

Active ageing and solidarity between generations in Europe

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First results from SHARE after the economic crisis

Edited by

Axel Börsch-Supan, Martina Brandt, Howard Litwin
and Guglielmo Weber

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10 Economic downturns at the beginning and at the end of working life

-
- ▶ There is a strong association between individuals in financial hardship and low GDP growth rates
 - ▶ There is little evidence of long-term “scarring effects” of recessions on total household income
 - ▶ Recent financial hardship had strong negative effects on household income and on objective health
 - ▶ This effect was stronger for singles (income) and for women (health)
-

10.1 Short and long term effects of economic downturns

Negative business cycle episodes can have important effects on individual labour market decisions. In the short-run, economic downturns can lead to real wage reductions and less employment opportunities for job seekers. Also, households can react to worsening labour market conditions taking irreversible decisions that can lead to long-lasting effects: weaker unemployed individuals can be discouraged and thus pull out of the labour force, older people can be induced to retire earlier.

In this chapter, we investigate the different effects of recessions hitting individuals at the beginning and at the end of working life. Understanding how macro shocks affect the welfare of individuals is particularly important for active ageing. As shown in the literature (see Elwood 1982, Mroz & Savage 2006, Oreopoulos et al. 2006) adverse macro episodes have “scarring effects” (permanent or at least persistent) on individual income and potentially on health (Brugiavini & Weber 2012, van den Berg & Lindeboom 2012), happiness and job satisfaction. Moreover, a thorough understanding of the degree of persistence of adverse macro shocks on income can shed light on the evolution of income inequalities over time (see Gottschalk & Moffit 1995, Moffit & Gottschalk 2002) and contribute to the design of more effective policies aimed at protecting individuals’ income and supporting labour market participation later in life.

In our analysis, we combine the fourth wave of SHARE, which was conducted after the beginning of the “great recession”, with information from SHARELIFE,

that allows to study the effect of economic downturns over the entire career of SHARE respondents.

To capture different aspects of household and individual welfare we consider two outcomes: total household income and health. We estimate how these outcomes are affected by adverse macro shocks (such as recession and high inflation episodes) occurring early in life or more recently.

Our estimates suggest that recession and high inflation periods at the beginning of working life have no effect on total household income both for singles and couples, while they have a negative effect on women's health. More recent financial hardship episodes have instead strong negative effects on both income and health.

10.2 Financial hardship and adverse macro shocks

We consider individuals (and households) interviewed both in Wave 3 and Wave 4, obtaining a sample of 16,327 individuals. Table 10.1 presents descriptive statistics on the variables of interest.

Table 10.1: Descriptive statistics

Variables	Mean	Std. Dev.	Min	Max
Total household income (in 2011)	31,225	45,029.71	0	2,945,299
Health index (in 2011)	0.837	0.133	0	1
Recession at school leaving age	0.098	0.297	0	1
High inflation at school leaving age	0.032	0.177	0	1
Financial hardship during recession	0.101	0.301	0	1
Financial hardship during high inflation	0.014	0.116	0	1
Financial hardship in 2009	0.060	0.237	0	1
Female	0.563	0.496	0	1
Age (in 2011)	68.37	9.571	32	104
Married (in 2011)	0.729	0.444	0	1
Years of education	10.28	4.50	0	25
Retired (in 2011)	0.616	0.486	0	1
SE	0.073	0.560	0	1
DK	0.093	0.290	0	1
DE	0.075	0.265	0	1
NL	0.092	0.290	0	1
BE	0.120	0.325	0	1
FR	0.105	0.306	0	1
CH	0.060	0.238	0	1

AT	0.032	0.177	0	1
IT	0.110	0.313	0	1
ES	0.083	0.276	0	1
CZ	0.070	0.256	0	1
PL	0.085	0.279	0	1

Notes: The sample is composed by 16,327 individuals. The sample selection criteria are explained in the main text.

Source: SHARE Wave 3 release 1, Wave 4 release 1

Our sample is composed mainly of women (56 %), married (73 %) and retired individuals (62 %). Average age is 68 years and the average years of education are ten. Individuals in the sample are mostly healthy (based on a health indicator described in the next section) and the average total household income is about 24,000 Euros (Purchasing Power Parity adjusted German Euros as of 2005).

About six per cent of individuals included in the sample were in financial hardship in 2009, ten per cent experienced financial hardship during a recession and only 1.4 per cent declared to have been in financial hardship during a period of high inflation (>20 %). Looking at the adverse macro shocks occurred early in life, ten per cent of the sample entered the labour market during a recession and about three per cent during a period of high inflation (>20 %).

To have an idea of the magnitude of the recent economic crisis, we look at the real GDP growth at regional level between 2007 and 2009 (see Figure 10.1a). Several European countries have been characterised by negative GDP growth (see for example Spain, Italy, Greece). However, there is some degree of variability both between and within countries. When looking at the percentage of individuals who were not in financial hardship in 2009 by region (see Figure 10.1b), we notice that low GDP growth rates are frequently associated with lower percentages of individuals not in financial hardship (Sweden is an exception).

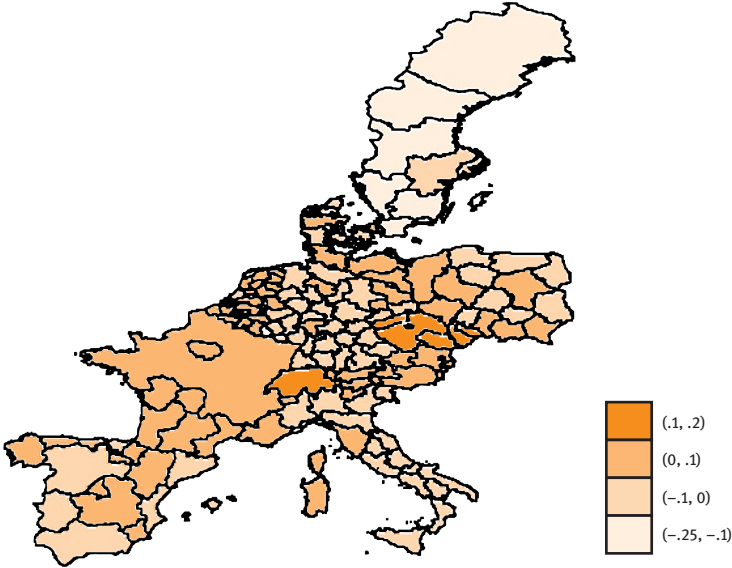


Figure 10.1(a): Regional GDP growth 2007–2009
Source: Eurostat statistics database as of December 2012

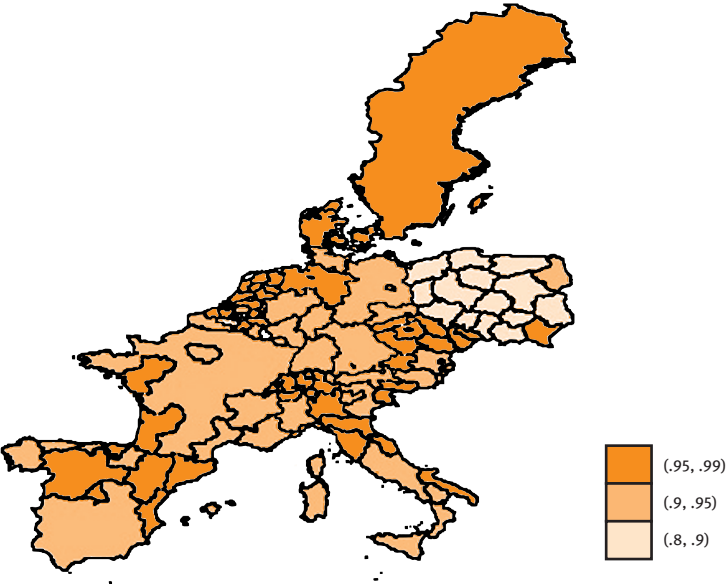


Figure 10.1(b): Percentage of individuals not in financial hardship by regions – 2009
Source: SHARE Wave 3 release 1

10.3 How do macro shocks affect income and health?

The first outcome variable in our analysis is the logarithm of total household income, analysed separately for singles and couples. After excluding households with non-responding partners, for which we do not observe partner's characteristics, the sample size is 8,351 households. We define a set of variables to control for adverse macro shocks at different times in life. The zero-one indicators "Recession at school leaving age" and "High inflation (>20 %) at school leaving age" take value one if the individual (or at least one of the two partners in couples) entered the labour market during a period of recession or of high inflation respectively. Similarly, "Financial hardship during recession" and "Financial hardship during high inflation" take value one if the individual (or at least one of the two partners) was in financial hardship during a recession or during a period of high inflation. To control for more recent adverse shocks, we add as explanatory variables real regional GDP growth between 2007 and 2009, a dummy variable taking value one if the individual (or at least one of the two partners) was in financial hardship in 2009 and the interaction between these variables. Additionally, we control for individual characteristics (such as gender, number of children, age, years of education), retirement status, health status in 2009, characteristics at the age of ten (such as number of books, number of people living in the house, relative mathematical and verbal abilities) and country dummies. In the analysis performed at the couple level, characteristics of both partners are included. Table 10.2 shows the estimation results for the key variables of interest.

Table 10.2: Ordinary Least Squares estimates of log total household income

Variables	Singles		Couples	
	Coefficient	Standard error	Coefficient	Standard error
Recession at school leaving age	0.078	(0.073)	-0.003	(0.005)
High inflation (>20 %) at school leaving age	-0.180	(0.121)	-0.054	(0.061)
Financial hardship during recession period	0.182*	(0.094)	0.078*	(0.040)
Financial hardship during high inflation (>20 %) period	0.046	(0.228)	-0.030	(0.086)
Real regional GDP growth	0.850**	(0.412)	0.320*	(0.183)
Financial hardship in 2009	-0.490***	(0.134)	-0.328***	(0.068)
Financial hardship in 2009 * real regional GDP growth	1.088	(1.084)	0.275	(0.528)

Variables	Singles		Couples	
SE	0.396***	(0.126)	0.304***	(0.063)
DK	0.186	(0.123)	0.051	(0.057)
NL	0.332**	(0.130)	0.230***	(0.060)
BE	0.492***	(0.122)	0.382***	(0.057)
FR	0.502***	(0.126)	0.336***	(0.060)
CH	0.719***	(0.131)	0.691***	(0.069)
AT	0.395**	(0.163)	0.102	(0.100)
IT	0.191	(0.151)	-0.001	(0.062)
ES	-0.333**	(0.156)	-0.304***	(0.065)
CZ	-0.546***	(0.134)	-0.600***	(0.064)
PL	-0.689***	(0.151)	-0.545***	(0.064)
N. Obs.	3,601		4,750	
R-squared	0.113		0.280	

Significance: ***=1%; **=5%; * = 10 %

Notes: The outcome variable is the logarithm of total household income. Additional controls are gender, number of children, age, years of education, early life characteristics (number of rooms, number of people living in the house, number of books, relative ability on math and language at age ten), retirement status, health status in 2009 and country dummies (Germany is used as baseline). For the couples' equation, characteristics of both partners are included and the variables presented in the table are defined at the couple level.

Source: Wave 3 release 1, Wave 4 release 1

For both singles and couples, entering the labour market during a recession or a high inflation period has no significant effect on total household income: in other words, there is little evidence of scarring effects in our data. Experiencing financial hardship during a recession has a positive, though only slightly significant effect – this suggests that individuals whose most important financial hardship episode occurs at the time of a recession tend to recover when the economy picks up again. This result is consistent with findings of Gottshalk and Moffit (1995): transitory income shocks may affect earnings stability, but not necessarily lead to lower life-cycle income trajectories. More recent shocks have strong and significant effects on household income both for singles and couples. Both individuals living in regions where real (inflation adjusted) GDP growth is lower and individuals who report to have been in financial hardship in 2009 have lower total household income. The effects are less strong when looking at couples. Turning to the interaction term, there is no evidence of differential effects of being in financial hardship by the level of regional economic growth. Retirement has a protective effect on income; early life characteristics (of both partners) have an important effect on household income only when looking at couples. Other individual characteristics have the expected signs.

The panels of Figures 10.2a and 10.2b present predicted total household income as a function of real GDP growth by financial hardship in 2009, separately for singles and couples. The effect of financial hardship is stronger for couples, but GDP growth has a stronger impact for singles (in the panel lines in 10.2a are steeper than in 10.2b).

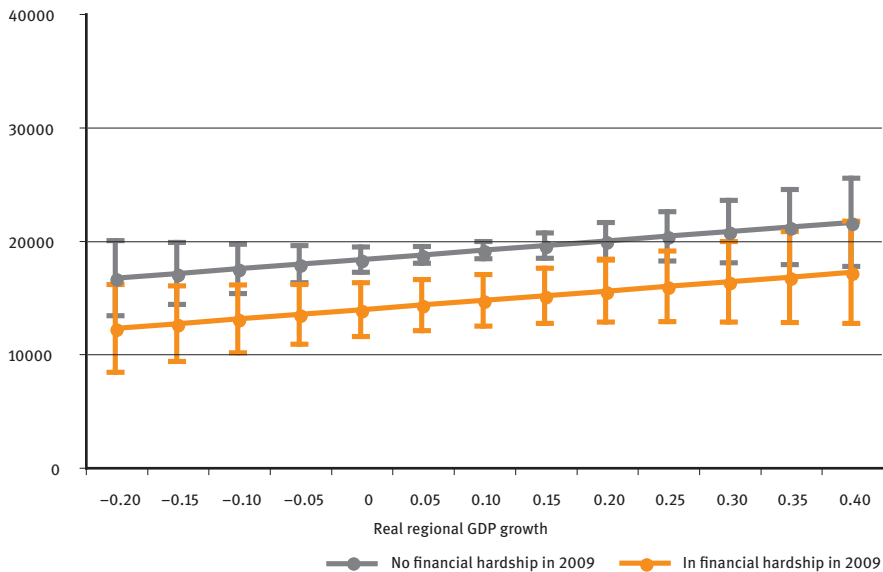


Figure 10.2(a): Predicted outcomes from Ordinary Least Squares analysis – Total household income – singles

Notes: Predicted total household income by real regional GDP growth depending on financial hardship status in 2009. Figures are obtained from estimates presented in Table 10.2, based on 3,601 observations.

Source: SHARE Wave 3 release 1, Wave 4 release 1

In order to capture the effect of adverse macro shocks on health, we construct an objective health index, following a procedure proposed by Jürges (2007). This procedure uses the predictions of a non-linear regression of self-reported health on all relevant information on health conditions, such as diagnosed diseases, depression, body mass index and physical measures of upper and lower limb strength, and uses normalised coefficients as “disability weights”. The resulting health index is normalised to 0 for the worst observed health state and to 1 for the best observed health state.

In our model, we regress this objective health index on a set of variables capturing macro shocks occurring at different times in life, individual characteristics,

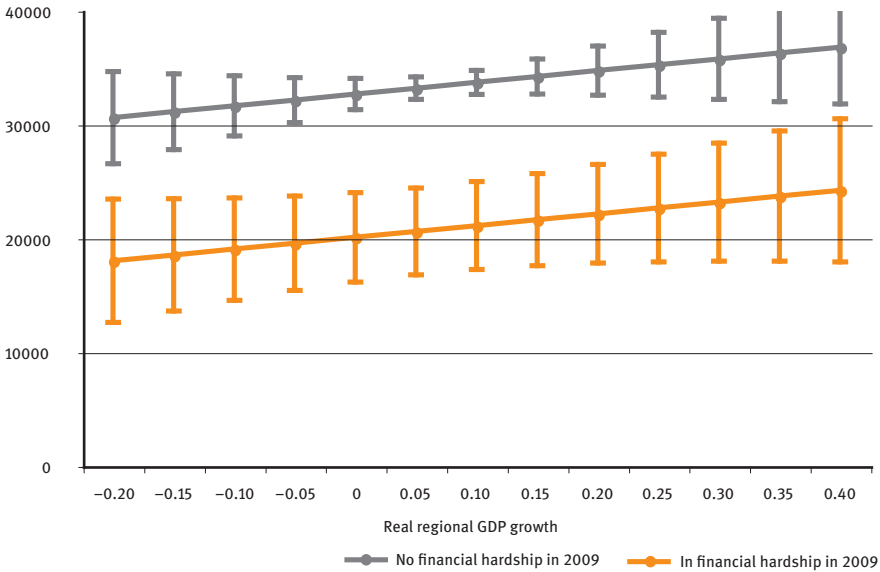


Figure 10.2(b): Predicted outcomes from Ordinary Least Squares analysis – Total household income – couples

Notes: Predicted total household income by real regional GDP growth depending on financial hardship status in 2009. Figures are obtained from estimates presented in Table 10.2, based on 4,750 observations.

Source: SHARE Wave 3 release 1, Wave 4 release 1

early life conditions and country dummies, as defined above. We run separate analyses for men and women and Table 10.3 reports the estimation results.

Entering the labour market during a recession has no effect on health for men or women, while women's health is negatively affected by a period of high inflation at school leaving age. Men's health is instead negatively affected by financial hardship during a recession. Both for men and for women real regional GDP growth has a positive and significant effect, while being in financial hardship in 2009 has a negative impact on health. The effects are stronger for women than for men, as can also be seen in the panels of Figure 10.2c and 10.2d.

Country dummy variables are by and large significant, which points to unexplained cross country differences over and above economic performance. Differences in welfare regimes are likely determinants both of observed differences in household income and in health status. Nevertheless, it is difficult to identify the effect of country specific institutions separately from other unobservable factors.

Table 10.3: Ordinary Least Squares estimates of health index

Variables	Male		Female	
	Coefficient	Standard error	Coefficient	Standard error
Recession at school leaving age	-0.003	(0.005)	-0.006	(0.004)
High inflation (>20 %) at school leaving age	0.007	(0.008)	-0.013*	(0.008)
Financial hardship during recession period	-0.021***	(0.006)	-0.005	(0.005)
Financial hardship during high inflation (>20 %) period	-0.006	(0.013)	0.006	(0.011)
Real regional GDP growth	0.056**	(0.022)	0.089***	(0.020)
Financial hardship in 2009	-0.026***	(0.009)	-0.051***	(0.007)
Financial hardship in 2009 * real regional GDP growth	-0.015	(0.073)	-0.016	(0.057)
SE	0.039***	(0.007)	0.033***	(0.007)
DK	0.027***	(0.007)	0.011*	(0.006)
NL	0.032***	(0.007)	0.023***	(0.006)
BE	0.026***	(0.007)	0.010	(0.006)
FR	-0.007	(0.007)	-0.006	(0.006)
CH	0.039***	(0.008)	0.050***	(0.007)
AT	-0.004	(0.011)	0.026***	(0.010)
IT	-0.002	(0.007)	-0.010	(0.007)
ES	-0.009	(0.008)	-0.040***	(0.007)
CZ	-0.035***	(0.007)	-0.047***	(0.007)
PL	-0.032***	(0.008)	-0.045***	(0.007)
N. Obs.	7,101		9,226	
R-squared	0.144		0.218	

Significance: ***=1%; **=5%; * = 10 %

Notes: The outcome variable is a health index for which 0 means bad health and 1 perfect health. We controlled for marital status, number of children, age, years of education, early life characteristics (number of rooms, number of people living in the house, number of books, relative ability on math and language at age ten), retirement status and country dummies (Germany is used as baseline).

Source: SHARE Wave 3 release 1, Wave 4 release 1

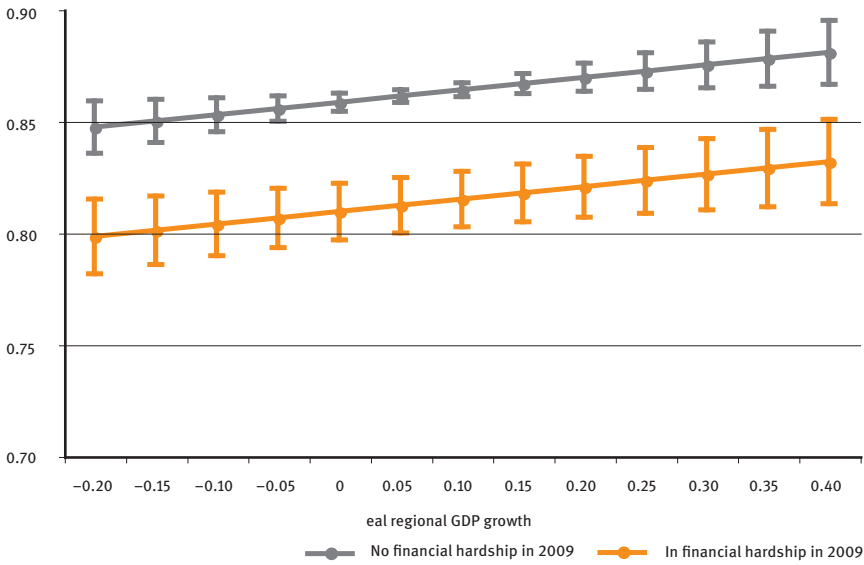


Figure 10.2(c): Predicted outcomes from Ordinary Least Squares analysis – Health index – male
Notes: Predicted health index by real regional GDP growth depending on financial hardship status in 2009. Figures are obtained from estimates presented in Table 10.3, based on 7,101 observations.
Source: SHARE Wave 3 release 1, Wave 4 release 1

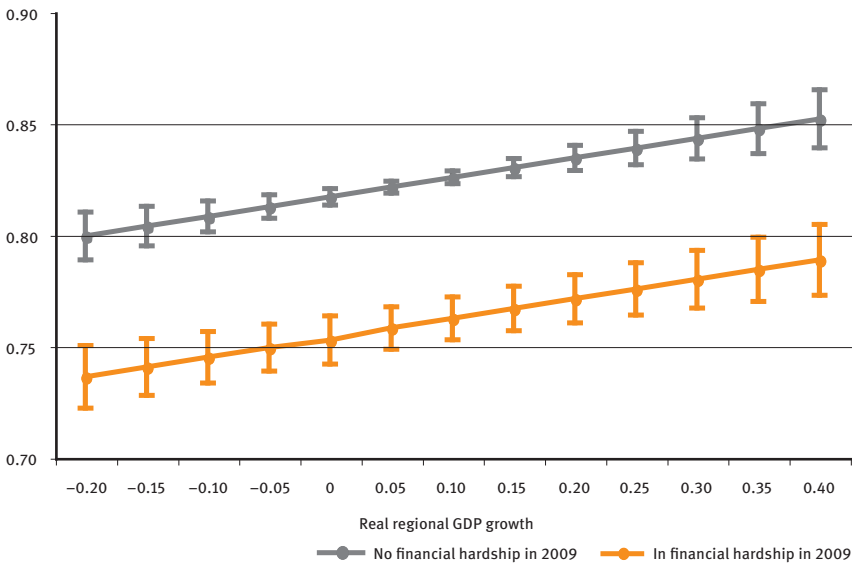


Figure 10.2(d): Predicted outcomes from Ordinary Least Squares analysis – Health index – female
Notes: Predicted health index by real regional GDP growth depending on financial hardship status in 2009. Figures are obtained from estimates presented in Table 10.3, based on 9,226 observations.
Source: SHARE Wave 3 release 1, Wave 4 release 1

10.4 Transitory shocks or permanent scars?

In this chapter, we have investigated the effects of macro shocks hitting individuals at different times in life. We have combined information from the fourth wave of SHARE, which was conducted after the beginning of the “great recession”, and information from SHARELIFE that allows us to control for shocks occurring along the entire life of the respondent. We analysed two different outcomes: total household income and individual health.

We find little evidence of scarring effects of recessions on total household income, while entering the labour market during a period of high inflation appears to have long lasting effects on women’s health. A possible explanation is that women entering the labour market during a period characterised by less favourable economic conditions are more likely to accept less qualified and more physical demanding jobs. In the long run this choice affects their health.

More recent shocks, captured in our analysis by the variable “Real regional GDP growth” and the dummy “Financial hardship in 2009”, have strong and significant effects both on household income and objective health. These effects are stronger for singles (when looking at income) and women (when looking at health status).

Our results suggest that the negative effects of recessions on income and health are transitory. Recent adverse shocks, such as the recent economic crisis started in 2008, have a strong impact on individual and household welfare, hitting in particular the mostly disadvantaged groups of older population, such as singles and women. Therefore, the characteristics of safety nets protecting individual and household welfare play a key role. Countries where public insurance mechanisms are prevalent (such as Nordic countries) might be more successful at reducing the effects of financial hardship on income for all, while countries where informal insurance is the main safety net might fail to protect specific groups who do not have social and family support.

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