

The long-term effects of experienced macroeconomic shocks on wealth

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Introduction

- We study the effect of macroeconomic shocks experienced during life on the level and composition of wealth of older Europeans.
- Population ageing implies that an increasing number of households will rely on their wealth holdings to support consumption during retirement.
 - Especially in a context in which pension reforms are shifting more responsibility towards the individual.
- Current wealth is the result of accumulation during the entire life of individuals.

Theoretical background

Several channels:

- Direct effect on lifetime earning capacity \Rightarrow level changes
 - evidence of persistent earnings losses due to job displacement or entering the labour force during a recession ([Jacobson et al., 1993](#); [Von Wachter and Bender, 2006](#); [Schwandt and Von Wachter, 2019](#); [Oreopoulos et al., 2012](#))
- Indirect effect through preferences and beliefs
 - if DARA, reduction in endowment leads to higher risk aversion and lower investment in risky assets
 - binding liquidity constraints in the future make individuals unable to diversify their portfolio risk ([Gollier, 2000](#))
 - background risk: most risks borne by households are uninsurable risks affecting their human capital ([Gollier, 2000](#); [Guiso and Paiella, 2008](#); [Hetschko and Preuss, 2020](#))
 - changes in expectations about future asset returns ([Malmendier and Nagel, 2011](#))
 - fear-induced effect of negative macroeconomic shocks ([Guiso et al., 2018](#))
 - higher saving rate

Our contribution

- 1 We are the first to study the long-term effects of macroeconomic shocks experienced at different stages of life on wealth.
- 2 We study the effect of experienced macroeconomic shocks on financial decisions by looking not only at the level but also at the composition of wealth.
- 3 We are able to study the timing of the first financial investment as potential mechanism.

(Micro)Data

- Main micro-data source is the Survey of Health, Ageing and Retirement in Europe (SHARE).
 - SHARE Covers individuals of age 50+ and their spouses.
 - Interviews are conducted approximately every other year.
- We use Waves 1-6, broadly covering years 2004 to 2015.
- Plus SHARELIFE, a retrospective questionnaire on various aspects of respondents' lives.
- Country selection based on availability of GDP data: Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden and Switzerland.
- We include households with both spouses born in the country of interview and with head aged 50 to 90.

Wealth Data

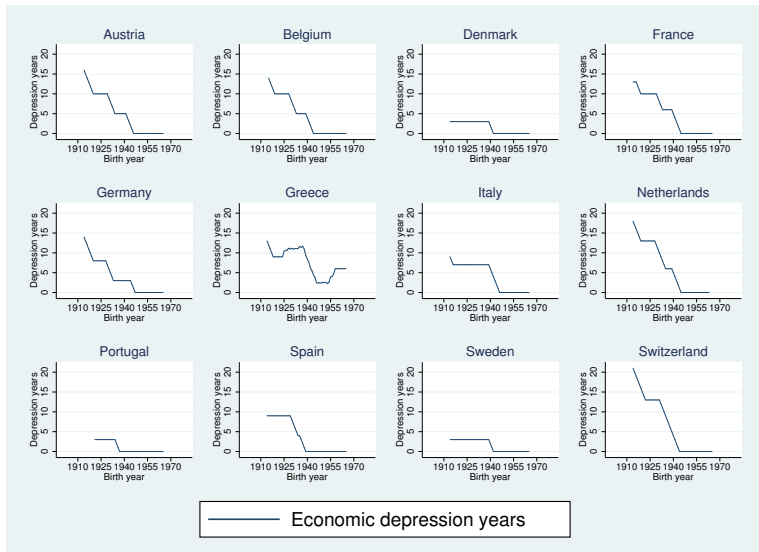
- Wealth in SHARE:
 - Measured at the household level.
 - Net Real wealth=(home+business+car+real estate-mortgage).
 - Net Financial wealth=(bank accounts+bond+stocks+mutual funds+savings for long-term inv.-liabilities)
 - Financial risk attitudes: willingness to take financial risk on a 1-4 scale (individual level)
- Wealth in SHARELIFE:
 - If and when invested in: stocks or shares, mutual funds or managed investment accounts, individual retirement account and life insurance policy
 - When established own household and whether owner of the house.

Measures of experienced macro-shocks

- GDP data from the Maddison database on Historical Statistics of the World Economy
 - provides the widest coverage of data on GDP per capita across countries and over time currently available.
- Economic depressions defined as multi-year peak-to-trough GDP declines of at least 10 percent. ([Barro and Ursua, 2008](#))
- We construct a cumulative measure of:
 - **experienced depression years**
 - **experienced depression episodes**

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Experienced depression years



Empirical strategy

$$Y_{itbc} = \alpha + \beta M_{tbc} + \theta X_{itbc} + \delta_c + \gamma_b + \mu_t + \epsilon_{itbc} \quad (1)$$

- Y_{itbc} is a wealth outcome variable.
- M_{tbc} is a measure of experienced macroeconomic shocks
- δ_c , γ_b and μ_t are country, birth year and survey year fixed effects.
- X_{itbc} is a vector of individual and household characteristics.

$$Y_{itbc} = \alpha + \beta_1 M_{tbc}^y + \beta_2 M_{tbc}^m + \beta_3 M_{tbc}^o + \theta X_{itbc} + \delta_c + \gamma_b + \mu_t + \epsilon_{itbc} \quad (2)$$

- M_{tbc}^y , M_{tbc}^m and M_{tbc}^o are depression years experienced at ages 0-24, 25-49 and 50 or older.
- We use **Unconditional Quantile Regressions** to recover effects on the median and other quantiles of the wealth distribution.
- Logit models for stock ownership and risk aversion.

The effect of macro shocks on total wealth

VARIABLES	(1) Total Net Wealth	(2) Total Net Wealth	(3) Total Net Wealth
Depression years	-286.7 (745.6)		
Depression episodes		-10,918*** [-6%] (4,143)	
Depression years, age 0-24			2,419*** [1.3%] (750.7)
Depression years, age 25-49			-9,428*** [-5.2%] (2,299)
Depression years, age 50+			-9,943*** [-5.5%] (1,065)
Observations	100,103	100,103	100,103
R^2	0.171	0.172	0.172
Country FE	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The effect of macro shocks on real wealth

VARIABLES	(1) Real Wealth	(2) Real Wealth	(3) Real Wealth
Depression years	-868.8 (637.0)		
Depression episodes		-9,354*** [-6%] (3,548)	
Depression years, age 0-24			1,204* [0.8%] (651.1)
Depression years, age 25-49			-6,797*** [-4.3%] (2,188)
Depression years, age 50+			-8,356*** [-5.3%] (992.4)
Observations	100,103	100,103	100,103
R^2	0.165	0.165	0.166
Country FE	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The effect of macro shocks on financial wealth

VARIABLES	(1) Financial Wealth	(2) Financial Wealth	(3) Financial Wealth
Depression years	-180.6 (113.6)		
Depression episodes		-2,726*** [-36%] (634.7)	
Depression years, age 0-24			324.8*** [0.4%] (112.4)
Depression years, age 25-49			-1,596*** [-21%] (446.6)
Depression years, age 50+			-2,009*** [-26%] (153.4)
Observations	100,103	100,103	100,103
R^2	0.212	0.212	0.213
Country FE	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The effect of macro shocks on stock ownership

VARIABLES	(1) Stock ownership	(2) Stock ownership	(3) Stock ownership
Depression years	-0.00326*** [-2%] (0.000884)		
Depression episodes		-0.00981* [-6.9%] (0.00561)	
Depression years, age 0-24			-0.00376*** [-2.5%] (0.000926)
Depression years, age 25-49			0.00307 (0.00785)
Depression years, age 50+			0.00431 (0.00300)
Observations	97,327	97,327	97,327
Country FE	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The effect of macro shocks on risk aversion

VARIABLES	(1) Risk aversion	(2) Risk aversion	(3) Risk aversion
Depression years	-0.0115 (0.00709)		
Depression episodes		0.00770 (0.0427)	
Depression years, age 0-24			-0.0110 (0.00711)
Depression years, age 25-49			0.0541*** (0.0196)
Depression years, age 50+			0.0278** (0.0120)
Observations	37,435	37,435	37,435
Country FE	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The effect of macro shocks on early investments

- Cox Proportional Hazard models of time to first home ownership and first stock ownership.
- We include year of birth and country dummies.
- We control for labour force status, number of children, relationship status, and proxies of early childhood conditions.

VARIABLES	(1) Home ownership	(2) Stock ownership
Depression years	1.028*** (0.00628)	0.980** (0.00914)
Individuals	32,349	41,881
Observations	700,164	1,831,357
Country FE	Yes	Yes
Birth year FE	Yes	Yes
Controls	Yes	Yes

Conclusions

- Individuals who experienced more economic depression episodes have lower total wealth, lower real wealth and lower financial wealth.
- They also display a lower probability to invest in risky assets and higher risk aversion.
- Experienced depression years:
 - positively predict the hazard of first home-ownership
 - negatively predict the hazard of first investment in stocks
- Early choices appear to be sticky and to shape wealth in the long-term.
- Our results may help shed some light on the heterogeneous wealth and portfolio composition of different generations of Europeans.
- ...and on the consequences of recent crises.

Appendix

- Local minima and maxima (=potential trough and peaks), are identified over a two-period window
- log-GDP in each year is compared to that in the two preceding and consecutive years
- Candidate points have to satisfy:
 - a minimum phase length of 2 years
 - a minimum cycle length of 4 years,
- Phases are expansions and contractions
- Cycles are the periods between two peaks or two troughs
- The values assigned to windows, phases and cycles are arbitrary

◀ Wealth data