women are more likely to become homemakers, probably because they do not qualify for early retirement options that require a certain amount of minimum contributions.

In line with the literature on the negative consequences of retirement on health and cognition (Bonsang et al., 2012; Mazzonna and Peracchi, 2012), we show that early retirement caused by recessions is associated with negative long-term consequences for health.

2. Methods

2.1. SHARE and SHARELIFE data

We use SHARE data, a multidisciplinary and cross-national bi-annual household panel survey coordinated by the Munich Center for the Economics of Aging (MEA) with the technical support of CentERdata at Tilburg University. For information on the data collection and methodology see Börsch-Supan et al. (2005); Börsch-Supan and Jürges (2005) and Börsch-Supan et al. (2013). During waves 1 to 4, SHARE has been reviewed and approved by the Ethics Committee of the University of Mannheim (see http://www.share-project.org/fileadmin/pdf_FAQ/SHARE_Ethics_Reviews_Statement.pdf for more information). The survey collects data on health, socio-economic status, and social and family networks for nationally representative samples of older people in the participating countries. The target population consists of individuals aged 50 and older who speak the official language of each country and do not live abroad or in an institution, plus their spouses or partners irrespective of age. Our data are from release 2 of the first two waves (2004 and 2006) of SHARE (Börsch Supan, 2011a,b, DOI: 10.6103/SHARE.w1.250, 10.6103/SHARE.w2.250). In wave 3 of the SHARE data collection retrospective life data was collected (SHARELIFE). We are using these data in the second part of our analysis.

Our main sample consists of the respondents of wave 1 (conducted in 2004) and the refreshment sample of wave 2 (conducted in 2006) residing in eleven European countries, namely Sweden, Denmark, the Netherlands, Austria, Germany, France, Switzerland, Belgium, Greece, Spain, and Italy. We are observing each participant only once. The use of the refreshment sample from wave 2 increases the number of observations and also helps to disentangle age and cohort effects (for instance the 1954 cohort is 50 years old in 2004 and 52 in 2006). We restrict our sample to cohorts born between 1934 and 1954. This means respondents were between 50 and 70 years old at the time of the first wave data collection (2004)