Elena Meschi, Giacomo Pasini and Mario Padula

# 9 Economic crisis and pathways to retirement

- Probabilities of transition out of the labour force in Europe did not change substantially over time
- Accounting for individual and institutional differences across countries, the crisis is associated to a reduced likelihood of retirement
- The effect of the crisis is stronger in regions that experienced a bigger economic slowdown

## 9.1 Retirement during the crisis

Retirement decisions, and more generally the decision to exit from the labour force, exhibit stark differences across Europe. Individual characteristics, including gender, age, health and marital status, and household variables, such as real and financial wealth, drive such a decision, but they are not the only determinants. The persisting heterogeneity in institutional settings across countries also plays a role, determining different incentives to retire, as documented in Gruber and Wise (1999) and (2004). For example, in Scandinavian countries people can experience transition pathways through disability or partial employment before entering full retirement, while in Mediterranean countries the generosity of public pension systems induces individuals to retire early. Many European countries have gone through important revisions of their pension systems, but we are still far from a common institutional framework.

The aim of this paper is to analyse how retirement choices have evolved over the last decade using all the information available in the four waves of SHARE. Our work draws on and extends the analysis performed by Brugiavini, Pasini and Peracchi (2008) that describes the individual determinants of the decision to exit from the labour force over the 2004–2006 period. We extend this research by lengthening the time period considered, making use of the new data available in the last two waves of SHARE collected in 2008 and 2011 respectively. In particular, we aim at describing the evolution over time of patterns of transition out of the labour market across countries characterised by different institutional settings. The availability of data from Wave 4 (collected in 2011) will also enable us to study whether the 2007/2008 financial crisis and the ongoing economic slowdown have had any effects on retirement decision across Europe. The analysis of the effects of the financial crisis and the resulting economic downturn on retirement decisions is a novel topic that has

not yet received much attention in the economic literature and that is clearly relevant from a policy perspective. The economic crisis can generate a quest for earlier retirement schemes, which brings additional strains on public finances. Moreover, the economic slowdown and the ongoing recession may affect individual decisions by altering their incentives to retire. Modelling retirement decision in a standard life cycle framework, negative shocks to income reduce the option value of continuing to work, and therefore push individuals into retirement. On the other hand, the downturn, by negatively affecting incomes, reduces the consumption of leisure and therefore induces individuals to delay retirement. Moreover, the adverse wealth effects of the slowdown are an additional likely cause for individuals to postpone retirement. The balance between these forces depends on the degree of curvature of the utility function and, more broadly, on the effect of the shock on the rates at which current is traded off against future consumption.

## 9.2 Descriptive analysis of transitions in labour market status

Our analysis will be based on the self-reported current economic status of the SHARE respondents. The survey distinguishes between six labour force states: working, unemployed, disabled, retired, homemaker and "other". Table 9.1 shows the distribution in the four waves of labour market status of people aged 55–65, where the last two categories are combined into a single one. We focus on individuals in this age group because they are the subpopulation "at the margin", i. e. unlike older respondents in SHARE, they are likely to face important labour force participation decisions.

Table 9.1 provides a static picture of labour market status in different periods and seems to suggest a slight increase over time in the probability of being in the labour force. We will exploit the longitudinal dimension of the survey to study the patterns of transition out of the labour force in more detail. In particular, we will compare changes in the probability of exiting from the labour force between Wave 1 and 2 (2004–2006), a period not affected by the economic crisis, and changes in this probability between Wave 3 and 4 (2008–2011), when the economic crisis occurred in all countries in the sample.

Table 9.2 and Table 9.3 show the transition matrices for the two periods: from 2004 to 2006 in Table 9.2 and from 2008 to 2011 in Table 9.3, for people aged 55–65 at the beginning of the two periods. The labour force states considered in the tables are those described in Table 9.1 except for the residual category "other", which is now excluded. The fraction of people moving out of employment force into retirement is

**Table 9.1:** Labour market status of individuals aged 55–65

| | Retired | Employed/ Self empl | Unemployed | Disabled | Other | Total |
|---|---|---|---|---|---|---|
| Wave 1 | 3,406 | 3,669 | 532 | 541 | 1,549 | 9,697 |
| | *35.12* | *37.84* | *5.49* | *5.58* | *15.97* | *100* |
| Wave 2 | 3,137 | 3,964 | 442 | 519 | 1,397 | 9,459 |
| | *33.16* | *41.91* | *4.67* | *5.48* | *14.77* | *100* |
| Wave 3 | 2,443 | 3,667 | 323 | 298 | 1,141 | 7,882 |
| | *30.99* | *46.65* | *4.10* | *3.78* | *14.48* | *100* |
| Wave 4 | 4,620 | 5,761 | 678 | 652 | 1,622 | 13,333 |
| | *34.65* | *43.21* | *5.09* | *4.89* | *12.17* | *100* |
| Total | 13,606 | 17,071 | 1,975 | 2,010 | 5,709 | 40,371 |
| | *33.70* | *42.29* | *4.89* | *4.98* | *14.14* | *100* |

Notes: Row percentages in italic
Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0, Wave 3 release 1, Wave 4 release 1

about 25 per cent from 2004 to 2006 and about 23 per cent from 2008 to 2011, suggesting that the probabilities of transition have not changed substantially over time. However, this aggregate picture may hide relevant differences across countries and across different subgroups of the population (for example by age, gender, health status, etc.), which we investigate in the next section. Transitions into unemployment, which may be affected by the crisis, seem not to change substantially over time, while there is a sizable increase of people moving directly from unemployment into retirement (43.5% between 2004 and 2006, rising to 48.17% between 2008 and 2011). Still, the number of observed transitions in and out unemployment in the age group under study is too small to draw reliable conclusions.

**Table 9.2:** Transition matrix, self-reported labour market status in 2004 and 2006

| | LABOUR MARKET STATUS IN 2006 | | | | |
|---|---|---|---|---|---|
| LABOUR MARKET STATUS IN 2004 | **Retired** | **Employed/ Self empl** | **Un-employed** | **Disabled** | **Total** |
| Retired | 2,366 (100) | 0 (0) | 0 (0) | 0 (0) | 2,366 (100) |
| Empl/self empl | 595 (25.62) | 1,580 (68.04) | 84 (3.62) | 63 (2,71) | 2,322 (100) |
| Unemployed | 142 (43.56) | 50 (15.34) | 117 (35.89) | 17 (5.21) | 326 (100) |
| Disabled | 127 (41.64) | 22 (7.21) | 5 (1.64) | 151 (49.51) | 305 (100) |
| Total | 3,230 (60.73) | 1,652 (31.06) | 206 (3.87) | 231 (4.34) | 5,319 (100) |

Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0

**Table 9.3:** Transition matrix, self-reported labour market status in 2008 and 2011

| | LABOUR MARKET STATUS IN 2011 | | | | |
|---|---|---|---|---|---|
| LABOUR MARKET STATUS IN 2008 | **Retired** | **Employed/ Self empl** | **Un-employed** | **Disabled** | **Total** |
| Retired | 1,970 (100) | 0 (0) | 0 (0) | 0 (0) | 1,970 (100) |
| Empl/self empl | 646 (23.26) | 1,970 (71,25) | 98 (3.54) | 51 (1,84) | 2,765 (100) |
| Unemployed | 105 (48,17) | 17 (7,80) | 86 (39,45) | 10 (4,59) | 218 (100) |
| Disabled | 65 (31,10) | 4 (1,91) | 3 (1,44) | 137 (65,55) | 209 (100) |
| Total | 2,786 (53.97) | 1,991 (38.57) | 187 (3,62) | 198 (3,84) | 5,162 (100) |

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

## 9.3 The role of individual heterogeneity and institutional differences across coutries

In order to study transitions out of labour force accounting for individual and institutional heterogeneity, we compare the transition to retirement between 2004 and 2006 to those between 2008 and 2011 within a regression framework. We run a series of probit regressions on the full set of observed transitions, where the dependent variable is a dummy that is equal to one for those who retire or move into disability and zero otherwise, and the key regressor is a *post crisis* dummy, which takes value 1 for transitions which take place between 2008 and 2011 and zero otherwise. Next to it, we control for age, gender, health status, income and education to account for individual heterogeneity. The chosen specification, while being parsimonious in the set of individual controls, recognises that decision to retire depends on institutional characteristics, which vary in Europe along the North-South gradient. To allow for those characteristics to shape the effect of the crisis on retirement, we grouped the countries in the sample into three groups Mediterranean countries (Italy and Spain), Northern Europe (Denmark, Netherlands and Sweden) and Central Europe (Austria, Belgium, France, Germany and Switzerland), and we included macro-regional dummies, both as direct controls and interacted with the post-crisis dummy, in our baseline specification. The results are reported in Table 9.4. Column 1 shows that age increases the chances of exiting the labour force and that better health status is associated to lower retirement likelihood (self-reported health goes from 1, excellent to 5, poor). The coefficients on the post-crisis and the Northern dummies are negative, which suggests a negative correlation between retirement and the economic slowdown and

that exiting the labour market is less likely in Northern countries. The latter may be due to the large use of disability as a pathway to retirement in Scandinavian coutries: Pasini and Zantomio in this volume report significantly higher sickness and disability participation rates for all the Northern countries, and in particular for Sweden, both before and after the crisis. Column 2 of Table 9.4 modifies the baseline specification to include household income, entered non-linearly using a full set of quantile dummies, and column 3 adds educational attainment as well. We take the former as a proxy for current, the latter for permanent income. The results are by and large unaltered and show that retirement is inversely related to our proxies for current and permanent income.

Column 4 adds the interaction between the post-crisis and the geographical dummies. Coefficients of the age, gender, health status, are within one standard deviation from those reported in column 1, while the post-crisis coefficient is affected in a statistically significant way. The interaction between the post-crisis and the Central Europe dummies has a positive and statistically significant effect on retirement probability. While the crisis has meant a reduction in likelihood of retirement for all countries, such effect is less pronounced in Central European countries. Such evidence confirms that the coefficient on the post-crisis dummy shown in column 1 hides potentially relevant between-countries heterogeneity. In particular, geographic areas dummies may capture changes in the relevant legislation: all European countries in recent years went through important pension reforms which changed the incentives to retire, mostly in a more restrictive sense. If those reforms were implemented earlier in Central Europe, or even only anticipated by older individuals living in that area, the results we propose may not point to an effect of the financial crisis on retirement.

**Table 9.4:** Baseline Probit estimates

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Age | 0.220*** | 0.225*** | 0.224*** | 0.224*** |
| | (0.007) | (0.008) | (0.009) | (0.009) |
| female | 0.046 | 0.027 | 0.023 | 0.022 |
| | (0.039) | (0.043) | (0.045) | (0.045) |
| SR health status – very good | 0.124* | 0.133* | 0.119* | 0.123* |
| | (0.064) | (0.070) | (0.072) | (0.072) |
| SR health status – good | 0.245*** | 0.255*** | 0.238*** | 0.242*** |
| | (0.060) | (0.065) | (0.067) | (0.067) |
| SR health status – fair | 0.477*** | 0.434*** | 0.385*** | 0.388*** |
| | (0.071) | (0.079) | (0.082) | (0.083) |
| SR health status – poor | 0.735*** | 0.714*** | 0.691*** | 0.697*** |
| | (0.114) | (0.133) | (0.142) | (0.142) |

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| 2nd income quintile | | 0.161* | 0.166* | 0.172* |
| | | (0.084) | (0.088) | (0.088) |
| 3rd income quintile | | 0.208** | 0.249*** | 0.254*** |
| | | (0.081) | (0.085) | (0.086) |
| 4th income quintile | | −0.151* | -0.093 | −0.094 |
| | | (0.081) | (0.085) | (0.086) |
| 5th income quintile | | −0.330*** | −0.318*** | −0.315*** |
| | | (0.092) | (0.097) | (0.097) |
| ISCED 2 | | | −0.051 | −0.044 |
| | | | (0.079) | (0.079) |
| ISCED 3 | | | 0.021 | 0.025 |
| | | | (0.070) | (0.070) |
| ISCED 4 | | | −0.135* | −0.127* |
| | | | (0.074) | (0.074) |
| Northern Europe | −0.226*** | −0.001 | 0.052 | −0.014 |
| | (0.062) | (0.084) | (0.089) | (0.102) |
| Central Europe | 0.078 | 0.033 | 0.046 | −0.082 |
| | (0.059) | (0.070) | (0.074) | (0.088) |
| Post crisis | −0.299*** | −0.329*** | −0.346*** | −0.621*** |
| | (0.039) | (0.045) | (0.047) | (0.136) |
| Post crisis* Northern Europe | | | | 0.220 |
| | | | | (0.154) |
| Post crisis* Central Europe | | | | 0.385** |
| | | | | (0.151) |
| Constant | −13.601*** | −13.865*** | −13.776*** | −13.724*** |
| | (0.437) | (0.496) | (0.519) | (0.521) |
| Observations | 5,630 | 4,603 | 4,331 | 4,331 |

Significance: *** p<0.01, ** p<0.05, * p<0.1
Notes: Standard errors in parentheses, excluded categories: first income quintile, Mediterranean Europe, excellent self-reported health status, lowest isced education category.
Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0, Wave 3 release 1, Wave 4 release 1

In other words, in Table 9.4 we find that geographical differences captured by the North, Central and South Europe dummies affect retirement decisions, but we cannot disentangle country specific institutional changes from the effect of the economic slowdown induced by the financial crisis. In Table 9.5 we perform a different exercise, assuming that the effects of the financial crisis can be captured by differences in the regional rate of gross value added growth (Columns 1 and 2) and in the national employment rate (Columns 3 and 4). Regional data are downloaded from the Eurostat website covering the period of interest, while

regions are defined at the NUTS2 or NUTS1 level (different privacy policies across SHARE countries do not allow to have a homogeneous level of disaggregation). Since the relevant pension and disability legislation varies mainly by country, going to a lower level of geographical disaggregation allows to isolate the effect of the economic downturn from the effect of retirement or disability policy changes.

The results show a negative association between retirement and regional growth rate of the economy (columns 1 and 2) and employment rate (columns 3 and 4). The coefficients on the interactions are estimated much less precisely, still the effect of the crisis on labour force exits is less pronounced the higher the rate of growth of the economic activity: while the crisis affected everybody's retirement decision, those who live in regions where the effect on the economy was less pronounced did change less their behaviour. Such a result confirms that what we found in Table 9.4 (individuals living in Central European countries change their retirement behaviour relatively less than those in Mediterranean countries) can be attributed to the effect of the economic downturn. Results on the employment rate, though in line with those in column 1 and 2 of Table 9.5, are much less statistically significant.

**Table 9.5:** Probit estimates with regional indicators

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Age | 0.225*** | 0.214*** | 0.207*** | 0.196*** |
| | (0.009) | (0.008) | (0.010) | (0.009) |
| female | 0.036 | 0.037 | −0.009 | −0.001 |
| | (0.046) | (0.042) | (0.051) | (0.046) |
| SR health status – very good | 0.118 | 0.144** | 0.078 | 0.107 |
| | (0.073) | (0.068) | (0.082) | (0.076) |
| SR health status – good | 0.255*** | 0.286*** | 0.197*** | 0.235*** |
| | (0.069) | (0.063) | (0.075) | (0.069) |
| SR health status – fair | 0.378*** | 0.488*** | 0.363*** | 0.476*** |
| | (0.085) | (0.077) | (0.094) | (0.085) |
| SR health status – poor | 0.681*** | 0.768*** | 0.644*** | 0.683*** |
| | (0.152) | (0.127) | (0.173) | (0.146) |
| 2nd income quintile | 0.169* | | 0.196** | |
| | (0.091) | | (0.094) | |
| 3rd income quintile | 0.255*** | | 0.271*** | |
| | (0.088) | | (0.092) | |
| 4th income quintile | −0.076 | | −0.006 | |
| | (0.086) | | (0.095) | |
| 5th income quintile | −0.281*** | | −0.318*** | |
| | (0.084) | | (0.099) | |

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| ISCED 2 | −0.031 | 0.024 | −0.027 | 0.053 |
| | (0.080) | (0.073) | (0.081) | (0.074) |
| ISCED 3 | 0.021 | 0.016 | −0.014 | 0.065 |
| | (0.072) | (0.065) | (0.075) | (0.069) |
| ISCED 4 | −0.118 | −0.116* | −0.149* | −0.062 |
| | (0.076) | (0.067) | (0.080) | (0.071) |
| Post crisis | −0.596*** | −0.459*** | −0.027 | −0.483 |
| | (0.100) | (0.085) | (0.438) | (0.380) |
| Gva growth rate | −0.050** | −0.068*** | | |
| | (0.022) | (0.021) | | |
| Post crisis* Gva growth rate | 0.021 | 0.077*** | | |
| | (0.029) | (0.026) | | |
| Employment rate | | | −0.006 | −0.017*** |
| | | | (0.005) | (0.004) |
| Post crisis* Employment rate | | | −0.004 | 0.003 |
| | | | (0.006) | (0.006) |
| Constant | −13.747*** | −13.130*** | −12.332*** | −11.118*** |
| | (0.532) | (0.473) | (0.637) | (0.564) |
| Observations | 4,092 | 4,839 | 3,288 | 3,903 |

Significance: *** p<0.01, ** p<0.05, * p<0.1
Notes: Standard errors in parentheses, excluded categories: first income quintile, Mediterranean Europe, excellent self-reported health status, lowest isced education category.
Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0, Wave 3 release 1, Wave 4 release 1, Eurostat statistics database as of December 2012

## 9.4 Conclusions

This chapter reviews the transition out of the labour market around the recent economic slowdown. To this aim, we compare the transitions between 2004 and 2006 to those between 2008 and 2011, focusing on the *at risk* segment of the overall 50+ population. The results indicate a higher rate of exit from the labour market before the crisis than after the crisis, suggesting that the crisis is associated with a reduced likelihood of retirement. Our approach recognises that the effect of the crisis on retirement is likely to be shaped by cross-country institutional differences and the evidence shows a smaller effect of the crisis in Central European compared to Northern and Southern European countries. Future work will dig deeper onto the effect of the crisis into retirement, in the attempt to single-

out the various channels through which the slowdown of the economic activity can affect observed retirement, distinguishing labour supply and labour demand factors concurring to determine observed retirement behaviour.

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