EuSocialCit

European Social Citizenship

# Assessing social vulnerabilities from a demographic and lifecourse perspective

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# Summary

The substantive core of the social investment policy paradigm is increasing and maintaining human capital "stock" throughout the lifecourse. In particular, the intersection between the work and family strands of the lifecourse can lead to the emergence of vulnerabilities in old age. The transition to adulthood and childbearing decisions can also lead to diversified employment paths. Access to power resources, such as in-kind benefits in the areas of childcare and family and training and education, combined active labour market policies, can improve the resilience of the welfare state, as reflected in a reduction in the risks posed by vulnerabilities accumulated over the lifecourse.

In this working paper, we assess the risk of social vulnerability at older ages, and analyse it by investigating the effects of the employment and the child domains on the lifecourse. In our analysis, we consider the indicators of the Social Scoreboard, which reflect the various risks of vulnerability over the lifecourse, as well as their potential impact on the risk of economic vulnerability in old age. To that end, the events in the lifecourses of Europeans before ages 50+ are analysed and compared with the vulnerabilities of these same individuals at a later stage of life. The microdata from SHARE LIFE data (wave 7) are used. We examine the lifecourse histories of individuals by focusing on two kinds of events: changes in their work status (employed full time, employed part time, not working), and changes in their family career, as measured by the number of children in their family (no children, one child, two children, three or more children).

To deal with the complexity of the types of work and family careers individuals have, we use the sequence analysis technique, which allows us to assess to what extent people's lifecourses are similar. We select some of the most typical sequences of events in people's lifecourses, and then assess the extent to which the lifecourses of all individuals differ from these reference sequences. Then, based on the calculated differences between individuals, we group them into clusters (based on a quintile distribution). In the case of family lifecourses, we observe in the last two clusters a tendency to transition quickly to having two or more children, which is also combined with reduced labour market activity.

These clusters are used as explanatory variables in the logit regression models. These models explain the variable that approximates the poverty risk in old age, which is related to the ability to make ends meet. In the model, we also control for individual characteristics (gender, educational attainment, household composition, country, and groups of countries according to their social investment strategies). Our results indicate that the lifecourse characterised by a rapid transition to having two and more children, combined with spending long periods of time outside the labour market, leads to an increased risk of vulnerability in old age, particularly in countries with stripped-down social investment strategies characterised by a reliance on family childcare and no legal guarantee of access to childcare.

We also further deepen the results by comparing the country regression coefficients with the intragenerational transfers received by women. We find that the magnitude of intragenerational transfers is not associated with the symptoms of economic stress.

We conclude with some policy recommendations focused on ensuring access to instrumental resources for the most vulnerable groups to reduce their risk of experiencing economic stress at older ages, both at the national and EU level.

# Assessing social vulnerabilities from a demographic and a lifecourse perspective

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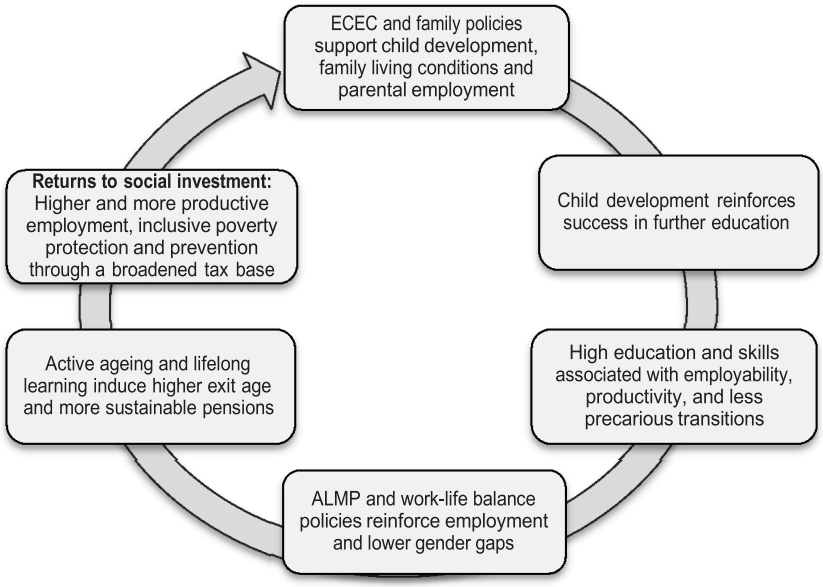
| ***Work package*** | EuSocialCit is an interdisciplinary research project aiming to support the EU in strengthening social rights and European social citizenship. It evaluates the current state of social rights in Europe and their relationship to social inequalities, gender inequalities, poverty, and precariousness, and diagnoses the shortcomings of current policies and institutions at the level of individual countries and the EU.<br><br>The EuSocialCit project focuses on three domains in which social rights are important: the empowerment of citizens (e.g., education and activation), fair working conditions, and social inclusion. Each of these domains are respectively studied as part of WP3, WP4, and WP5.<br><br>This report is produced as part of WP5, which is entitled "Inclusion through social policy". This WP analyses social rights in relation to the principles in the social protection and inclusion cluster of the EPSR. |
| ***Web address*** | For more information about the EuSocialCit project, please visit www.eusocialcit.eu. EuSocialCit's output can also be found in its community on Zenodo:<br>https://zenodo.org/communities/eusocialcit. |

# Table of contents

# 1. Introduction

The overarching objective of EuSocialCit project is to provide scientific analysis and to examine alternative policy scenarios that support the European Union's aim of strengthening EU social citizenship, particularly through social investment policies. According to (Hemerijck, 2017), social investment policies have three complementary policy functions: fostering the development of lifelong human capital; easing the flow of family lifecourse transitions; and upholding inclusive social protection buffers in times of need. As (Hemerijck & Plavgo, 2021: 4) observed, social investment can be seen as a "lifecourse multiplier", whereby cumulative returns over the lifecourse can generate a cycle of well-being characterised by stable employment and gender equity, and can significantly mitigate the risk of generational poverty (Figure 1).

**Figure 1. The social investment lifecourse multiplier at a micro and a macro level**




*Source:* Hemerijck & Plavgo (2021)

As underlined by (Baiocco et al., 2021) social investment approach is associated with the concept of empowerment, which is linked to the notion of social rights as constituted by "a bundle of distinctive and guaranteed power resources" (Vandenbroucke et al., 2021: 2).

In this working paper, we focus on the second policy function of social investment by seeking to broaden our understanding of the flow of family and employment lifecourse transitions, in the context of country social investment policies and resulting access to power resources, and their impact on

well-being at older ages. In particular, we investigate the association between potentially "vulnerable" lifecourses and the economic difficulties people face at later lifecourse stages.

We extend the results of the EuSocialCit project to date, by analysing the old-age vulnderability at the old-age, taking into account both the country-level, including the groups of countries according to their social investment strategies, as developed by (Baiocco et al., 2021) and then extended by (Chłoń-Domińczak et al., 2022), which both focus at country-level analysis. In their work (Baiocco et al., 2021) look at the expenditure and coverage in three policy areas: families and children, education and working age between 2004 and 2018 and group European countries in three distinct country clusters relative to the social investment approach in these policy areas. Further (Chłoń-Domińczak et al., 2022: 67) show that pre-redistribution in the work-family balance policies not only reduces constraints facing by individuals in the labour market, especially by women with caring responsibilities, but also contributes to strengthening human capital over lifecourse and encouraging labour force participation, in particular of women. Therefore, access to the power resources related to childcare and active labour market policies can empower people to cope with new risks and reduce vulnerabilities. Access to power resources, such as childcare and active labour market policies supports both employment of mothers and, indirectly, supporting longer working lives of older women (grandmothers). Higher labour market participation at all stages of lifecourse can contribute to reducing vulnerability at older ages.

In this working paper we further deepen the analysis, focusing on the interplay between individual and country situation. To do so, we analyse the lifecourses of Europeans, while focusing on their employment and family developments at adult ages. We use the individual-level panel data from the Survey on Health Ageing and Retirement in Europe, including data on the respondents' family and labour market histories and their assessments of their current economic situations. In the analytical approach, we follow the developments of lifecourse research. We hypothesise that:

(1) In countries that have more developed social investment strategies and therefore access to power resources, the risk of vulnerability at the old-age is lower, particularly in the case of people with 3 or more children, due to higher chances to have longer working lives resulting also in higher income at old-age, and
(2) people who had long spells of part-time work and/or economic inactivity, experienced an early transition to childbearing, and/or had several children with limited access to power resources, were more exposed than others to economic vulnerability at older ages.

Our results provide arguments for the provision of social rights and strategies that can reinforce the lifecourse multiplier approach, particularly in terms of policy scenarios for the EU. We also contribute

to the discussion on the potential role of access to power resources resulting from the country social investment approach in reducing people's exposure to long-term risks associated with having a vulnerable lifecourse. With that we provide evidence in the discussion on the role of the EU in the multidimentional development of social rights, particularly the ones that enable to reduce the risk of lifecourse flows that lead to vulnerability at older age.

# 2. Literature review

## 2.1 Individual lifecourses and vulnerability

The lifecourse perspective has been attracting increasing attention in social and demographic research. Theoretical perspectives on the lifecourse, such as the social investment approach, continue to highlight the importance of understanding the sequencing of events, the role of human agency, and the significance of linked lives. The methodological progress that has been made in studying events over time has contributed to the significant shift in our understanding of the causes and consequences of demographic and social changes. Moreover, it has informed the policy debates on family formation, inequality, and interactions between family and employment careers, and has contributed to the formulation of policies aimed at improving well-being at the individual, household, and societal levels (Falkingham et al., 2020). The lifecourse literature has focused on how lifecourse events affect the risk of poverty and vulnerability, and on the role of welfare state policies in reducing such risks.

### 2.1.1. Individual lifecourse effects and poverty risk

The risk of poverty is strongly linked to lifecourse challenges. The challenges people experience throughout their lives might accumulate (e.g., Anxo, Bosch, & Rubery, 2010; Hudson, 2016). When people are exposed to poverty in childhood and lack access to early childhood care, they may accumulate less human capital, which can, in turn, lead to reduced labour market performance. Women's tendency to withdraw from the labour market to meet the care demands in their family networks influences not just the gender pay gap and the gender pension gap, but also women's risk of experiencing poverty and deprivation at older ages.

The lifecourse perspective also enables research on the volatility of markers of social inequality across the lifecourse, including on both the timing and the stability or volatility of unequal outcomes. Among the key markers of social inequality that have been mentioned in the literature are the timing and the speed of the transition to adulthood, including the age of labour market entry and the age of family formation, which vary across countries and social classes (Fasang & Mayer, 2020). Lifecourse studies have shown that there are differences between cross-sectional and longitudinal observations. For example, (Damaske & Frech, 2016) found that in the US, around 20% of mothers are not working in any given year, and around 8.2% of mothers are not employed for long periods of time. They also showed that women who become mothers are more likely to have interrupted labour market careers.

Interesting results on this topic have also been presented by (Damaske & Frech, 2016), who studied the interplay of longitudinal work and family trajectories from early adulthood to mid-life in Germany and the United States, which they described as ideal-typical welfare state contexts. "(Their) results demonstrate that the liberal market and the absence of welfare state intervention in the United States reinforce more gender-neutral accessibility of work-family trajectories compared to Germany. In contrast, the gendered welfare state in Germany aggravates gender differences to a greater extent than in the United States. These findings lend further support to a growing literature arguing that the interplay of gender and social class as stratifying forces of work-family trajectories differs across welfare states"(p.1478). Moreover, the authors showed that the largest differences in work-family patterns can be observed in the groups who are most vulnerable to market forces (with the lowest occupational prestige). In Germany, this is a relatively secure group characterised by stable work trajectories, stable residential unions, and a two-child family pattern. In the United States, by contrast, this is a "forgotten" underclass who tend to have multiple vulnerabilities, including high levels of single parenthood, unstable work trajectories, and little inter- or intragenerational mobility.

As the complexity of lifecourse patterns has increased and the timing of life events has changed, new individual patterns have emerged. This has led to an increase in the diversification of and a reduction in the predictability of events, particularly at early lifecourse stages, including during family formation and entry into employment (Billari & Liefbroer, 2010; Elzinga & Liefbroer, 2007; Liefbroer, 1999; Liefbroer & Corijn, 1999; Liefbroer & Toulemon, 2010).

### 2.1.2. The role of the welfare state and the impact of welfare state policies on the risk of poverty

The welfare state and its evolution have affected people's lifecourse choices. References to the traditional welfare state typologies have limitations in the analysis of different life stage transitions. When women are given insufficient support during crucial life transitions, including inadequate childcare and maternity support, they are less likely to participate in the labour market. In some countries (i.e., Austria), the male breadwinner model has been replaced by the "one and a half earner" model, which has led to the incomplete labour market integration of women. In other countries (France, Italy, Spain, Greece), young people face difficulties in transitioning to stable employment careers. In these Mediterranean countries, the family is still expected to provide vital support during different life transitions. There are also generational differences that are particularly visible in the transition countries. In these countries, employment careers that were previously relatively stable were interrupted, and new risks emerged. The effects of these changes have differed across age cohorts. Therefore, as (Anxo et al., 2010) argued, references to traditional welfare state typologies have limitations in the analysis of different life stage transitions, whereas the lifecourse approach can

be more useful. This approach is also compatible with the cumulative inequality (CI) approach, which focuses on the analysis of economic stratification, while also paying attention to the role of individual resilience and agency over the lifecourse. In particular, the CI approach argues that non-means-tested programmes cannot adequately account for the skewed redistribution of resources after retirement (Beard & Williamson, 2016; Hudson, 2016).

The increasing diversification of lifecourse patterns is driven not only by individual choices and preferences, but also by national policies. The recent analyses of (Van Winkle & Fasang, 2021), as well as their earlier studies, have shown the potential of cross-national comparisons for explaining the drivers of complexity in both employment careers and family lifecourses. The bulk of the variation in family and labour market outcomes can be attributed to stable differences across countries and policy measures. It has, for example, been shown that employment protection legislation and wage protection rates are associated with levels of intra-generational mobility and employment complexity (Van Winkle & Fasang, 2017).

Direct and indirect transfers, such as family allowances and tax benefits, can incentivise the adoption of the traditional male breadwinner model and increase the economic dependency of women, while policies that reduce gender and intergenerational dependencies tend to increase family lifecourse complexity (Van Winkle, 2020). For disentangling the combined effects of different institutional features on lifecourse complexity, cross-national comparisons based on lifecourse analyses using comparable data appear promising. The lifecourse typology approach maps the ongoing mutual influence of the two life domains of work and family. Family events have an impact on the employment domain (family, wage, and employment gaps), while economic insecurity can affect fertility and the risk of divorce (Fasang & Mayer, 2020).

As (Kuitto, 2016) has emphasised, social investment tools, including education and care for children, are investments not only in skills formation among children, but also in the reconciliation of work and family life among parents. However, depending on their design, these policies might not fully address the challenges involved in reducing poverty, especially among the most vulnerable groups. As (Cantillon & Van Lancker, 2013) have pointed out, children who come from a high-income family are much more likely to be enrolled in childcare than children who come from a low-income family. Similarly, children who have a low-skilled mother are less likely than children who have a high-skilled mother to participate in ECEC. This leads to the “Matthew effect”, whereby job-rich households with a higher socio-economic status benefit disproportionately from social investment policies.

At the same time, many of the work-related spending programmes that are provided by social investment-oriented policies are not focused on improving the outcomes of the poor. (Cantillon, 2011) has observed that increasing levels of employment in European countries have only marginally

benefited workless households, whose employment rates remained unchanged, while the main beneficiaries of pro-employment policies have been households who were already job-rich. Furthermore, poverty among jobless households has increased. According to the author, these developments indicate that the shift from the redistributive welfare state to the social investment state has been difficult, and did not contribute as expected to the reduction of poverty. She therefore argued that "contemporary welfare states should take more adequate account of the highly stratified nature of 'new social risks' and of the continuing need to protect people against the even stronger stratified old social risks" (Cantillon, 2011: 445). To do so, it is important to also consider the diversification of lifecourse patterns, particularly of those that are associated with cumulative disadvantage. The design of such policies needs to be balanced to avoid the potential risks of benefit or inactivity traps that can lead to lower labour market participation among some groups (i.e., young mothers). As the example of Poland shows, designing such policies can be challenging (see Box 1).

**Box 1. Pro-family policies and employment among young women in Poland**

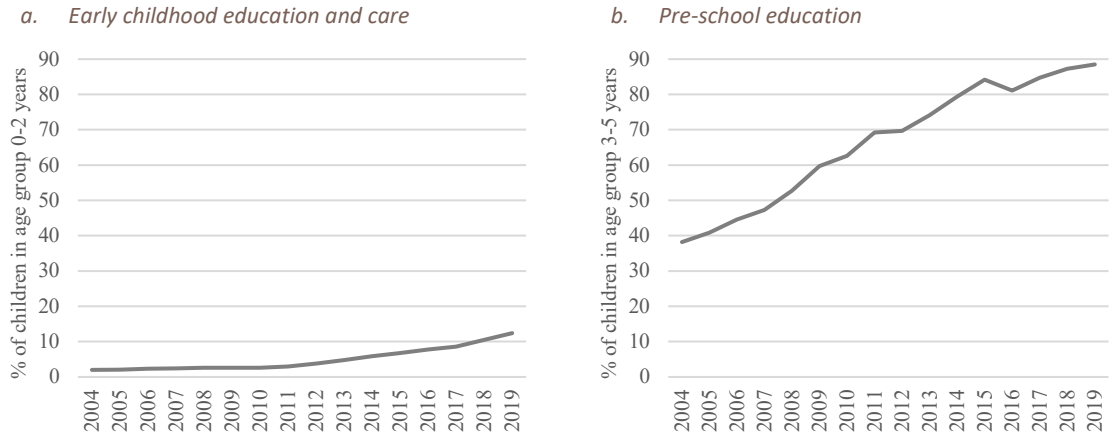
In the past decade, Poland introduced a series of policy measures that were oriented towards supporting families and parents, including through the provision of care services and cash benefits.

Access to pre-school education was promoted by guaranteeing the right to a pre-school education that gradually covered all children from age three to school age, combined with a reduction in the cost of pre-school education (parents pay only PLN 1/EUR 0.80 per hour of care), and the co-financing of ECEC costs through a government programme (the so-called "Toddler+" programme introduced in 2001) or local government budgets.

These measures led to an increase in the share of children enrolled in early childhood education and care (ECEC) or pre-school institutions in Poland. In 2019, 12.4% of children aged 0-2 were participating in ECEC, up from 2.0% in 2004 and 4.8% in 2013 (Figure 2a). However, there were significant geographical differences, as 18.4% of children in urban areas, but only 3.7% of children in rural areas, were enrolled in ECEC. Among older children (3-5 years old), the extension of the right to pre-school education led to much higher participation rates. In 2019, 88.5% of the children in this age group were attending pre-school, up from 74.1% in 2013 and 38.2% in 2004 (Figure 2b).

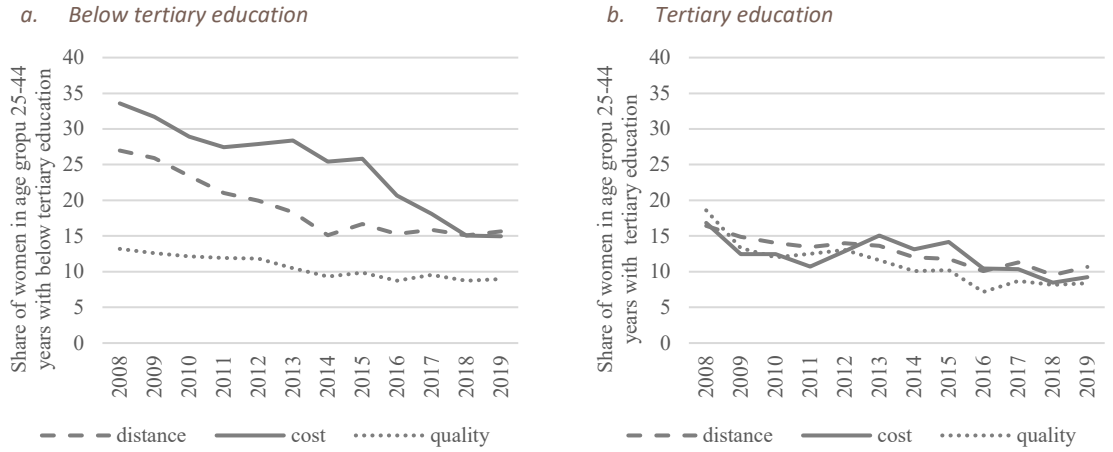
The increased participation of children in ECEC was incentivised by a reduction in the financial barriers to accessing childcare. The introduction of policies that supported access to childcare, as described above, also led to a reduction in the barriers to accessing childcare, particularly financial barriers, but also barriers related to the distance to childcare institutions. The effects of these barriers were most apparent among less educated women. Figure 3 shows that women aged 25-44 years with low or medium education reported experiencing greater barriers to accessing childcare than their counterparts with tertiary education. These barriers included the cost of childcare, but also the distance to childcare institutions. However, these women also reported experiencing a greater reduction in these barriers following the introduction of the new policies.

**Figure 2. Participation of children in early childhood education and care and pre-school education in Poland, 2004-2019**




*Source: Chłoń-Domińczak, Marszałek, Łątkowski (forthcoming)*

**Figure 3. Share of women aged 25-44 experiencing barriers to accessing childcare by educational attainment, 2008-2019**

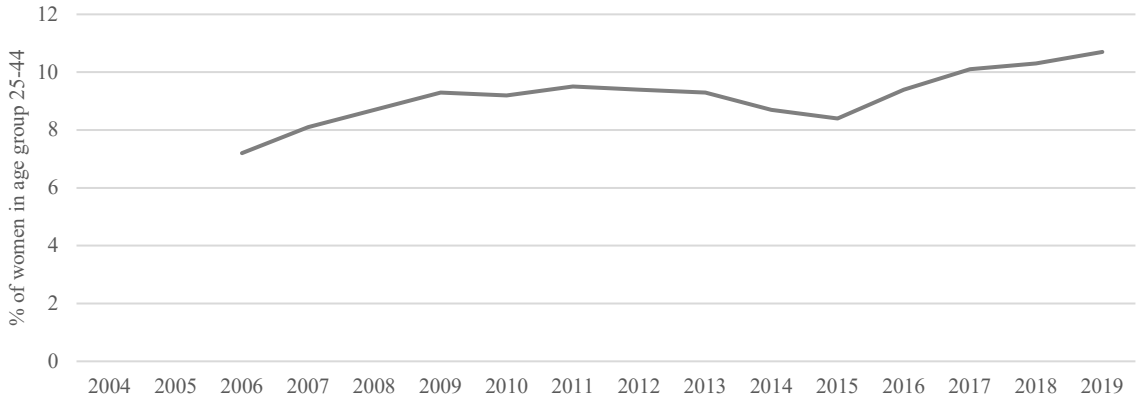



*Source: Chłoń-Domińczak, Marszałek, Łątkowski (forthcoming)*

Despite these measures, the share of women in the 25-44 age group who are inactive due to care responsibilities has been growing, and has exceeded 10% since 2017. This visible increase can be linked to the timing of the introduction of the "Family 500+" universal cash childcare benefit (Figure 4). Estimates by (Magda et al., 2018) have suggested that that by mid-2017, the labour force participation rate of mothers had declined by 2.4 pp as a result of the Family 500+ benefit. The effect was larger among women with lower levels of education.

One of the potential explanations for the paradox that the labour market inactivity of young women increased even though they had better access to ECEC is that the existing gender system in Poland still favours the "traditional" model of an unequal division of household responsibilities, with women spending more time than men on childcare and housework (Bjørnholt et al., 2017; Duch-Krzystoszek & Titkow, 2006; Feminoteka, 2012; Kurowska, 2020; Strzelecki et al., 2015; Szelewa, 2016). This suggests that the numerous and complex dependencies and relations in households between men and women and between generations, as well as their evolution over time and across generations, can lead to social investment and welfare policies having unexpected and undesired outcomes.

**Figure 4. Share of women not seeking employment due to care responsibilities for children or adults with disabilities, 2004-2019**




*Source: Chłoń-Domińczak, Marszałek, Łątkowski (forthcoming)*

As the example of Poland shows, policies that support a less equal division of household labour, as well as a lack of access to quality early childhood education and care, can lead to the reversal of gender equality gains. The "reversed" gender revolution, such as that observed in Poland, can have long-term consequences that will affect societies not just today, but in the future.

*Based on: Chłoń-Domińczak, Marszałek, Łątkowski (forthcoming)*

The European Pillar of Social Rights proclaims right to affordable early childhood education an high quality care. In their argments (Vandenbroucke et al., 2021) point out that subsidiarity counters excludes the provision of individual power resources in the field of education and childcare. It is the domain of Member States, which can be only supported through ESI funds. In the working paper we aim at providing evidence for the need of strengthening such policies, including the role of the EU, in order to reduce the existing and, in particular, future vulnerabilities.

## 2.2 Analytical approaches and data infrastructure used in the lifecourse research

Several analytical methods are applied in lifecourse research. In their review of longitudinal methods used in studying the lifecourse, (Mikolai & Lyons-Amos, 2020) distinguished between event-based approaches, including event history analysis and its extensions, and panel regressions; and holistic approaches, including sequence analysis and its extensions, latent class growth models, and latent transition analysis. The authors emphasised that sequence analysis is "best suited to studying questions where the aim is to describe patterns of behaviours of different groups in the dataset and the association between the probability of belonging to this group and key individual-level characteristics" (p. 50). Moreover, sequence analysis provides a rigorous methodology for interpreting

work and family trajectories as interlocked multidimensional process outcomes and comparing them across different contexts. It is also a very good tool for visualising lifecourse trajectories (Aisenbrey & Fasang, 2017). Sequence analysis is used to study various transitions, including family lives (Elzinga & Liefbroer, 2007) and school-to-work transitions (Brzinsky-Fay, 2007). The combination of sequence analysis with other modelling approaches, such as multilevel modelling, is a promising approach for gaining additional insights into the relative changes in lifecourse complexity across time and countries, including in other life domains (Van Winkle & Fasang, 2017).

Given the cross-national context of the EuSocialCit project, the lifecourse analysis presented here needs to be based on harmonised, large-scale, longitudinal, cross-national panel data on individual lifecourses, employment, and family dynamics. There are two main social science research infrastructures that provide such data.

The first infrastructure is the Generations and Gender Programme (GGP) launched in 2020. It focuses on the generational and gender interdependencies in families and other social networks. Currently, the GGP collection includes data on individuals aged 18-79 from 22 countries, including from 15 EU member states. It follows the lifecourses of individuals in adulthood, which allows for the study of the transition to adulthood, family dynamics and childbearing, and the influence of family dynamics on intergenerational relationships (Fadel et al., 2020).

The second research infrastructure is the Survey on Health, Ageing and Retirement in Europe (SHARE), which was designed to monitor, document, and analyse the complexities of individual and societal ageing processes. Since 2004, SHARE has collected bi-annual panel data on health, social and family networks, economic activity, and other aspects of the socio-economic situations of Europeans aged 50 and older. In 2008-2009 (wave 3 of SHARE) and in 2017 (wave 7 of SHARE), the SHARELIFE module added retrospective life histories of SHARE respondents, initially from 14 countries, and then from all 26 continental European EU member states. The module collected information from 140,000 respondents, including 75,000 life histories (Börsch-Supan, 2020). The life histories covered five important domains of the lifecourse: children, partners, accommodations, employment, and health. The SHARE data were used to study the respondents' childhood conditions and later life well-being, health and health care, labour market activities and occupation, income and wealth, and retirement arrangements. The authors also applied sequence analysis to the SHARE data. This included the analysis of the complexity of employment and family lifecourses and their interplay (Van Winkle, 2020; Van Winkle & Fasang, 2021).

In our analysis, we use the SHARELIFE data for several reasons. First, the data cover all continental EU countries. Second, the data contain information on completed or almost completed employment careers. Third, the total sample in the SHARE is larger than that in the GGS.

# 3. Data and methodology

As we explained in the previous section, we use the results of the SHARELIFE modules from wave 3 and wave 7 that cover the population aged 49+. We also use data from wave 7 and earlier waves for other variables we use in the model[1]. The lifecourse histories of people up to the age of 50 are described by referring to two kinds of events: changes in their work status (employed full time, employed part time, not working), and changes in their family careers, as measured by the number of children in their family over their family lifecourse (no children, one child, two children, three or more children).

To cope with the complexity of the types of work and family careers the respondents had, we use the sequence analysis technique, which allows us to assess to what extent the lifecourses are similar. Sequence analysis comprises three stages. First, each life trajectory is represented in a sequence of characters that indicate the state the individual occupies at each time point (i.e., year or month). In the analysis, we use years as a reference time unit. In the second stage, the number of individual sequences in the data is reduced based on the similarity or the dissimilarity of pairs of individual sequences. Sequence analysis can be performed in Stata using the sq package (Brzinsky-Fay et al., 2006); this package is used in our analysis. The last stage is grouping the results into clusters. First, we calculate the distances between each of the sequences and the sequence chosen as a reference sequence (for example, full employment from the beginning until the end of the work career). Then, we divide the population into quintile groups based on the distances mentioned above. The number of clusters in our analysis is a trade-off between the need to create many categories to reflect information about the differences in lifecourse career paths, and the need to preserve the clarity of the interpretation of the extracted clusters, which is helpful in the second part of the analysis.

[1] The data from SHARE Waves 1, 2, 3, 4, 5, 6 and 7 are used (DOIs: 10.6103/SHARE.w1.710, 10.6103/SHARE.w2.710, 10.6103/SHARE.w3.710, 10.6103/SHARE.w4.710, 10.6103/SHARE.w5.710, 10.6103/SHARE.w6.710, 10.6103/SHARE.w7.710), see Börsch-Supan et al. (2013) for methodological details. The SHARE data collection has been funded by the European Commission through FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812), FP7 (SHARE-PREP: GA N°211909, SHARE-LEAP: GA N°227822, SHARE M4: GA N°261982, DASISH: GA N°283646) and Horizon 2020 (SHARE-DEV3: GA N°676536, SHARE-COHESION: GA N°870628, SERISS: GA N°654221, SSHOC: GA N°823782) and by DG Employment, Social Affairs & Inclusion. Additional funding from the German Ministry of Education and Research, the Max Planck Society for the Advancement of Science, the U.S. National Institute on Aging (U01_AG09740-13S2, P01_AG005842, P01_AG08291, P30_AG12815, R21_AG025169, Y1-AG-4553-01, IAG_BSR06-11, OGHA_04-064, HHSN271201300071C) and from various national funding sources is gratefully acknowledged (see www.share-project.org).

In the second part of the analysis, these clusters are used as explanatory variables in the models that explain the variable that approximates the poverty risk in old age, as measured by the assessment of the ability to make ends meet.

Out analytical approach also takes into account the European Pillar of Social Rights monitoring framework known as the Social Scoreboard of indicators. The scoreboard comprises a set of indicators that are used for monitoring the 20 principles of the EPSR. Many of the headline and secondary indicators are linked to the employment lifecourse, which we analyse. The following indicators in the equal opportunities pillar may be associated with a job-poor lifecourse:

- the share of people who leave education or training early,
- the share of young people who are neither in employment nor in education or training as a young person,
- the gender employment gap,
- the employment rate, and
- the unemployment rate (and the youth unemployment rate).

These indicators can be used to identify the job-poor households. While analysing the employment careers, we can see to what extent early exposure to employment risks at early stages of the lifecourse translateed into longer term job-poor careers.

One of the headline indicators in the social protection and inclusion pillar is the at-risk-of-poverty rate. In the analysis, we use the subjective indicator based on the SHARE data – i.e., facing difficulties in making ends meet – as a proxy of poverty risk.

We assume that the difficulties in making ends meet in the household reported by individuals are an approximation of the risk of poverty in the household[2]. To assess the poverty risk defined above, we estimate logistic regression models with two groups of variables, according to the following equation:

$$ln\left[\frac{\pi}{1-\pi}\right] = \alpha + \sum_j \beta_j X_{ij} + \sum_k \beta_k C_{ki} + \sum_l \beta_l X_{i(education)} C_{li(cluster)} + \sum_m \gamma_c Y_{ci}$$

Where $\beta_j$ are coefficients related to individual characteristics, $\beta_k$ are coefficients related to lifecourse employment and/or children clusters, $\beta_l$ are coefficients related to interactions between clusters, and education $\gamma_c$ are coefficients related to countries.

[2] In the SHARE survey questionnaire, respondents were asked the following question: “Thinking of your household's total monthly income, would you say that your household is able to make ends meet...” with four possible answers: “1. With great difficulty”, "2. With some difficulty”, "3. Fairly easily” , “4. Easily”. The dependent varible was constructed as a binary variable with 1 attached to answers no. 1 and no. 2 and 0 to answers no. 3 and no. 4.

The individual characteristics used in the models include the following (underlined characteristics are used as a reference in the model):

- Sex (male, female),
- Education (primary or less, basic vocational, secondary, tertiary or more),
- Age group (49-54, 55-59, 69-64, 65-69, 70+),
- Marital status (in a relationship, widowed, divorced, other or no relationship),
- Limitations in daily activities (limitations according to the GALI scale, no limitations),
- Maintaining economic activity (yes, no)

In the last part of the analysis, we use the generational economy approach to give further insight into the sources used to finance consumption in old age, with a particular focus on women. Women typically have less income than men from public transfers in old age because they tend to have shorter employment careers and lower lifetime earnings. Thus, women often need to finance their current consumption from private (intrahousehold or interhousehold) transfers. This pattern may be associated with a greater exposure to vulnerabilities over the lifecourse at the country level.

# 4. Results

In this section, we first present the results of the sequence and cluster analysis conducted to group people with similar work and family careers in their lifecourses (part 4.1). Categorical variables that describe these groups are then used as explanatory variables in the logit models that explain an indicator of the social vulnerabilities of people aged 50+: i.e., the probability that they reported that their household has some difficulties making ends meet. We comment on the results of these models in part 4.2. The results of the regression models are supplemented with information about intergenerational private transfers in the EU (part 4.3).

## 4.1 The impact of employment and family careers on lifecourses in Europe – sequence analysis

Our aim in this section is to prepare a longitudinal measure that can describe the potential impact of the employment and family transitions in the 20-49 age group on the social vulnerabilities of people aged 50+. We focus on the two components of the lifecourse. First, the patterns of a person's employment career directly influence his/her lifetime earnings and the amount of wealth s/he has collected during his/her lifecourse, as well as his/her entitlement to pension benefits upon retirement. It can be also a proxy for the individual's abilities, preferences, and family-level decisions related to maintaining labour market activity vs. engaging in household work. Second, we focus on the information on the individual's transition to the first birth and to subsequent births. The timing of a person's births and childcare activities, but also the number of children s/he has, can have a major impact on both his/her labour force participation (which can be different for a man than for a woman) and on the potential support s/he receives from his/her children in later life.

In line with the method presented in section 3, we have prepared three types of sequences that reflect work and family careers. First, we focus on the employment lifecourse. Second, we consider the family lifecourse, measured as the number of children born and the age at the transition to the first child and to subsequent children. Finally, we combine the two types of careers in the third sequence analysis.

### 4.1.1. Employment life histories

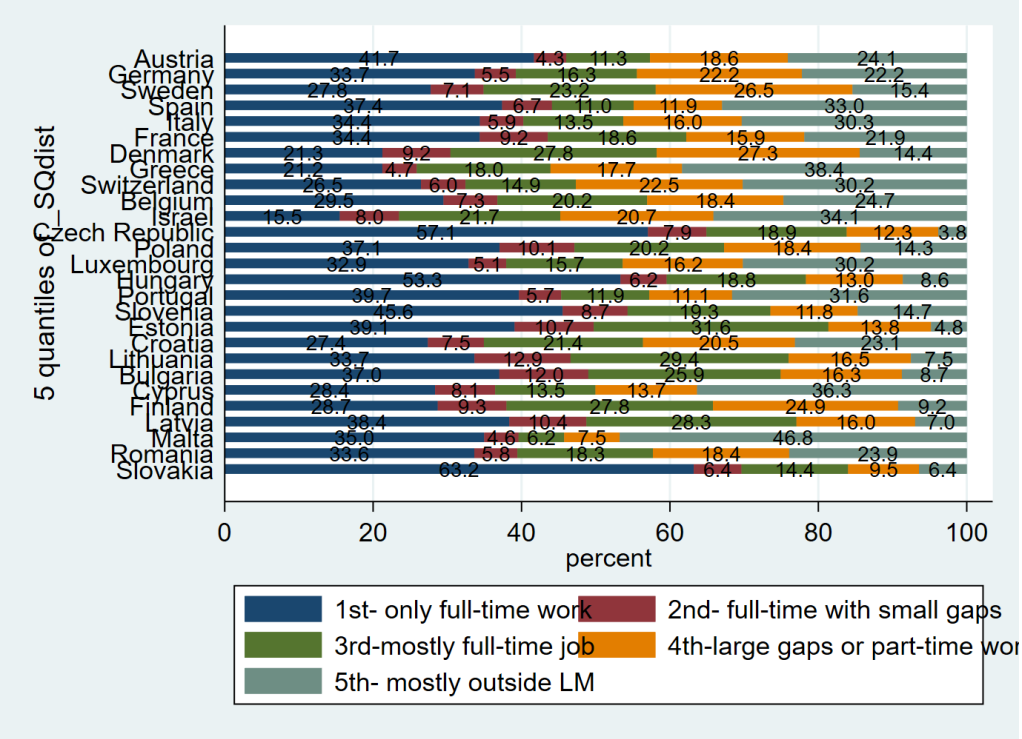
The first analysed variable reflects the stability of employment during the lifecourse. The measure of the distance between individuals is the distance to the reference work career that assumes that the person was in full-time employment in each year between ages 20 and 49. In this analysis, part-time employment is considered as an intermediate state between full-time employment and non-employment. Then, the results are sorted based on the distance to the reference work career with uninterrupted full employment between ages 20 and 49 (Figure 1), and are divided into five clusters. While the clusters were initially designed to be equal in size, due to the existence of the same sequences of events (exactly equal distances from the reference sequence), the outcome clusters do not have the same size. The first cluster covers 36% of the population, and comprises only people who were employed full time between ages 20 and 49. Thus, this cluster does not differ from the reference sequence. The second cluster includes people with only a few years of non-employment at the beginning of their work career (8% of the total population). The third cluster includes people who started their work career with a delay of several years (due to, for instance, participation in tertiary education) and people who spent a few years not working at another point in their analysed lifecourse (19% of the population). The fourth cluster includes people with significant gaps in their work career or people who worked part time for most of their work career (17% of the population). The people in the fifth and final cluster (20% of the population) spent most of their working-age years outside the labour market (Figure 5).

**Figure 5. Annual employment sequences between ages 20 and 49 categorised by clusters**


*Source: Authors' calculation based on SHARE LIFE data*

The distribution of the population by clusters differs between the EU countries, as shown in Figure 6. We can see that the countries with the largest shares of people in the first job-rich cluster are three central and eastern European countries (Slovakia, Czech Republic, Hungary) and Austria. In many continental European and Scandinavian countries, the shares of people in the third and fourth clusters make up 40% or more of the population. The countries in this group include Germany, Sweden, Denmark, Belgium, and Finland, but also the Baltic countries (Lithuania, Latvia, Estonia) and Croatia. The countries with the largest shares of people in the job-poor fifth cluster are the southern European countries (Greece, Malta, Spain, Italy, Portugal) and Luxembourg.

**Figure 6. Clusters of different employment career paths by countries**




*Source: Authors' calculation based on SHARE LIFE data*

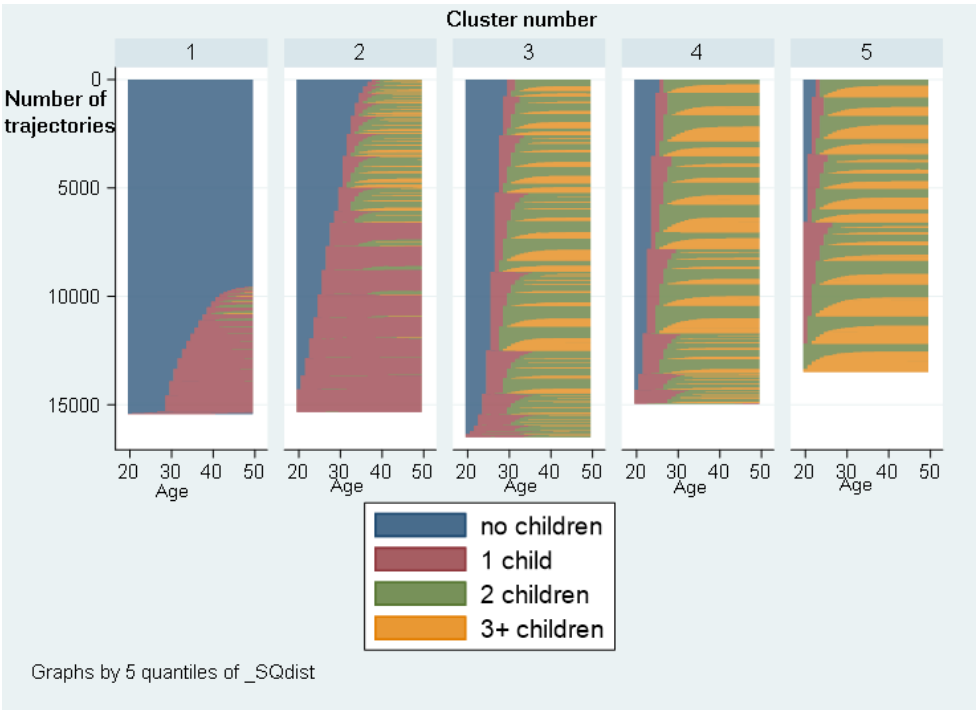
There are significant differences in the distributions of these groups by sex (see Appendix 1). In general, the sequences of full-time work during the entire lifecourse are much more frequent among men than among women in all countries. However, these differences are much smaller in several post-communist countries like Czechia, Slovakia, Poland, and Hungary. Women, and especially women in southern European countries like Greece, Malta, Spain, and Italy, often spend long periods of their lifecourse outside the labour market.

### 4.1.2. Childrearing histories

The second perspective in our analysis is the role of children in the respondents' life histories. Here, we focus on the respondents' ages at the births of their first, second, and third children. As the number of people in our sample who had four or more children is relatively small, we restrict the sequencing of the birth histories to three or more children. Similarly, as in the case of the employment histories, we order all sequences based on the number of children born and the ages at which individuals had their first and subsequent children, and then divide them into five clusters, with the goal of having equal representation in each of the clusters. Due to the similarity of the sequences, the outcomes are not perfectly even.

The first cluster includes people who were either childless or had one or two children at relatively late ages (20% of the population). The second cluster is made up of people who had their first child between ages 20 and 30, including some people who had two, three, or more children relatively late in life (20% of the population). The third cluster mainly includes people who had two or more children, and whose first and second children were born while they were relatively young (23% of the population). The fourth (20% of the population) and fifth (17% of the population) clusters are made up of people who had their first child very early in life, and who transitioned very rapidly to the second and the third birth (Figure 7).

**Figure 7. Annual sequences on the number of children born to adults between ages 20 and 49 categorised by clusters**

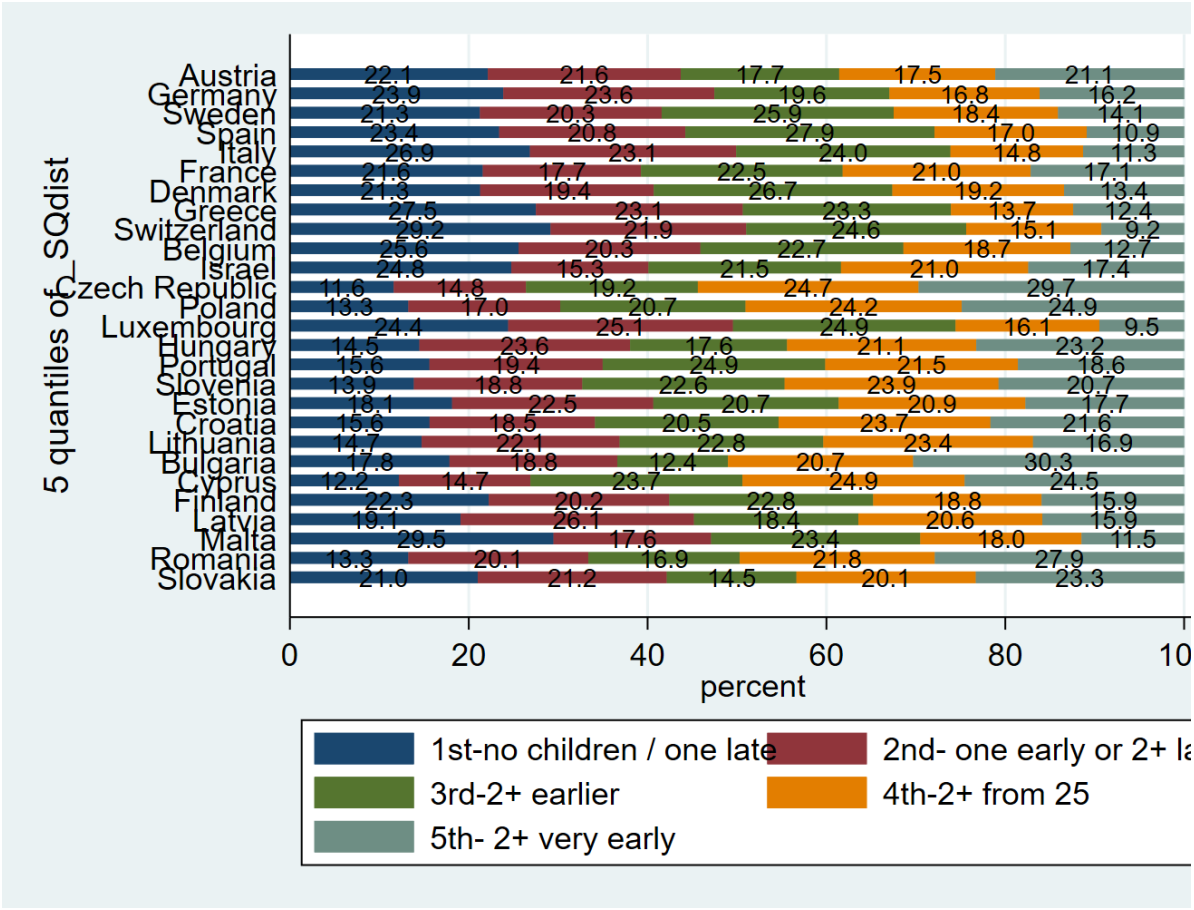



*Source: Authors' calculation based on SHARE LIFE data*

The distribution of the analysed clusters of the population by country is shown in Figure 8. We again observe differences in the distribution of the clusters across countries.

The shares of people with no children or one child born late in life are largest in Switzerland, Greece, Malta, and Belgium. By contrast, the shares of people who had two or even three children early in life were largest in Bulgaria, the Czech Republic, Romania, Poland, and Slovakia. Given the analysed population, this pattern partially reflects the fertility behaviour in these countries before the trends in family and fertility behaviours shifted after 1989, when the central and eastern European countries transitioned to democracy and market capitalism. This shift has been related to the second demographic transition process (Sobotka, 2008).

**Figure 8. Clusters of different family career paths (the number of children and the timing of births) by countries**

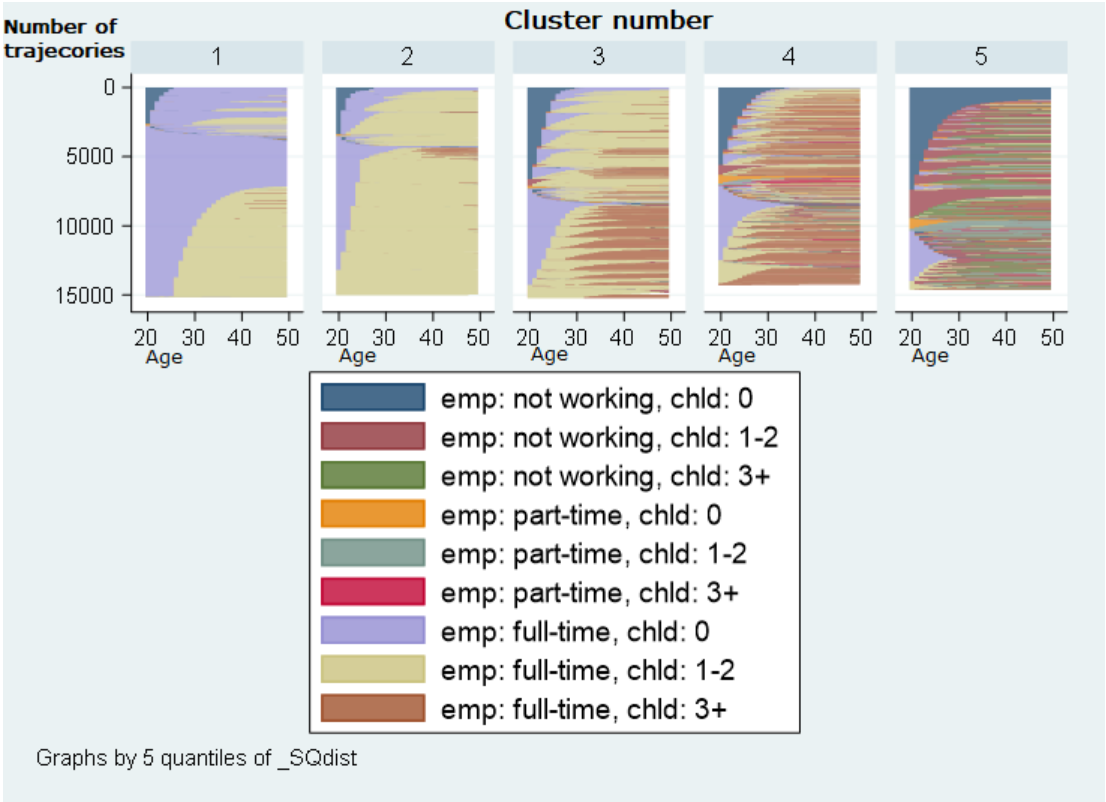



*Source: Authors' calculation based on SHARELIFE data*

### 4.1.3. Birth and employment life histories combined

The third approach to sequencing that we propose is the combination of the respondents' birth and employment life histories. Based on the earlier statuses we identified, here we propose combining people's employment and family statuses and dividing them into three categories that include the two components of life histories, as shown in Figure 9. In order to reduce the complexity of the results, we have decided to merge parents of one and two children, who constitute a typical family with children, and to compare them with childless people and parents with more than two children. This approach is also in line with the results of the previous chapter regarding the role of the timing of the first and the third births in clustering families. As a sensitivity analysis, we also tested an alternative division of the families by the number of children (0,1,2 +), but the interpretation of the clusters in this analysis was less clear. Based on the trajectories of nine possible states, and similar to the earlier groupings, we have divided the population into five clusters, ranging from the most job-rich cluster dominated by people who were either childless or had 1-2 children; to the second cluster of people who had relatively stable job histories and children (1-2, but also three or more); and, finally, to the fifth cluster of people who were largely unemployed and had three or more children (Figure 9).

**Figure 9. Clusters of combined family and employment histories**

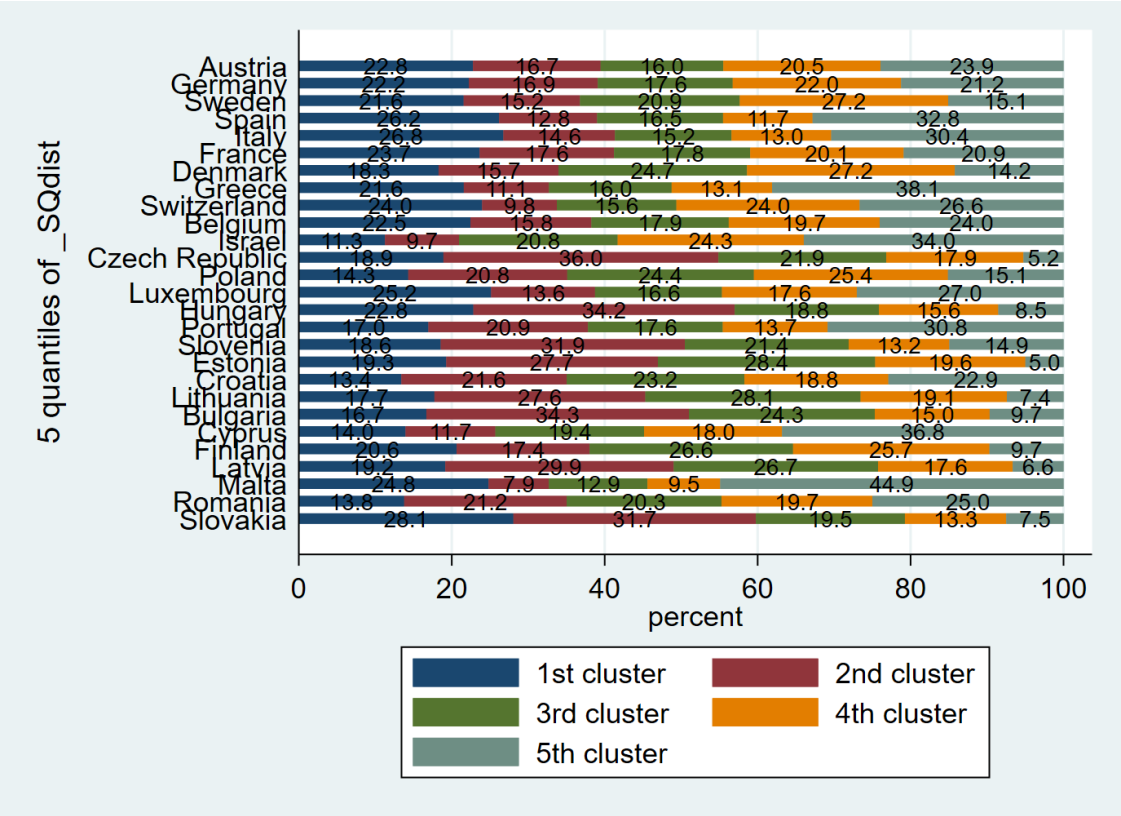



*Source: Authors' calculation based on SHARELIFE data*

The sequence analysis shows that the combination of employment and family histories leads to diverse patterns. However, we can see that job-rich histories were more common among people who had no children or a smaller number of children, while people who had more children tended to have less job-intensive histories. While the separated clusters are not easy to interpret, we can discern that the most salient differences between them were connected to labour market activities. The first cluster covers mainly people who were the most attached to the labour market and who also postponed having children or remained childless. The second cluster consists primarily of people who did not have problems reconciling full-time work and having a family with a standard number of children. The third cluster is made up of people who had a mixture of labour market and family patterns, but who generally had relatively high levels of human capital that allowed them to remain attached to the labour market even if they had more than the standard number of 1-2 children. By contrast, the people in cluster 4 had very diverse lifecourse histories characterised by longer and more frequent periods of time spent outside the labour market or in part-time work, likely due in part to their childcare commitments. Finally, cluster 5 consists of people whose life histories indicate that they had low levels of attachment to work, although the number of children they had varied. Thus, while this cluster includes a significant share of people who had three or more children, it also includes people who were childless or who had 1-2 children.

As depicted in Figure 10, the analysis also uncovered differences in the distribution of clusters across countries. The countries with the largest shares of people with less job-rich and more child-rich histories are Cyprus, Malta, Greece, and Switzerland. At the other end of the spectrum, the countries with the largest shares of people with job-rich histories are the new member states: the Czech Republic, Slovakia, Hungary, Bulgaria, Latvia, Lithuania, and Estonia.

**Figure 10. Clusters of family career paths (work careers and the timing of having children) across countries**




*Source: Authors' calculation based on SHARELIFE data*

### 4.1.4. Clusters of lifecourse events and socio-economic characteristics

Here, we assess people's exposure to economic vulnerability depending on their employment and family histories, as well as on their other demographic and socio-economic characteristics (sex, education, etc.). To do so, we compare the socio-economic characteristics of people in different clusters.

We find that the clusters separated on the basis of employment trajectories include people with a range of socio-economic characteristics (Table 1). Regarding educational attainment, we observe an inverted U-shaped pattern, whereby cluster 3 has the largest share of highly educated people (among the people in this cluster, 42% had tertiary education and the median number of years of education was 13). In the clusters with higher levels of labour market attachment (cluster 1) or very low levels of labour market attachment (cluster 5), the shares of people with tertiary education are much lower (about 11-12%). A kind of U-shaped pattern is observed in the shares of women in the clusters, with cluster 2 having the smallest share (38%) and cluster 5 having the largest share (88%) of women. A similar pattern is observed for levels of financial distress, which are highest in cluster 5, and are relatively high in cluster 1 as well. The differences in the respondents' marital status and disability levels at the moment of observation do not differ greatly across the employment clusters, with the

exception of cluster 5 (lowest labour market attachment levels), which includes fewer people who were married and living with spouse and who were without limitations in daily activitiesat ages 50+.

**Table 1. Descriptive statistics of socio-economic variables in the clusters separated by trajectories of employment events, family events (births of children), and employment and family events combined.**

| Average values in the clusters by employment | | | | | |
|---|---|---|---|---|---|
| Variable | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 | Cluster 5 |
| % of households with financial distress | 41% | 40% | 36% | 40% | 49% |
| % of female | 43% | 38% | 47% | 66% | 88% |
| % with at least tertiary education | 11% | 22% | 42% | 32% | 12% |
| median years of education | 11 | 12 | 13 | 12 | 9 |
| % of married and living with spouse | 69% | 72% | 69% | 66% | 63% |
| % of persons with disabilities (Gali limitations) | 47% | 45% | 46% | 49% | 53% |
| Average values in the clusters by family | | | | | |
| Variable | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 | Cluster 5 |
| % of households with financial distress | 40% | 40% | 37% | 41% | 50% |
| % of female | 48% | 51% | 47% | 61% | 81% |
| % with at least tertiary education | 26% | 26% | 27% | 19% | 9% |
| median years of education | 12 | 12 | 12 | 11 | 10 |
| % of married and living with spouse | 54% | 69% | 76% | 72% | 66% |
| % of persons with disabilities (GALI limitations) | 45% | 47% | 46% | 49% | 54% |
| Average values in the clusters by employment and family together | | | | | |
| Variable | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 | Cluster 5 |
| % of households with financial distress | 37% | 41% | 39% | 40% | 50% |
| % of females | 35% | 51% | 45% | 64% | 89% |
| % with at least tertiary education | 26% | 26% | 27% | 19% | 9% |
| median years of education | 12 | 12 | 12 | 11 | 10 |
| % of married and living with spouse | 63% | 71% | 72% | 69% | 63% |
| % of persons with disabilities (GALI limitations) | 44% | 47% | 47% | 50% | 53% |

When we look at the clusters defined by the number of children and the timing of their births in the lifecourse, we see that the socio-economic structure of one or two clusters differs from those of the

others. For example, the people in clusters 4 and 5 are more likely to be women, and are far less likely to have tertiary education. While the levels of poverty are quite similar in clusters 1-5, cluster 5 includes a larger share of people who were, on average, more exposed to poverty.

When we combine the clusters by employment and family careers, the most striking observation is that they are highly correlated with the share of women, which is largest in cluster 1 (35%) and is smallest in cluster 5 (89%). Another observation similar to that for pure family clustering is that the shares of people with tertiary education are small in the clusters dominated by people who had job-poor work careers and larger numbers of children early in life. We also observe that in the clusters at the extremes – i.e., cluster 5 mentioned above and cluster 1, which includes people who had long employment histories and no children or only 1-2 children later in the lifecourse – the percentages of people who were married at ages 50+ are relatively low.

These statistics show that people who are assigned to clusters job-poor careers, including those with 3 or more children are more exposed to financial stress. At the same time, women are more frequently represented in such clusters.

## 4.2 Economic vulnerability in old age viewed through the lens of lifecourse developments

To assess people's exposure to economic vulnerability depending on their employment and family histories, as well as on their other demographic and socio-economic characteristics (sex, education, age group, marital status, limitations in daily activities) and assigned clusters, we apply a series of logistic regression models. These include:

(1) Model with only country characteristics;
(2) Model with individual (sex, education, age group, marital status) and country characteristics, without clusters (basic);
(3) Model with individual (sex, education, age group, marital status, limitations in daily activities, economic activity) and country characteristics, without clusters;
(4) Model with individual (sex, education, age group, marital status, limitations in daily activities) and country characteristics, without clusters;
(5) Model with individual (sex, education, age group, marital status, limitations in daily activities) and country characteristics, with employment history clusters;
(6) Model with individual (sex, education, age group, marital status, limitations in daily activities) and country characteristics, with family history clusters;

(7) Model with individual (sex, education, age group, marital status, limitations in daily activities) and country characteristics, with birth and employment history clusters;
(8) Model with individual (sex, education, age group, marital status, limitations in daily activities), and country characteristics, with separate employment and birth history clusters;
(9) Model with individual characteristics (sex, education, age group, marital status, limitations in daily activities) and groups of countries according to their social investment strategies, with separate employment and family history clusters.

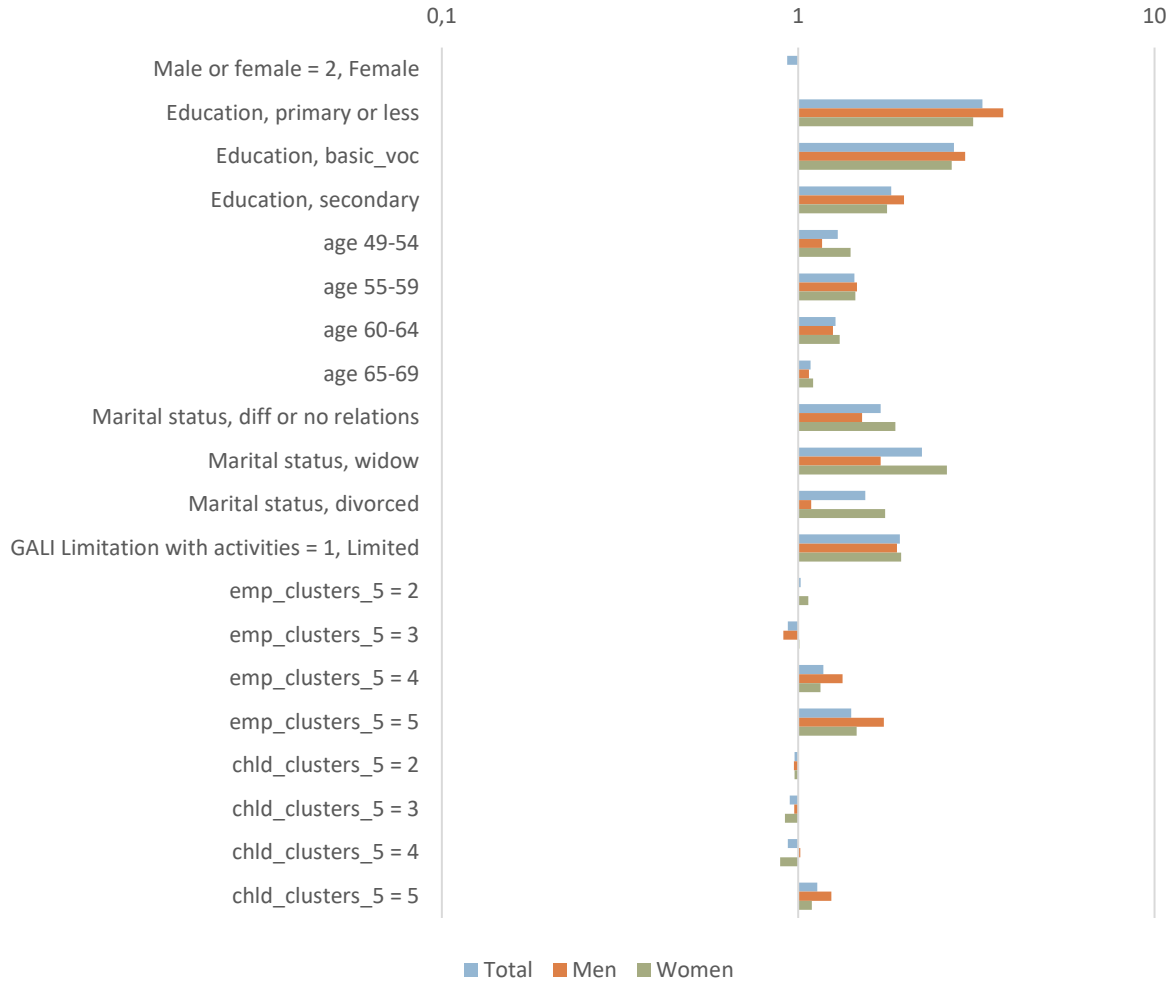
In addition, we consider models (5), (6), and (7) with interactions between education and clusters.

The models are estimated for the entire population, and separately for men and women. The results of the regressions are presented in Tables A.1-A.3 in Appendix 2. Below, we discuss the relevant results. Figure 11 presents the main results of the logistic regression model (8) (with the largest number of variables) for the entire population, and for men and women separately (only statistically significant results). They are discussed in the following two subsections (4.2.1 and 4.2.2). In the sub-section 4.2.1 we focus on the interplay between individual characteristics and economic vulnerability at the old-age, while in section 4.2.2 we consier country and country clusters characteristics, which can be associated with the provision and access to power resources of individuals.

### 4.2.1. Individual characteristics

The individual characteristics included in the regression models are associated with the risk of facing economic difficulties. However, our results indicate that whether such an association is observed depends on the model specification.

**Figure 11. Main results of the logistic regression models: individual characteristics, employment and family history clusters (odds ratios, model (8))**




*Source: Authors' calculation based on SHARELIFE data*

In the models without the birth and/or employment history clusters, we find that women were more likely than men to face economic difficulties. However, when we add clusters to the model specifications, this pattern changes, with sex becoming either not significant or even more significant, and women becoming less likely to face economic difficulties. This implies that the observed gender differences are not attributable to sex as such, but rather to individuals' exposure to different lifecourse events related to employment and children.

Educational attainment is also found to be associated with economic status. All models show that people with higher educational attainment faced a lower risk of experiencing economic difficulties than people with secondary education, and a much lower risk than people with primary or basic vocational education. These results change very slightly when we add clusters to the specification, with the impact of educational attainment becoming smaller for women than for men. This could be the result of mitigating effects related to gender gaps in wages and employment. First, women might

avoid occupations that offer wages similar to those earned by men even if they are as educationally qualified as men (Brynin & Perales, 2016). Moreover, even if women take jobs similar those held by men, their wages might still be lower. These gender gaps were particularly prevalent from the 1960s through the 1980s (Goldin, 2002), and even women with higher education often experienced the "glass ceiling" effect (Arulampalam et al., 2007).

The results for age groups are also important. Compared to people aged 70 or older, younger people reported having more difficulties making ends meet. Moreover, the younger the age group, the higher the regression coefficients. This means that younger people – i.e., people who were either still working or were preparing to retire – were more likely to have difficulties making ends meet. For people in the 65-69 age group, the regression coefficients are closer to one, which indicates that the differences between this group and the 70+ age group are smaller (but still statistically significant).

People who were living alone, and particularly those who were widowed, also reported having more difficulties making ends meet than people who were living in a couple.

Experiencing health problems that limit the ability to perform activities of daily living is another individual characteristic that increases the chances of having economic difficulties. The increased exposure to this risk does not change with the model specifications.

Maintaining current economic activities is not shown to be statistically significant in explaining economic difficulties.

The estimated regression coefficients are similar in the models estimated separately for men and women. We observe differences based on marital status, with women who were living alone (widowed, divorced, or living alone for other reasons) facing more difficulties in making ends meet than men who were living alone. For men, the estimated effects are stronger if they had lower educational attainment.

### 4.2.2. Employment and family histories

The regression results also confirm that people's experiences early in life are associated with their risk of having economic difficulties later in life.

Compared to the people in the cluster with the most job-rich employment histories, the people in clusters 4 and 5, who were mainly working part time or had spells of non-employment, faced more difficulties making ends meet. Interestingly, we find no significant differences between people in clusters 1 and 2, which shows that having relatively short employment breaks did not affect people's economic situations in old age. Furthermore, people in the third cluster had statistically lower chances of facing economic difficulties than people with a full employment history. We can hypothesise that many people who entered employment later did so because they were participating in education

longer, which, in turn, improved their economic circumstances after they transitioned from education to work. This assumption is supported by the results of the regressions for men and women. For men, we observe the same effect as in the entire population (namely, the potential fatherhood premium), while for women, this effect is not observed. In particular, it appears that women in the job-poor clusters faced more difficulties making ends meet at older ages.

Turning to the family histories clusters, we observe in model (6), which is the model in which only these clusters are included as explanatory variables, a significantly higher risk of facing economic difficulties among people in the most child-rich fifth cluster. In model (8), in which the employment history clusters are also included, we find that people in the third and fourth family history clusters had statistically lower chances of facing economic difficulties. This may indicate that only having a larger number of children has an impact on economic vulnerability, while having one or two children can contribute to the parenthood (especially to the fatherhood) premium on the labour market (Glauber, 2018). In the separate regressions, we see that women in the child-richest fifth cluster faced more difficulties making ends meet, while women in the third and fourth clusters had significantly lower chances of facing such difficulties than women in the first (childless and one-child) cluster. These results confirm that most of the people who experienced vulnerability over their lifecourse due to their family histories had larger families with three or more children, which made it challenging for them to reconcile work and family.

The combined employment and children history clusters indicate that for people assigned to clusters 3, 4, and 5, the chances of facing economic difficulties were higher. Moreover, with each of the clusters (relating to having more children combined with having more employment interruptions), the risk increased.

The results obtained for men and women separately differ somewhat. The men in the most job-poor cluster are found to face a higher risk of having economic difficulties in old age than women. However, it should be emphasised that the share of men in this cluster is very small.

#### 4.2.3. Differences between countries

In this section we discuss results of regressions that include individual country dummies or dummies for country clusters, according to the typology of social investment strategies.

##### 4.2.3.1. Individual countries

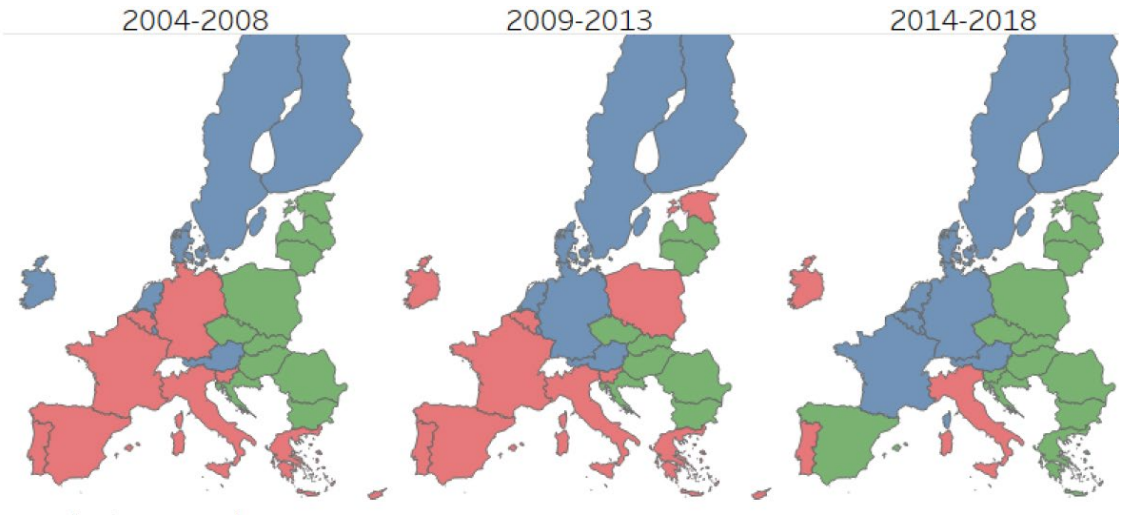
We observe that in the models with the full set of variables (including those with clusters related to children and work), the country coefficients are smaller, but are still statistically significant (with the

exception of Switzerland). This means that the risk of facing economic difficulties differed significantly between countries, with Germany used as a reference category. The regression coefficients for model (8) for the entire population are presented in Figure 12. Compared to older people in Germany, older people in four countries faced fewer difficulties making ends meet, while older people in 20 other countries faced more difficulties. While the results are similar in the models separated by sex, the values of the regression coefficients are higher for women.

These results are in line with previous assessments of the types of social investment welfare states, particularly of the stripped-down and sprouting-up clusters (Baiocco et al., 2021) identified in the EuSocialCit project.

In their paper, Baiocco et al. (2021) identified the clusters of social investment strategies as “all-in” (red blue colour), “stripped-down” (red colour), and “sprouting-up” (green colour) strategies. They found that countries could go from using one type of strategy to another over time, and that the most important transitions that have occurred in western European countries in the past two decades were from following the stripped-down strategy to adopting the all-in strategy.

**Figure 12. Groupings of countries by changes over time in their social investment strategies**




Source: Baiocco et al. (2021), page 13

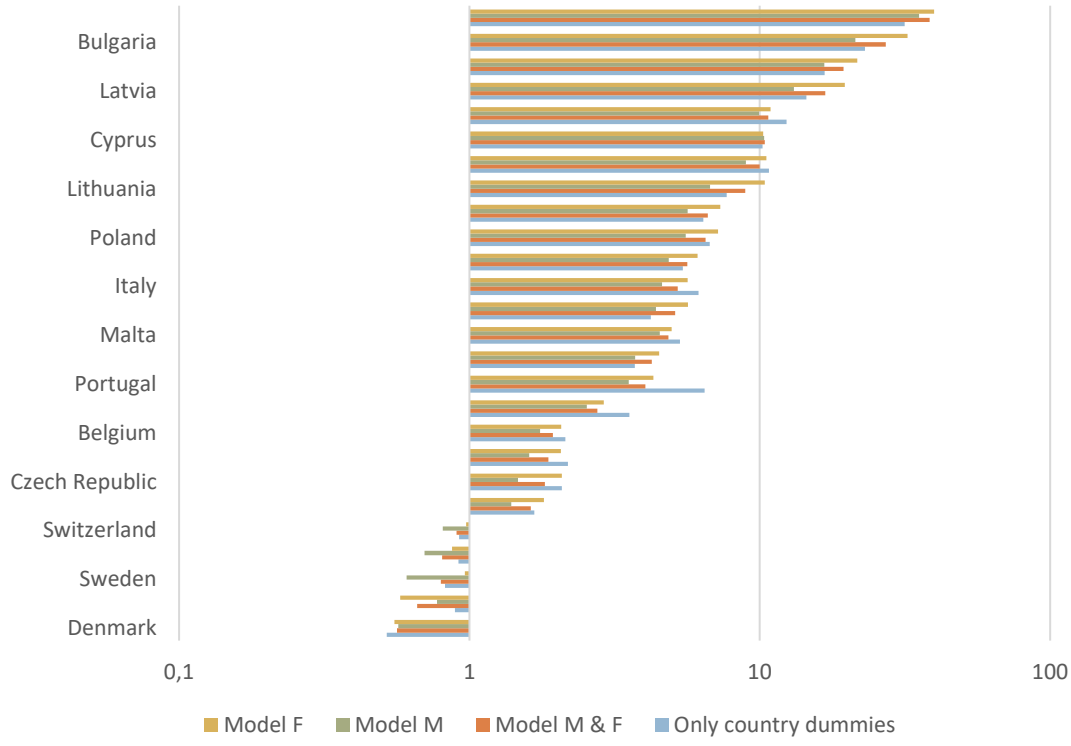
As Figure 13 shows, for the countries that follow the all-in social investment strategy – which is the best-performing on all areas of expenditure throughout the life, and is characterised by higher expenditures for childcare than for parental leave, and by easy access to childcare and support for all types of households, including for single- and dual-earner households – the regression coefficients are small. The countries that employ this strategy, which include the Scandinavian countries and a number

of continental European countries, have outcomes similar to those of Germany, which also follows an all-in strategy.

In the countries that use a stripped-down strategy – which is characterised by low expenditures for childcare services and parental leave, and the prioritisation of family benefits over childcare services, there is no legal entitlement to ECEC, and support is provided mainly to single-earner households (Italy, Portugal, Cyprus, Malta) – we observe high regression coefficients related to country dummies, which indicates that people in these countries face a higher risk of poverty at older ages. In particular, in Portugal and Italy, the coefficients with only country dummies are higher than those in the models with individual characteristics, which also indicates that there is a negative association between welfare policies and the risk of old-age poverty.

Moreover, compared to Germany, the countries in the sprouting-up cluster – which is characterised by higher expenditures on parental leave than on childcare services, and the prioritisation of family benefits over childcare (Spain, Greece and the new member states in central and eastern Europe) – have a higher poverty risk. This is particularly the case for Greece, Bulgaria, Hungary, Latvia, and Romania, which offer generous maternity leave, but limited parental and paternal leave.

**Figure 13. Main results of the logistic regression models: country dummies (odds ratios, model (8))**




*Source: Authors' calculation based on SHARE LIFE data*

#### 4.2.3.2. Country clusters

As the reduction of social vulnerabilities is one of the aims of social investment strategies, it is interesting to examine to what extent our results correspond with the country clusters of social investment strategies as defined in Baiocco et al. (2021), in which the authors tried to group countries over time (Figure 12). As a sensitivity analysis, we have applied in our models these groups of countries, rather than country dummies. We also checked whether the interactions between the clusters defined by social investment strategy types and the clusters of individual life trajectories defined in this paper add predictive power to the models of determinants of economic stress.

It is worth noting that the types of investment strategies followed in their countries may have changed over their lives (although we also expect that there is a degree of path dependency in the national strategies). For this reason, we have tested all three proposed clusters of countries over time. The results suggest that despite changes in the country clusters and the control variables used in the analysis, the influence of the information about the country clusters was significant in the analysis (Table 2).

**Table 2. Regression coefficients: clusters of countries**

| VARIABLES: | Total | Men | Women |
|---|---|---|---|
| 2014-2018 period (ref. countries with a sprouting-up strategy) | | | |
| Countries with an "all-in strategy" | 0.172*** | 0.178*** | 0.166*** |
| | (0.00353) | (0.00563) | (0.00464) |
| Countries with a "stripped-down strategy" | 0.718*** | 0.763*** | 0.700*** |
| | (0.0215) | (0.0338) | (0.0286) |
| 2008-2014 period (ref. countries with a sprouting-up strategy) | | | |
| Countries with an all-in strategy | 0.112*** | 0.113*** | 0.113*** |
| | (0.00353) | (0.00552) | (0.00471) |
| Countries with a stripped-down strategy | 0.528*** | 0.537*** | 0.527*** |
| | (0.0106) | (0.0166) | (0.0140) |
| 2004-2008 period (ref. countries with a sprouting-up strategy) | | | |
| Countries with an all-in strategy | 0.121*** | 0.121*** | 0.124*** |
| | (0.00362) | (0.00479) | (0.00574) |
| Countries with a stripped-down strategy | 0.492*** | 0.480*** | 0.521*** |
| | (0.00954) | (0.0125) | (0.0153) |

*Source: Authors' calculation based on SHARELIFE and EuSocialCit data*

Having variables that describe social investment strategy types and clusters that are based on individual lifecourses allows us to analyse to what extent they interact. The results of the regression with interactions of these two variables show that among the social investment strategy clusters defined for the 2014-2018 period, when the stripped-down strategy was followed, the type of

lifecourse labour market activity described in clusters 3 and 4 led to lower economic stress, as measured by the explanatory variable. In the same group of countries, having children relatively early in life (clusters 3-5) led to an increased risk of economic stress at older ages. This effect remained significant even when the family histories were combined with the employment histories.

**Table 3. Interactions of social strategy clusters of countries with clusters from the sequence analysis of individual life trajectories (only significant results: "+" increasing economic stress, "-" decreasing economic stress)**

| Country clusters (ref. sprouting-up strategy) | | | Clusters by employment histories | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Countries with an all-in strategy | 0 | 0 | 0 | 0 | 0 |
| Countries with a stripped-down strategy | 0 | 0 | - ** | - *** | 0 |
| | | | | Clusters by family histories | |
| | 1 | 2 | 3 | 4 | 5 |
| Countries with an all-in strategy | 0 | 0 | - ** | 0 | +* |
| Countries with a stripped-down strategy | 0 | 0 | +*** | +*** | +*** |
| | | | Clusters by employment and family histories | | |
| | 1 | 2 | 3 | 4 | 5 |
| Countries with an all-in strategy | 0 | 0 | 0 | 0 | 0 |
| Countries with a stripped-down strategy | 0 | 0 | + * | +* | +** |

*Source: Authors' calculation based on SHARELIFE and EuSocialCit data*

### 4.2.4. Interactions between current educational attainment and lifecourse variables

Our analyses in the previous sections showed that both the highest educational attainment achieved, and the variables that reflect lifecourse events, are statistically significant. However, several questions remain, including to what extent the educational path that leads to the final educational level is correlated with work and family careers, and whether there are specific combinations of lifecourse events that are associated with the risk of poverty at ages 50+.

To assess these interdependencies, we run the regression models with interactions between educational attainment and clusters defined by lifecourse employment and family histories (see the results in Appendix 3).

In general, we find that the coefficients estimated for interaction effects are statistically significant more frequently for men than for women. This indicates that educational attainment and lifecourse events have more independent effects on the risk of old-age poverty for women than for men. Regarding the lifecourse employment histories, all of the interaction variables with an educational level lower than tertiary and clusters 3, 4, and 5 are shown to significantly increase the probability of the risk of poverty, while at the same time replacing the predictive results of the original cluster variable for clusters 4 and 5. This means that among men, having economic difficulties in old age is

significantly associated with having both lower than tertiary education and long periods of non-employment over the lifecourse. It also implies that having high levels of labour force participation over the lifecourse protects all men from poverty, including those with lower educational levels. Moreover, having tertiary education seems to reduce men's chances of experiencing economic strain, even if they had interrupted work careers.

Among women, these effects are less visible. The introduction of interaction variables creates a pattern in which the women with the lowest probability of facing difficulties in making ends meet are those with short-term employment gaps in their work careers, similar to the pattern observed among men. Among the potential explanations for this finding are that having some job mobility, rather than a very stable career, could improve women's chances for promotion. However, the women with the shortest work histories continued to have a significantly higher risk of experiencing economic difficulties. In addition, an increased risk of poverty is also observed among women who had short breaks in their work careers (cluster 3) and less than tertiary education.

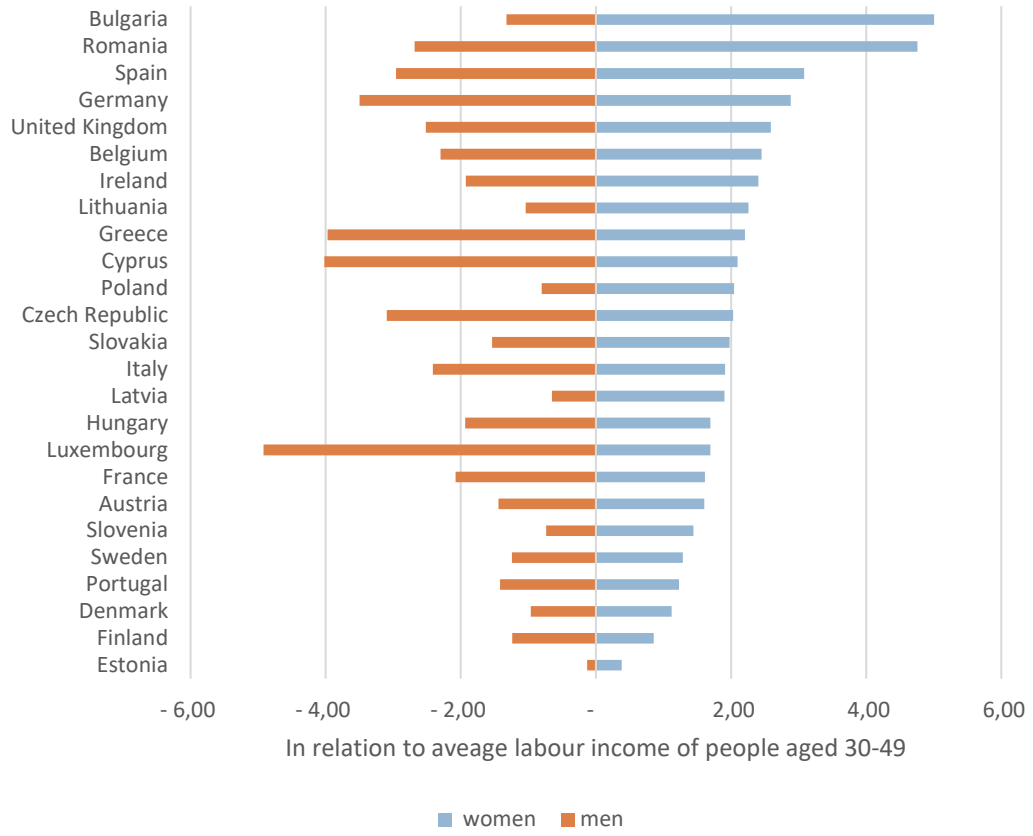
Interactions between educational attainment and the timing of births lead to the U-shaped pattern of the relationship between the clusters characterised by the timing of births in the lifecourse and poverty at older ages. It appears that the men in clusters 3 and 4 (who ultimately had 2+ children, but had their first child relatively late in life) had the lowest risk of poverty. However, this pattern appears only in the presence of interactions that significantly increase the poverty risk in these clusters if the educational level was below tertiary. Thus, we can conclude that while the U-shaped pattern was characteristic of men with tertiary education, for men with less education, having two or more children (especially early in the lifecourse) increased their probability of facing economic difficulties at ages 50+. The results obtained for women indicate that only a few interactions are significant, which means that the number and the timing of births in the lifecourse had a similar effect on the poverty risks of women with different educational attainment levels. Only among women in clusters 3 and 5 do we observe that the risk of poverty was higher for women with secondary education than for women with tertiary education.

The interactions between educational attainment and the clusters characterised by different combinations work and birth careers lead us to draw similar general conclusions: for men, the influence of lifecourse events differed between those who did and did not have tertiary education. For men without tertiary education, gaps in their work careers and having a higher number of children was associated with a higher probability of experiencing poverty at ages 50+ than for men with tertiary education. For women, their work and family histories had a similar impact on their probability of facing difficulties making ends meet at ages 50+, almost independent of their educational attainment.

## 4.3 Intergenerational private transfers in the European countries: the evidence from the National Transfer Accounts

The last part of our analysis complements our findings related to the higher probability of having difficulties making ends meet among women, which are largely attributable to the differences in their employment histories and their tendency to have less job-rich employment histories. We apply the generational economy approach by using the National Transfer Accounts database to identify the scale of private transfers paid and received, on average, by women and men over age 60. We use the European NTA database (Istenič et al., 2017) to assess the magnitude of the private transfers paid and received by men and women in the European countries in our sample. The comparison of these transfers is presented in Figure 14. A clear gender divide is visible in all European countries. Specifically, we see that women aged 60+ are net beneficiaries of private transfers, while men aged 60+ are net payers of private transfers.

**Figure 14. Net private transfers accumulated for ages 60 and older by sex**




*Source: Authors' calculations based on* (Istenič et al., 2017)

A comparison of the results of regressions and the private transfers is presented in Table 4. It should be noted that there is no clear distribution of countries if we compare the results of regressions and

the size of the net private transfers. This means that inter- and intragenerational solidarity is not a mechanism that is used particularly often to support the economic situations of older people in the countries where such difficulties tend to be more acute.

**Table 4. Difficulties making ends meet vs. net private transfers received by women**

| | Smaller difficulties to make ends meet | Larger difficulties to make ends meet |
|---|---|---|
| Smaller private transfers received by women 60+ | CZ, LU, FR, AT, SE, DK, FI (7) | HU, LV, SI, EE, IT, SK, PT (7) |
| Larger private transfers received by women 60+ | DE, UK, BE, IE, EL (5) | EL, BG, RO, CY, LT, PL, ES (7) |
| Unassigned | | HR, MT, IS (3) |

*Source: Authors' analysis*

# 5. Conclusions

In the analysis we show that countries' social investment strategies in interaction with people's lifecourse histories were associated with the risk of economic stress. In particular, we found that having children relatively early in life was linked to an increased risk of economic stress at later ages, particularly in the countries with a stripped-down strategy, which is characterised by low expenditures for childcare services and parental leave, the prioritisation of family benefits over childcare, no legal entitlement to ECEC, and the provision of support mainly to single-earner households. This confirms that country developments in the area of social investment, providing access to power resources related to childcare and labour market policies have an impact on the economic vulnerability experienced at the old-age

The results of our analysis also helped us to identify the lifecourse histories related to employment and childbearing that are particularly associated with the risk of poverty and economic vulnerability in old age. Our results show that people who had job-poor employment paths, and people who had a large number children and their first child relatively early in life, were more susceptible to old-age poverty. These variables were also combined with individual socio-economic characteristics, such as educational attainment, living in a single household, or experiencing limitations in daily activities. We also confirmed that women were not more exposed to poverty at older ages due to their sex. Instead, we found that women tended to have a less job-rich lifecourse than men due to a combination of their employment and family careers. These results point out to those groups in the population, that should be at the core of the focus of social investment policies. Enabling their actual access to power resources, in the form of child-care and/or active labour market policies can reduce the risk of old-age vulnerability.

Therefore, these results have implications for policy recommendations related to both social investments and welfare state policies that enable access to power resources. To reduce the risk of vulnerability at older ages, it is particularly important to target policy measures to specific population groups who are more exposed to vulnerable paths, such as:

- Young people who become parents relatively early and lack established employment records, and who may therefore end up having a job-poor lifecourse. These young people would benefit from measures that support access to childcare, combined with policies aimed at improving their employment chances.

- Single parents, who face particular hardships in combining childcare and work, and especially those with younger children requiring additional care (in ECEC or early schooling).
- Families with a large number of children, especially those with lower socio-economic status, in the regions with more challenging labour market conditions.

The design of such policies needs to include targeted social investment measures combined with welfare support designed to avoid potential benefit or inactivity traps. This implies that these policies should take into account the complex interdependencies and relationships between men and women and between generations, as well as their evolution over time.

These vulnerable groups should be also at the focus of the EU policies that support national developments, including ensuring the legal rights, but also actual access to power resources in the abovementioned policy areas.

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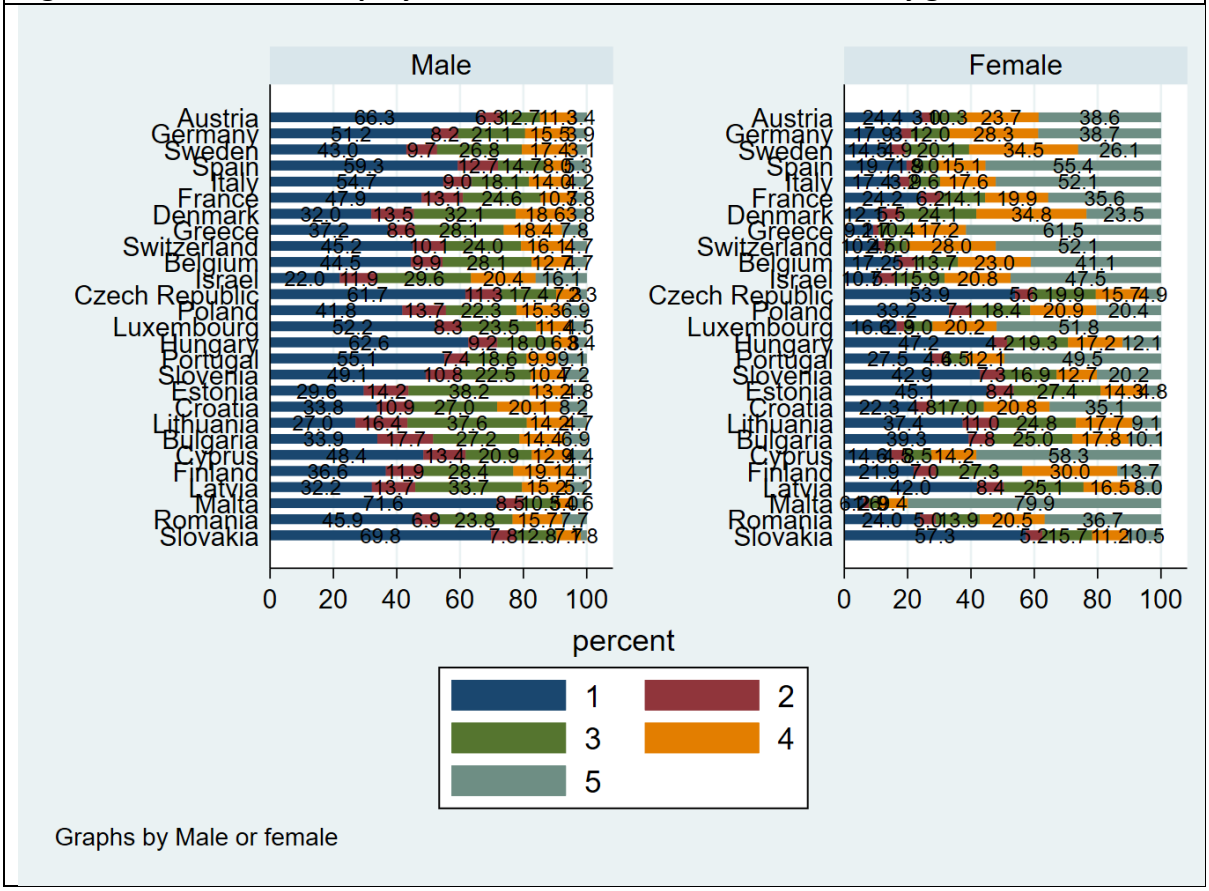
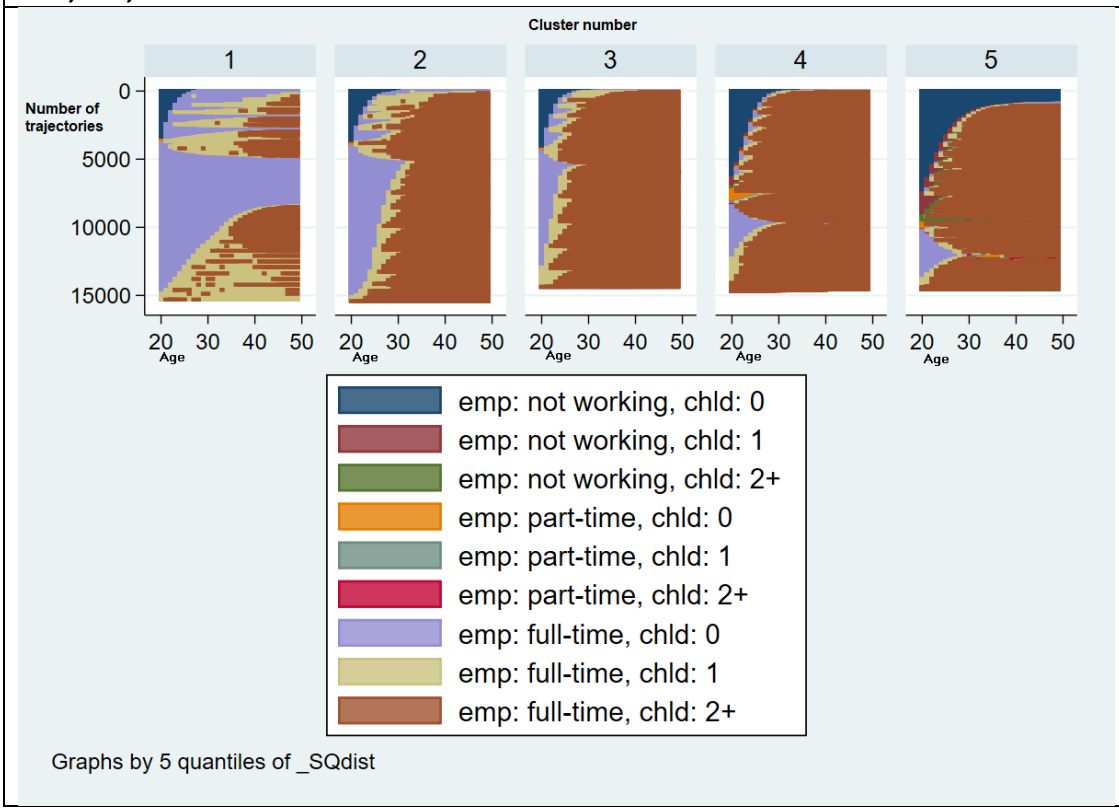
# Appendix 1. Supplementary results of the sequence and cluster analysis

**Figure A.1. Clusters of employment careers in different countries by gender**




*Source: Authors' calculation based on SHARELIFE data*

**Figure A.2. Sensitivity analysis – Figure 9 with categories of 0, 1, and 2+ children instead of 0, 1-2, and 3+ children**



# Appendix 2. Detailed logistic regression results

**Table A.5. Logistic regression results (odds ratios): Household able to make ends meet (entire population)**

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Male or female = 2, Female | | 1.073*** | 1.054*** | 1.054*** | 0.952** | 1.024 | 0.949*** | 0.931*** |
| | | (0.0190) | (0.0188) | (0.0188) | (0.0184) | (0.0188) | (0.0184) | (0.0184) |
| RECODE of isced (ISCED 1997 coding of education) = 1, primary or less | | 3.934*** | 3.600*** | 3.377*** | 3.486*** | 3.409*** | 3.289*** | 3.934*** |
| | | (0.119) | (0.110) | (0.108) | (0.108) | (0.107) | (0.106) | (0.119) |
| RECODE of isced (ISCED 1997 coding of education) = 2, basic_voc | | 3.117*** | 2.925*** | 2.802*** | 2.843*** | 2.841*** | 2.736*** | 3.117*** |
| | | (0.0904) | (0.0858) | (0.0849) | (0.0842) | (0.0850) | (0.0836) | (0.0904) |
| RECODE of isced (ISCED 1997 coding of education) = 3, secondary | | 1.927*** | 1.874*** | 1.846*** | 1.846*** | 1.887*** | 1.824*** | 1.927*** |
| | | (0.0476) | (0.0467) | (0.0477) | (0.0462) | (0.0479) | (0.0473) | (0.0476) |
| RECODE of age (Age) = 1, age 49-54 | | 1.115*** | 1.341*** | 1.342*** | 1.312*** | 1.318*** | 1.314*** | 1.291*** |
| | | (0.0428) | (0.0523) | (0.0523) | (0.0519) | (0.0515) | (0.0520) | (0.0512) |
| RECODE of age (Age) = 2, age 55-59 | | 1.273*** | 1.470*** | 1.471*** | 1.458*** | 1.448*** | 1.458*** | 1.439*** |
| | | (0.0348) | (0.0410) | (0.0410) | (0.0413) | (0.0405) | (0.0412) | (0.0408) |
| RECODE of age (Age) = 3, age 60-64 | | 1.146*** | 1.289*** | 1.287*** | 1.290*** | 1.269*** | 1.284*** | 1.274*** |
| | | (0.0285) | (0.0327) | (0.0327) | (0.0331) | (0.0323) | (0.0330) | (0.0328) |
| RECODE of age (Age) = 4, age 65-69 | | 0.989 | 1.082*** | 1.080*** | 1.092*** | 1.069*** | 1.091*** | 1.082*** |
| | | (0.0240) | (0.0267) | (0.0266) | (0.0272) | (0.0264) | (0.0272) | (0.0270) |

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| RECODE of mstat (Marital status) = 2, diff or no relations | | 1.715*** | 1.696*** | 1.695*** | 1.716*** | 1.697*** | 1.770*** | 1.703*** |
| | | (0.0552) | (0.0551) | (0.0551) | (0.0566) | (0.0581) | (0.0595) | (0.0592) |
| RECODE of mstat (Marital status) = 5, widow | | 2.221*** | 2.198*** | 2.197*** | 2.227*** | 2.199*** | 2.238*** | 2.224*** |
| | | (0.0706) | (0.0704) | (0.0704) | (0.0723) | (0.0706) | (0.0726) | (0.0724) |
| RECODE of mstat (Marital status) = 6, divorced | | 1.607*** | 1.558*** | 1.558*** | 1.548*** | 1.553*** | 1.550*** | 1.543*** |
| | | (0.0398) | (0.0391) | (0.0391) | (0.0393) | (0.0390) | (0.0394) | (0.0392) |
| Limitation with activities = 1, Limited | | | 1.962*** | 1.963*** | 1.933*** | 1.958*** | 1.930*** | 1.930*** |
| | | | (0.0355) | (0.0355) | (0.0354) | (0.0354) | (0.0353) | (0.0353) |
| emp_clusters_5 = 2 | | | | | 1.011 | | | 1.015 |
| | | | | | (0.0345) | | | (0.0346) |
| emp_clusters_5 = 3 | | | | | 0.933*** | | | 0.936*** |
| | | | | | (0.0238) | | | (0.0239) |
| emp_clusters_5 = 4 | | | | | 1.181*** | | | 1.177*** |
| | | | | | (0.0315) | | | (0.0314) |
| emp_clusters_5 = 5 | | | | | 1.417*** | | | 1.409*** |
| | | | | | (0.0379) | | | (0.0378) |
| Country identifier = 11, Austria | 0.916 | 0.761*** | 0.794*** | 0.795*** | 0.808*** | 0.792*** | 0.806*** | 0.805*** |
| | (0.0615) | (0.0523) | (0.0549) | (0.0550) | (0.0563) | (0.0548) | (0.0561) | (0.0561) |
| Country identifier = 13, Sweden | 0.823*** | 0.681*** | 0.758*** | 0.756*** | 0.794*** | 0.761*** | 0.788*** | 0.798*** |
| | (0.0566) | (0.0481) | (0.0539) | (0.0538) | (0.0569) | (0.0542) | (0.0565) | (0.0573) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 15, Spain | 3.556*** | 2.154*** | 2.632*** | 2.636*** | 2.692*** | 2.708*** | 2.716*** | 2.756*** |
| | (0.191) | (0.123) | (0.152) | (0.152) | (0.157) | (0.157) | (0.159) | (0.161) |
| Country identifier = 16, Italy | 6.156*** | 4.150*** | 5.054*** | 5.061*** | 5.124*** | 5.179*** | 5.187*** | 5.221*** |
| | (0.330) | (0.232) | (0.287) | (0.288) | (0.295) | (0.295) | (0.299) | (0.301) |
| Country identifier = 17, France | 2.182*** | 1.637*** | 1.826*** | 1.826*** | 1.856*** | 1.842*** | 1.852*** | 1.869*** |
| | (0.129) | (0.0999) | (0.113) | (0.113) | (0.116) | (0.114) | (0.116) | (0.117) |
| Country identifier = 18, Denmark | 0.519*** | 0.499*** | 0.544*** | 0.544*** | 0.560*** | 0.547*** | 0.554*** | 0.563*** |
| | (0.0398) | (0.0390) | (0.0429) | (0.0428) | (0.0445) | (0.0431) | (0.0440) | (0.0447) |
| Country identifier = 19, Greece | 31.57*** | 27.47*** | 37.32*** | 37.36*** | 37.95*** | 37.93*** | 38.27*** | 38.40*** |
| | (2.155) | (1.929) | (2.660) | (2.663) | (2.751) | (2.706) | (2.774) | (2.786) |
| Country identifier = 20, Switzerland | 0.921 | 0.769*** | 0.904 | 0.904 | 0.890 | 0.917 | 0.893 | 0.902 |
| | (0.0674) | (0.0574) | (0.0681) | (0.0681) | (0.0677) | (0.0691) | (0.0679) | (0.0686) |
| Country identifier = 23, Belgium | 2.137*** | 1.781*** | 1.901*** | 1.903*** | 1.916*** | 1.926*** | 1.915*** | 1.937*** |
| | (0.117) | (0.101) | (0.109) | (0.109) | (0.110) | (0.110) | (0.110) | (0.112) |
| Country identifier = 25, Israel | 3.710*** | 3.570*** | 4.247*** | 4.259*** | 4.234*** | 4.272*** | 4.164*** | 4.247*** |
| | (0.233) | (0.233) | (0.281) | (0.281) | (0.284) | (0.283) | (0.279) | (0.285) |
| Country identifier = 28, Czech Republic | 2.080*** | 1.575*** | 1.655*** | 1.655*** | 1.839*** | 1.633*** | 1.821*** | 1.819*** |
| | (0.117) | (0.0912) | (0.0967) | (0.0967) | (0.109) | (0.0957) | (0.108) | (0.108) |
| Country identifier = 29, Poland | 6.719*** | 5.881*** | 6.105*** | 6.108*** | 6.493*** | 6.107*** | 6.337*** | 6.497*** |
| | (0.360) | (0.323) | (0.339) | (0.339) | (0.364) | (0.339) | (0.356) | (0.365) |
| Country identifier = 31, Luxembourg | 0.891 | 0.636*** | 0.675*** | 0.677*** | 0.648*** | 0.693*** | 0.655*** | 0.661*** |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | (0.0826) | (0.0605) | (0.0646) | (0.0648) | (0.0636) | (0.0664) | (0.0644) | (0.0650) |
| Country identifier = 32, Hungary | 16.71*** | 15.59*** | 17.76*** | 17.81*** | 19.41*** | 17.83*** | 19.51*** | 19.42*** |
| | (1.243) | (1.187) | (1.369) | (1.373) | (1.512) | (1.375) | (1.520) | (1.513) |
| Country identifier = 33, Portugal | 6.454*** | 3.566*** | 3.806*** | 3.815*** | 3.963*** | 3.892*** | 3.997*** | 4.038*** |
| | (0.644) | (0.370) | (0.400) | (0.401) | (0.421) | (0.409) | (0.425) | (0.429) |
| Country identifier = 34, Slovenia | 6.384*** | 5.619*** | 6.136*** | 6.153*** | 6.580*** | 6.184*** | 6.580*** | 6.613*** |
| | (0.355) | (0.320) | (0.354) | (0.355) | (0.383) | (0.357) | (0.384) | (0.386) |
| Country identifier = 35, Estonia | 5.434*** | 4.897*** | 4.983*** | 4.996*** | 5.601*** | 5.026*** | 5.481*** | 5.624*** |
| | (0.287) | (0.265) | (0.272) | (0.272) | (0.310) | (0.274) | (0.303) | (0.312) |
| Country identifier = 47, Croatia | 10.74*** | 8.685*** | 9.468*** | 9.494*** | 9.895*** | 9.576*** | 9.873*** | 9.978*** |
| | (0.668) | (0.560) | (0.617) | (0.619) | (0.653) | (0.625) | (0.651) | (0.659) |
| Country identifier = 48, Lithuania | 7.682*** | 7.384*** | 8.038*** | 8.060*** | 8.815*** | 8.142*** | 8.713*** | 8.899*** |
| | (0.489) | (0.485) | (0.534) | (0.535) | (0.594) | (0.541) | (0.586) | (0.600) |
| Country identifier = 51, Bulgaria | 23.05*** | 21.62*** | 25.39*** | 25.46*** | 27.44*** | 25.20*** | 27.39*** | 27.17*** |
| | (1.681) | (1.610) | (1.913) | (1.917) | (2.083) | (1.900) | (2.081) | (2.065) |
| Country identifier = 53, Cyprus | 10.22*** | 7.999*** | 10.40*** | 10.43*** | 10.33*** | 10.48*** | 10.21*** | 10.40*** |
| | (0.767) | (0.624) | (0.823) | (0.825) | (0.829) | (0.831) | (0.819) | (0.836) |
| Country identifier = 55, Finland | 1.671*** | 1.456*** | 1.516*** | 1.520*** | 1.621*** | 1.529*** | 1.600*** | 1.628*** |
| | (0.115) | (0.104) | (0.109) | (0.109) | (0.118) | (0.110) | (0.117) | (0.119) |
| Country identifier = 57, Latvia | 14.46*** | 13.65*** | 15.03*** | 15.07*** | 16.70*** | 15.22*** | 16.53*** | 16.82*** |
| | (1.020) | (0.986) | (1.099) | (1.102) | (1.235) | (1.113) | (1.221) | (1.245) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 59, Malta | 5.310*** | 3.844*** | 4.854*** | 4.867*** | 4.755*** | 4.974*** | 4.795*** | 4.848*** |
| | (0.383) | (0.287) | (0.368) | (0.369) | (0.364) | (0.377) | (0.367) | (0.371) |
| Country identifier = 61, Romania | 12.35*** | 9.393*** | 10.36*** | 10.39*** | 10.71*** | 10.38*** | 10.59*** | 10.71*** |
| | (0.808) | (0.631) | (0.705) | (0.707) | (0.739) | (0.707) | (0.731) | (0.739) |
| Country identifier = 63, Slovakia | 4.216*** | 3.966*** | 4.692*** | 4.705*** | 5.131*** | 4.684*** | 5.121*** | 5.106*** |
| | (0.267) | (0.258) | (0.309) | (0.310) | (0.342) | (0.309) | (0.341) | (0.341) |
| pwork_rec = 1, YES | | | 0.899 | | | | | |
| | | | (0.0758) | | | | | |
| chld_clusters_5 = 2 | | | | | | 0.980 | | 0.977 |
| | | | | | | (0.0273) | | (0.0275) |
| chld_clusters_5 = 3 | | | | | | 0.956 | | 0.946** |
| | | | | | | (0.0265) | | (0.0265) |
| chld_clusters_5 = 4 | | | | | | 0.958 | | 0.936** |
| | | | | | | (0.0271) | | (0.0269) |
| chld_clusters_5 = 5 | | | | | | 1.163*** | | 1.131*** |
| | | | | | | (0.0346) | | (0.0342) |
| empchld_clusters_5 = 2 | | | | | | | 0.994 | |
| | | | | | | | (0.0276) | |
| empchld_clusters_5 = 3 | | | | | | | 1.095*** | |
| | | | | | | | (0.0305) | |
| empchld_clusters_5 = 4 | | | | | | | 1.273*** | |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (0.0367) | |
| empchld_clusters_5 = 5 | | | | | | | 1.492*** | |
| | | | | | | | (0.0452) | |
| Constant | 0.186*** | 0.151*** | 0.0937*** | 0.0934*** | 0.0885*** | 0.0950*** | 0.0849*** | 0.0910*** |
| | (0.00830) | (0.00737) | (0.00480) | (0.00478) | (0.00464) | (0.00515) | (0.00457) | (0.00504) |
| Observations | 75,696 | 75,696 | 75,696 | 75,696 | 74,305 | 75,696 | 74,305 | 74,305 |

seEform in parentheses

*** p<0.01, ** p<0.05, * p<0.1

*Source: Authors' calculation based on SHARELIFE data*

**Table A.6. Logistic regression results (odds ratios): Household able to make ends meet (males)**

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| RECODE of isced (ISCED 1997 coding of education) = 1, primary or less | | 4.140*** | 3.810*** | 3.817*** | 3.831*** | 3.738*** | 3.897*** | 3.759*** |
| | | (0.194) | (0.181) | (0.181) | (0.190) | (0.178) | (0.188) | (0.187) |
| RECODE of isced (ISCED 1997 coding of education) = 2, basic_voc | | 3.122*** | 2.926*** | 2.927*** | 2.980*** | 2.882*** | 3.057*** | 2.941*** |
| | | (0.139) | (0.132) | (0.132) | (0.140) | (0.131) | (0.141) | (0.139) |
| RECODE of isced (ISCED 1997 coding of education) = 3, secondary | | 1.982*** | 1.932*** | 1.933*** | 1.999*** | 1.914*** | 2.060*** | 1.983*** |
| | | (0.0741) | (0.0729) | (0.0729) | (0.0795) | (0.0725) | (0.0797) | (0.0790) |
| RECODE of age (Age) = 1, age 49-54 | | 1.027 | 1.224*** | 1.226*** | 1.181** | 1.210*** | 1.199*** | 1.167** |
| | | (0.0654) | (0.0790) | (0.0792) | (0.0776) | (0.0783) | (0.0787) | (0.0769) |
| RECODE of age (Age) = 2, age 55-59 | | 1.315*** | 1.506*** | 1.509*** | 1.480*** | 1.491*** | 1.494*** | 1.463*** |
| | | (0.0545) | (0.0637) | (0.0638) | (0.0634) | (0.0632) | (0.0640) | (0.0628) |
| RECODE of age (Age) = 3, age 60-64 | | 1.149*** | 1.282*** | 1.278*** | 1.268*** | 1.263*** | 1.271*** | 1.253*** |
| | | (0.0429) | (0.0488) | (0.0486) | (0.0488) | (0.0482) | (0.0489) | (0.0483) |
| RECODE of age (Age) = 4, age 65-69 | | 0.997 | 1.087** | 1.084** | 1.081** | 1.074* | 1.086** | 1.071* |
| | | (0.0359) | (0.0398) | (0.0396) | (0.0399) | (0.0393) | (0.0401) | (0.0396) |
| RECODE of mstat (Marital status) = 2, diff or no relations | | 1.583*** | 1.578*** | 1.576*** | 1.503*** | 1.567*** | 1.584*** | 1.511*** |
| | | (0.0733) | (0.0738) | (0.0737) | (0.0717) | (0.0778) | (0.0765) | (0.0763) |
| RECODE of mstat (Marital status) = 5, widow | | 1.805*** | 1.777*** | 1.777*** | 1.705*** | 1.772*** | 1.723*** | 1.705*** |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | | (0.0938) | (0.0931) | (0.0931) | (0.0908) | (0.0930) | (0.0917) | (0.0910) |
| RECODE of mstat (Marital status) = 6, divorced | | 1.124** | 1.094* | 1.095* | 1.087 | 1.094* | 1.092* | 1.088 |
| | | (0.0579) | (0.0570) | (0.0570) | (0.0573) | (0.0570) | (0.0575) | (0.0574) |
| Limitation with activities = 1, Limited | | | 1.934*** | 1.937*** | 1.901*** | 1.931*** | 1.894*** | 1.894*** |
| | | | (0.0534) | (0.0534) | (0.0531) | (0.0533) | (0.0529) | (0.0530) |
| emp_clusters_5 = 2 | | | | | 0.996 | | | 1.001 |
| | | | | | (0.0439) | | | (0.0441) |
| emp_clusters_5 = 3 | | | | | 0.899*** | | | 0.908*** |
| | | | | | (0.0323) | | | (0.0327) |
| emp_clusters_5 = 4 | | | | | 1.322*** | | | 1.331*** |
| | | | | | (0.0575) | | | (0.0581) |
| emp_clusters_5 = 5 | | | | | 1.731*** | | | 1.739*** |
| | | | | | (0.104) | | | (0.105) |
| Country identifier = 11, Austria | 0.757** | 0.671*** | 0.694*** | 0.697*** | 0.706*** | 0.692*** | 0.699*** | 0.701*** |
| | (0.0825) | (0.0742) | (0.0773) | (0.0776) | (0.0791) | (0.0771) | (0.0783) | (0.0785) |
| Country identifier = 13, Sweden | 0.702*** | 0.527*** | 0.599*** | 0.595*** | 0.608*** | 0.597*** | 0.599*** | 0.608*** |
| | (0.0751) | (0.0578) | (0.0661) | (0.0657) | (0.0675) | (0.0660) | (0.0666) | (0.0676) |
| Country identifier = 15, Spain | 3.441*** | 1.958*** | 2.413*** | 2.419*** | 2.489*** | 2.467*** | 2.501*** | 2.535*** |
| | (0.277) | (0.167) | (0.209) | (0.210) | (0.218) | (0.214) | (0.219) | (0.222) |
| Country identifier = 16, Italy | 6.023*** | 3.720*** | 4.505*** | 4.515*** | 4.519*** | 4.603*** | 4.589*** | 4.606*** |
| | (0.481) | (0.311) | (0.382) | (0.383) | (0.387) | (0.391) | (0.394) | (0.396) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 17, France | 1.918*** | 1.434*** | 1.587*** | 1.586*** | 1.604*** | 1.595*** | 1.568*** | 1.608*** |
| | (0.174) | (0.134) | (0.150) | (0.150) | (0.154) | (0.151) | (0.150) | (0.154) |
| Country identifier = 18, Denmark | 0.553*** | 0.502*** | 0.558*** | 0.556*** | 0.566*** | 0.561*** | 0.552*** | 0.569*** |
| | (0.0629) | (0.0579) | (0.0649) | (0.0647) | (0.0661) | (0.0653) | (0.0645) | (0.0665) |
| Country identifier = 19, Greece | 29.25*** | 25.51*** | 34.49*** | 34.56*** | 34.78*** | 35.12*** | 35.28*** | 35.34*** |
| | (2.932) | (2.626) | (3.608) | (3.615) | (3.696) | (3.678) | (3.743) | (3.760) |
| Country identifier = 20, Switzerland | 0.806* | 0.688*** | 0.813* | 0.810* | 0.801* | 0.820* | 0.788** | 0.809* |
| | (0.0919) | (0.0796) | (0.0949) | (0.0946) | (0.0942) | (0.0957) | (0.0926) | (0.0952) |
| Country identifier = 23, Belgium | 1.982*** | 1.597*** | 1.714*** | 1.715*** | 1.743*** | 1.726*** | 1.711*** | 1.751*** |
| | (0.164) | (0.136) | (0.148) | (0.148) | (0.151) | (0.149) | (0.148) | (0.152) |
| Country identifier = 25, Israel | 3.782*** | 3.376*** | 3.956*** | 3.979*** | 3.709*** | 4.005*** | 3.536*** | 3.719*** |
| | (0.360) | (0.333) | (0.395) | (0.398) | (0.378) | (0.400) | (0.361) | (0.380) |
| Country identifier = 28, Czech Republic | 1.797*** | 1.422*** | 1.465*** | 1.465*** | 1.493*** | 1.447*** | 1.475*** | 1.470*** |
| | (0.158) | (0.128) | (0.133) | (0.133) | (0.137) | (0.132) | (0.135) | (0.135) |
| Country identifier = 29, Poland | 6.650*** | 5.442*** | 5.620*** | 5.626*** | 5.578*** | 5.636*** | 5.369*** | 5.560*** |
| | (0.530) | (0.445) | (0.464) | (0.464) | (0.465) | (0.466) | (0.448) | (0.465) |
| Country identifier = 31, Luxembourg | 1.009 | 0.726** | 0.776* | 0.780* | 0.759* | 0.794* | 0.767* | 0.773* |
| | (0.136) | (0.101) | (0.108) | (0.109) | (0.109) | (0.111) | (0.110) | (0.111) |
| Country identifier = 32, Hungary | 15.02*** | 14.20*** | 16.19*** | 16.29*** | 16.67*** | 16.35*** | 16.69*** | 16.68*** |
| | (1.690) | (1.627) | (1.879) | (1.890) | (1.947) | (1.898) | (1.950) | (1.950) |
| Country identifier = 33, Portugal | 6.344*** | 3.157*** | 3.437*** | 3.454*** | 3.509*** | 3.500*** | 3.482*** | 3.540*** |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | (0.950) | (0.492) | (0.543) | (0.546) | (0.561) | (0.554) | (0.557) | (0.567) |
| Country identifier = 34, Slovenia | 6.108*** | 5.233*** | 5.596*** | 5.629*** | 5.617*** | 5.688*** | 5.609*** | 5.649*** |
| | (0.512) | (0.448) | (0.485) | (0.488) | (0.490) | (0.494) | (0.489) | (0.494) |
| Country identifier = 35, Estonia | 5.277*** | 4.572*** | 4.642*** | 4.667*** | 4.874*** | 4.680*** | 4.638*** | 4.863*** |
| | (0.424) | (0.376) | (0.386) | (0.387) | (0.410) | (0.389) | (0.388) | (0.409) |
| Country identifier = 47, Croatia | 10.73*** | 8.219*** | 9.035*** | 9.088*** | 8.890*** | 9.202*** | 8.830*** | 8.953*** |
| | (0.994) | (0.789) | (0.878) | (0.883) | (0.874) | (0.895) | (0.867) | (0.882) |
| Country identifier = 48, Lithuania | 6.848*** | 6.039*** | 6.619*** | 6.654*** | 6.749*** | 6.694*** | 6.514*** | 6.746*** |
| | (0.685) | (0.620) | (0.687) | (0.691) | (0.711) | (0.696) | (0.684) | (0.711) |
| Country identifier = 51, Bulgaria | 20.67*** | 18.46*** | 21.66*** | 21.78*** | 21.56*** | 21.60*** | 21.38*** | 21.33*** |
| | (2.216) | (2.017) | (2.393) | (2.406) | (2.400) | (2.390) | (2.377) | (2.378) |
| Country identifier = 53, Cyprus | 9.970*** | 7.897*** | 10.26*** | 10.32*** | 10.36*** | 10.36*** | 9.872*** | 10.34*** |
| | (1.143) | (0.938) | (1.236) | (1.242) | (1.266) | (1.249) | (1.208) | (1.266) |
| Country identifier = 55, Finland | 1.716*** | 1.302** | 1.360*** | 1.367*** | 1.394*** | 1.370*** | 1.362*** | 1.393*** |
| | (0.176) | (0.138) | (0.146) | (0.146) | (0.151) | (0.147) | (0.147) | (0.151) |
| Country identifier = 57, Latvia | 12.80*** | 11.51*** | 12.68*** | 12.75*** | 13.14*** | 12.79*** | 12.70*** | 13.12*** |
| | (1.396) | (1.285) | (1.431) | (1.438) | (1.497) | (1.443) | (1.444) | (1.496) |
| Country identifier = 59, Malta | 5.098*** | 3.402*** | 4.285*** | 4.308*** | 4.455*** | 4.378*** | 4.455*** | 4.528*** |
| | (0.552) | (0.381) | (0.486) | (0.488) | (0.510) | (0.497) | (0.510) | (0.518) |
| Country identifier = 61, Romania | 11.55*** | 8.781*** | 9.875*** | 9.932*** | 9.917*** | 10.01*** | 9.685*** | 9.942*** |
| | (1.124) | (0.875) | (0.996) | (1.001) | (1.011) | (1.010) | (0.987) | (1.015) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 63, Slovakia | 4.083*** | 3.592*** | 4.295*** | 4.320*** | 4.422*** | 4.293*** | 4.420*** | 4.393*** |
| | (0.383) | (0.346) | (0.419) | (0.421) | (0.434) | (0.419) | (0.434) | (0.432) |
| pwork_rec = 1, YES | | | 0.806* | | | | | |
| | | | (0.0990) | | | | | |
| chld_clusters_5 = 2 | | | | | | 0.958 | | 0.972 |
| | | | | | | (0.0379) | | (0.0390) |
| chld_clusters_5 = 3 | | | | | | 0.945 | | 0.974 |
| | | | | | | (0.0365) | | (0.0381) |
| chld_clusters_5 = 4 | | | | | | 0.989 | | 1.014 |
| | | | | | | (0.0421) | | (0.0438) |
| chld_clusters_5 = 5 | | | | | | 1.216*** | | 1.239*** |
| | | | | | | (0.0666) | | (0.0688) |
| empchld_clusters_5 = 2 | | | | | | | 0.985 | |
| | | | | | | | (0.0367) | |
| empchld_clusters_5 = 3 | | | | | | | 1.119*** | |
| | | | | | | | (0.0408) | |
| empchld_clusters_5 = 4 | | | | | | | 1.462*** | |
| | | | | | | | (0.0618) | |
| empchld_clusters_5 = 5 | | | | | | | 1.783*** | |
| | | | | | | | (0.115) | |
| Constant | 0.174*** | 0.174*** | 0.109*** | 0.109*** | 0.107*** | 0.110*** | 0.102*** | 0.107*** |

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | (0.0116) | (0.0124) | (0.00822) | (0.00817) | (0.00817) | (0.00872) | (0.00789) | (0.00858) |
| Observations | 32,714 | 32,714 | 32,714 | 32,714 | 32,241 | 32,714 | 32,241 | 32,241 |

seEform in parentheses

*** p<0.01, ** p<0.05, * p<0.1

*Source: Authors' calculation based on SHARELIFE data*

**Table A.7. Logistic regression results (odds ratios): Household able to make ends meet (females)**

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| RECODE of isced (ISCED 1997 coding of education) = 1, primary or less | | 3.860*** | 3.514*** | 3.514*** | 3.204*** | 3.363*** | 3.172*** | 3.098*** |
| | | (0.155) | (0.143) | (0.143) | (0.136) | (0.139) | (0.134) | (0.134) |
| RECODE of isced (ISCED 1997 coding of education) = 2, basic_voc | | 3.154*** | 2.961*** | 2.961*** | 2.786*** | 2.845*** | 2.766*** | 2.698*** |
| | | (0.122) | (0.116) | (0.116) | (0.113) | (0.113) | (0.111) | (0.111) |
| RECODE of isced (ISCED 1997 coding of education) = 3, secondary | | 1.904*** | 1.845*** | 1.845*** | 1.805*** | 1.806*** | 1.809*** | 1.776*** |
| | | (0.0632) | (0.0617) | (0.0617) | (0.0625) | (0.0609) | (0.0617) | (0.0619) |
| RECODE of age (Age) = 1, age 49-54 | | 1.206*** | 1.458*** | 1.458*** | 1.433*** | 1.426*** | 1.431*** | 1.403*** |
| | | (0.0585) | (0.0720) | (0.0720) | (0.0718) | (0.0707) | (0.0718) | (0.0706) |
| RECODE of age (Age) = 2, age 55-59 | | 1.269*** | 1.473*** | 1.473*** | 1.471*** | 1.444*** | 1.468*** | 1.446*** |
| | | (0.0465) | (0.0550) | (0.0550) | (0.0559) | (0.0542) | (0.0558) | (0.0552) |
| RECODE of age (Age) = 3, age 60-64 | | 1.162*** | 1.315*** | 1.315*** | 1.328*** | 1.290*** | 1.321*** | 1.307*** |
| | | (0.0390) | (0.0451) | (0.0450) | (0.0461) | (0.0443) | (0.0459) | (0.0456) |
| RECODE of age (Age) = 4, age 65-69 | | 0.994 | 1.089** | 1.089** | 1.113*** | 1.074** | 1.110*** | 1.101*** |
| | | (0.0328) | (0.0365) | (0.0365) | (0.0378) | (0.0361) | (0.0377) | (0.0375) |
| RECODE of mstat (Marital status) = 2, diff or no relations | | 1.853*** | 1.817*** | 1.817*** | 1.905*** | 1.821*** | 1.941*** | 1.872*** |
| | | (0.0836) | (0.0826) | (0.0826) | (0.0882) | (0.0866) | (0.0918) | (0.0905) |
| RECODE of mstat (Marital status) = 5, widow | | 2.547*** | 2.525*** | 2.525*** | 2.623*** | 2.527*** | 2.628*** | 2.612*** |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | | (0.103) | (0.103) | (0.103) | (0.109) | (0.103) | (0.109) | (0.108) |
| RECODE of mstat (Marital status) = 6, divorced | | 1.815*** | 1.759*** | 1.759*** | 1.760*** | 1.753*** | 1.757*** | 1.752*** |
| | | (0.0528) | (0.0519) | (0.0519) | (0.0526) | (0.0517) | (0.0525) | (0.0524) |
| Limitation with activities = 1, Limited | | | 1.984*** | 1.984*** | 1.950*** | 1.977*** | 1.951*** | 1.945*** |
| | | | (0.0476) | (0.0476) | (0.0474) | (0.0474) | (0.0474) | (0.0473) |
| emp_clusters_5 = 2 | | | | | 1.063 | | | 1.068 |
| | | | | | (0.0578) | | | (0.0581) |
| emp_clusters_5 = 3 | | | | | 1.004 | | | 1.007 |
| | | | | | (0.0371) | | | (0.0372) |
| emp_clusters_5 = 4 | | | | | 1.157*** | | | 1.154*** |
| | | | | | (0.0407) | | | (0.0407) |
| emp_clusters_5 = 5 | | | | | 1.463*** | | | 1.458*** |
| | | | | | (0.0492) | | | (0.0494) |
| Country identifier = 11, Austria | 1.009 | 0.818** | 0.856* | 0.856* | 0.877 | 0.852* | 0.874 | 0.872 |
| | (0.0872) | (0.0724) | (0.0765) | (0.0765) | (0.0789) | (0.0761) | (0.0787) | (0.0785) |
| Country identifier = 13, Sweden | 0.920 | 0.821** | 0.898 | 0.898 | 0.957 | 0.903 | 0.954 | 0.964 |
| | (0.0829) | (0.0763) | (0.0841) | (0.0841) | (0.0905) | (0.0847) | (0.0902) | (0.0912) |
| Country identifier = 15, Spain | 3.631*** | 2.299*** | 2.794*** | 2.794*** | 2.817*** | 2.889*** | 2.839*** | 2.900*** |
| | (0.262) | (0.176) | (0.217) | (0.217) | (0.221) | (0.225) | (0.223) | (0.228) |
| Country identifier = 16, Italy | 6.258*** | 4.481*** | 5.488*** | 5.488*** | 5.518*** | 5.642*** | 5.568*** | 5.636*** |
| | (0.454) | (0.339) | (0.421) | (0.421) | (0.430) | (0.434) | (0.434) | (0.440) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 17, France | 2.354*** | 1.787*** | 2.007*** | 2.007*** | 2.047*** | 2.025*** | 2.059*** | 2.063*** |
| | (0.183) | (0.144) | (0.164) | (0.164) | (0.171) | (0.165) | (0.172) | (0.172) |
| Country identifier = 18, Denmark | 0.492*** | 0.494*** | 0.532*** | 0.532*** | 0.550*** | 0.533*** | 0.547*** | 0.552*** |
| | (0.0511) | (0.0524) | (0.0569) | (0.0569) | (0.0596) | (0.0571) | (0.0593) | (0.0599) |
| Country identifier = 19, Greece | 33.57*** | 28.67*** | 39.13*** | 39.14*** | 39.25*** | 39.90*** | 39.52*** | 39.84*** |
| | (3.135) | (2.755) | (3.814) | (3.814) | (3.898) | (3.894) | (3.927) | (3.961) |
| Country identifier = 20, Switzerland | 1.008 | 0.833* | 0.979 | 0.979 | 0.960 | 0.996 | 0.975 | 0.973 |
| | (0.0967) | (0.0817) | (0.0968) | (0.0968) | (0.0961) | (0.0987) | (0.0976) | (0.0975) |
| Country identifier = 23, Belgium | 2.251*** | 1.929*** | 2.053*** | 2.054*** | 2.050*** | 2.081*** | 2.058*** | 2.072*** |
| | (0.165) | (0.146) | (0.157) | (0.157) | (0.159) | (0.159) | (0.159) | (0.160) |
| Country identifier = 25, Israel | 3.629*** | 3.712*** | 4.469*** | 4.470*** | 4.511*** | 4.463*** | 4.500*** | 4.498*** |
| | (0.304) | (0.323) | (0.395) | (0.395) | (0.404) | (0.395) | (0.403) | (0.404) |
| Country identifier = 28, Czech Republic | 2.242*** | 1.677*** | 1.786*** | 1.786*** | 2.108*** | 1.757*** | 2.078*** | 2.080*** |
| | (0.166) | (0.128) | (0.138) | (0.138) | (0.167) | (0.136) | (0.164) | (0.165) |
| Country identifier = 29, Poland | 6.762*** | 6.198*** | 6.469*** | 6.469*** | 7.192*** | 6.446*** | 7.062*** | 7.184*** |
| | (0.488) | (0.461) | (0.485) | (0.485) | (0.549) | (0.484) | (0.538) | (0.549) |
| Country identifier = 31, Luxembourg | 0.801* | 0.567*** | 0.599*** | 0.599*** | 0.564*** | 0.617*** | 0.572*** | 0.577*** |
| | (0.102) | (0.0741) | (0.0787) | (0.0787) | (0.0763) | (0.0812) | (0.0774) | (0.0783) |
| Country identifier = 32, Hungary | 17.85*** | 16.60*** | 18.90*** | 18.90*** | 21.74*** | 18.86*** | 21.73*** | 21.69*** |
| | (1.775) | (1.693) | (1.953) | (1.952) | (2.284) | (1.949) | (2.283) | (2.280) |
| Country identifier = 33, Portugal | 6.516*** | 3.854*** | 4.047*** | 4.048*** | 4.209*** | 4.144*** | 4.267*** | 4.298*** |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | (0.874) | (0.536) | (0.569) | (0.569) | (0.599) | (0.583) | (0.607) | (0.612) |
| Country identifier = 34, Slovenia | 6.538*** | 5.865*** | 6.509*** | 6.510*** | 7.284*** | 6.521*** | 7.261*** | 7.308*** |
| | (0.486) | (0.448) | (0.503) | (0.503) | (0.574) | (0.504) | (0.572) | (0.576) |
| Country identifier = 35, Estonia | 5.455*** | 5.100*** | 5.202*** | 5.203*** | 6.090*** | 5.227*** | 6.013*** | 6.110*** |
| | (0.382) | (0.367) | (0.378) | (0.378) | (0.454) | (0.380) | (0.447) | (0.456) |
| Country identifier = 47, Croatia | 10.71*** | 8.960*** | 9.707*** | 9.710*** | 10.49*** | 9.744*** | 10.50*** | 10.53*** |
| | (0.901) | (0.781) | (0.855) | (0.855) | (0.938) | (0.859) | (0.938) | (0.943) |
| Country identifier = 48, Lithuania | 8.059*** | 8.315*** | 9.024*** | 9.026*** | 10.29*** | 9.104*** | 10.24*** | 10.39*** |
| | (0.670) | (0.718) | (0.787) | (0.787) | (0.915) | (0.795) | (0.908) | (0.924) |
| Country identifier = 51, Bulgaria | 25.11*** | 24.41*** | 28.69*** | 28.70*** | 32.81*** | 28.22*** | 32.80*** | 32.25*** |
| | (2.506) | (2.491) | (2.962) | (2.961) | (3.429) | (2.916) | (3.430) | (3.376) |
| Country identifier = 53, Cyprus | 10.29*** | 8.021*** | 10.44*** | 10.44*** | 10.17*** | 10.51*** | 10.19*** | 10.27*** |
| | (1.024) | (0.831) | (1.097) | (1.097) | (1.083) | (1.105) | (1.085) | (1.095) |
| Country identifier = 55, Finland | 1.633*** | 1.582*** | 1.644*** | 1.645*** | 1.801*** | 1.652*** | 1.786*** | 1.805*** |
| | (0.152) | (0.153) | (0.160) | (0.160) | (0.178) | (0.161) | (0.177) | (0.179) |
| Country identifier = 57, Latvia | 15.38*** | 15.22*** | 16.80*** | 16.80*** | 19.44*** | 16.97*** | 19.37*** | 19.60*** |
| | (1.429) | (1.453) | (1.623) | (1.623) | (1.909) | (1.640) | (1.900) | (1.925) |
| Country identifier = 59, Malta | 5.460*** | 4.168*** | 5.279*** | 5.280*** | 4.867*** | 5.415*** | 4.918*** | 4.965*** |
| | (0.529) | (0.419) | (0.538) | (0.538) | (0.501) | (0.553) | (0.506) | (0.512) |
| Country identifier = 61, Romania | 12.98*** | 9.732*** | 10.55*** | 10.55*** | 11.00*** | 10.46*** | 10.93*** | 10.90*** |
| | (1.150) | (0.887) | (0.973) | (0.973) | (1.032) | (0.964) | (1.026) | (1.023) |

| VARIABLES: | (1)<br>Model MF_minimum | (2)<br>Model MF_basic | (3)<br>Model MF_work_gali | (4)<br>Model MF_gali | (5)<br>Model MF_emp_clus5 | (6)<br>Model MF_chld_clus5 | (7)<br>Model MF_empchld_clus5 | (8)<br>Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| Country identifier = 63, Slovakia | 4.337*** | 4.222*** | 4.950*** | 4.952*** | 5.710*** | 4.914*** | 5.631*** | 5.655*** |
| | (0.372) | (0.372) | (0.443) | (0.443) | (0.522) | (0.440) | (0.513) | (0.517) |
| pwork_rec = 1, YES | | | 0.991 | | | | | |
| | | | (0.116) | | | | | |
| chld_clusters_5 = 2 | | | | | | 0.990 | | 0.976 |
| | | | | | | (0.0389) | | (0.0390) |
| chld_clusters_5 = 3 | | | | | | 0.955 | | 0.917** |
| | | | | | | (0.0381) | | (0.0372) |
| chld_clusters_5 = 4 | | | | | | 0.933* | | 0.889*** |
| | | | | | | (0.0358) | | (0.0347) |
| chld_clusters_5 = 5 | | | | | | 1.149*** | | 1.092** |
| | | | | | | (0.0432) | | (0.0419) |
| empchld_clusters_5 = 2 | | | | | | | 0.991 | |
| | | | | | | | (0.0422) | |
| empchld_clusters_5 = 3 | | | | | | | 1.069 | |
| | | | | | | | (0.0467) | |
| empchld_clusters_5 = 4 | | | | | | | 1.177*** | |
| | | | | | | | (0.0493) | |
| empchld_clusters_5 = 5 | | | | | | | 1.486*** | |
| | | | | | | | (0.0610) | |
| Constant | 0.197*** | 0.143*** | 0.0863*** | 0.0863*** | 0.0707*** | 0.0862*** | 0.0701*** | 0.0731*** |

| VARIABLES: | (1) Model MF_minimum | (2) Model MF_basic | (3) Model MF_work_gali | (4) Model MF_gali | (5) Model MF_emp_clus5 | (6) Model MF_chld_clus5 | (7) Model MF_empchld_clus5 | (8) Model MF_emp_chld_clus5 |
|---|---|---|---|---|---|---|---|---|
| | (0.0119) | (0.00939) | (0.00595) | (0.00594) | (0.00515) | (0.00639) | (0.00538) | (0.00567) |
| Observations | 42,982 | 42,982 | 42,982 | 42,982 | 42,064 | 42,982 | 42,064 | 42,064 |
| seEform in parentheses | | | | | | | | |
| *** p<0.01, ** p<0.05, * p<0.1 | | | | | | | | |

*Source: Authors' calculation based on SHARELIFE data*

# Appendix 3. Interactions of educational attainment with lifecourse clusters reflecting employment and family histories

**Table A.4. Selected logistic regression results (odds ratios) – interactions between educational attainment and employment clusters.**
**Dependent variable** **Household able to make ends meet**

| | | Males and Females | | Males | | Females | |
|---|---|---|---|---|---|---|---|
| | | Without interactions | With interactions | Without interactions | With interactions | Without interactions | With interactions |
| Educational attainment | Primary | 3.377*** | 2.978*** | 3.825*** | 3.023*** | 3.204*** | 2.785*** |
| | Basic vocational | (0.108) | 2.218*** | 2.978*** | 2.092*** | 2.786*** | 2.403*** |
| | Secondary | 2.802*** | 1.478*** | 1.998*** | 1.441*** | 1.805*** | 1.520*** |
| Employment clusters | cluster 2 | 1.011 | 0.918 | 0.997 | 0.857 | 1.063 | 0.973 |
| | cluster 3 | 0.933*** | 0.698*** | 0.899*** | 0.629*** | 1.004 | 0.772*** |
| | cluster 4 | 1.181*** | 0.931 | 1.321*** | 0.882 | 1.157*** | 0.991 |
| | cluster 5 | 1.417*** | 1.286*** | 1.730*** | 1.160 | 1.463*** | 1.383*** |
| | | Significant interactions | | | | | |
| Interactions | Primary # cluster 3 | | 1.212** | | 1.247* | | 1.270* |
| | Primary # cluster 4 | | | | 1.304* | | |
| | Basic voc # cluster 2 | | 1.275** | | 1.435** | | |
| | Basic voc # cluster 3 | | 1.502*** | | 1.656*** | | 1.380*** |
| | Basic voc # cluster 4 | | 1.293*** | | 1.738*** | | |
| | Basic voc # cluster 5 | | 1.201** | | 1.517** | | |
| | Secondary # cluster 3 | | 1.504*** | | 1.572*** | | 1.493*** |
| | Secondary # cluster 4 | | 1.441*** | | 1.781*** | | 1.297*** |
| | Secondary # cluster 5 | | | | 1.652*** | | |

**Table A.5. Selected logistic regression results (odds ratios)– interactions between educational attainment and family (timing of births) clusters. Dependent variable Household able to make ends meet**

| | | Males and Females | | Males | | Females | |
|---|---|---|---|---|---|---|---|
| | | Without interactions | With interactions | Without interactions | With interactions | Without interactions | With interactions |
| Educational attainment | Primary | 3.486*** | 3.147*** | 3.738*** | 2.965*** | 3.363*** | 3.422*** |
| | Basic vocational | 2.843*** | 2.556*** | 2.882*** | 2.374*** | 2.845*** | 2.853*** |
| | Secondary | 1.846*** | 1.708*** | 1.914*** | 1.856*** | 1.806*** | 1.566*** |
| Birth timing clusters | cluster 2 | 0.980 | 0.974 | 0.958 | 0.950 | 0.990 | 0.992 |
| | cluster 3 | 0.956 | 0.828*** | 0.945 | 0.756*** | 0.955 | 0.900 |
| | cluster 4 | 0.958 | 0.847** | 0.989 | 0.809** | 0.933* | 0.869* |
| | cluster 5 | 1.163*** | 0.998 | 1.216*** | 1.142 | 1.149*** | 0.954 |
| Significant interactions | | | | | | | |
| Interactions | Primary # cluster 3 | | 1.208** | | 1.366*** | | |
| | Primary # cluster 4 | | 1.185* | | 1.613*** | | |
| | Primary # cluster 5 | | 1.268** | | 1.402*** | | |
| | Basic voc # cluster 3 | | 1.228** | | 1.717*** | | |
| | Basic voc # cluster 4 | | 1.213** | | 1.803*** | | |
| | Basic voc # cluster 5 | | 1.235** | | | | |
| | Secondary # cluster 3 | | 1.183** | | 1.402*** | | 1.235** |
| | Secondary # cluster 4 | | | | 1.481*** | | |
| | Secondary # cluster 5 | | | | 1.464** | | 1.303** |

**Table A.6. Selected logistic regression results (odds ratios) – interactions between educational attainment and clusters defined by joined employment and family histories. Dependent variable Household able to make ends meet**

| | | Males and Females | | Males | | Females | |
|---|---|---|---|---|---|---|---|
| | | Without interactions | With interactions | Without interactions | With interactions | Without interactions | With interactions |
| Educational attainment | Primary | 3.409*** | 3.176*** | 3.897*** | 3.068*** | 3.172*** | 3.438*** |
| | Basic vocational | 2.841*** | 2.357*** | 3.057*** | 2.186*** | 2.766*** | 2.848*** |
| | Secondary | 1.887*** | 1.672*** | 2.060*** | 1.695*** | 1.809*** | 1.649*** |
| Employment & family clusters | cluster 2 | 0.994 | 1.024 | 0.985 | 1.010 | 0.991 | 1.036 |
| | cluster 3 | 1.095*** | 0.889* | 1.119*** | 0.816** | 1.069 | 0.968 |
| | cluster 4 | 1.273*** | 1.056 | 1.462*** | 1.009 | 1.177*** | 1.113 |
| | cluster 5 | 1.492*** | 1.469*** | 1.783*** | 1.329* | 1.486*** | 1.554*** |
| | | | | | | | |
| Interactions | Primary # cluster 2 | | | | | | 0.709** |
| | Primary # cluster 3 | | 1.199** | | 1.366*** | | |
| | Primary # cluster 4 | | 1.197** | | 1.402*** | | |
| | Primary # cluster 5 | | | | 1.395* | | |
| | Basic voc # cluster 3 | | 1.398*** | | 1.717*** | | |
| | Basic voc # cluster 4 | | 1.309*** | | 1.803*** | | |
| | Secondary # cluster 3 | | 1.313*** | | 1.402*** | | 1.255** |
| | Secondary # cluster 4 | | 1.263*** | | 1.481*** | | |
| | Secondary # cluster 5 | | | | 1.464** | | |

# Appendix 4. The sensitivity analysis of the influence of the definition of the number of clusters on the regression results

| | Parameters of employment categories in regressions with: | | | |
|---|---|---|---|---|
| | 2 clusters | 3 clusters | 4 clusters | 5 clusters |
| Cluster 1 - reference | - | - | - | - |
| Cluster 2 | 1.247*** | 0.976 | 0.947** | 1.011 |
| Cluster 3 | | 1.336*** | 1.101*** | 0.933*** |
| Cluster 4 | | | 1.370*** | 1.181*** |
| Cluster 5 | | | | 1.417*** |
| Pseudo R2 | 0.207 | 0.207 | 0.207 | 0.208 |

| | Parameters of family histories categories in regressions with: | | | |
|---|---|---|---|---|
| | 2 clusters | 3 clusters | 4 clusters | 5 clusters |
| Cluster 1 - reference | - | - | - | - |
| Cluster 2 | 1.039** | 0.975 | 1.018 | 0.980 |
| Cluster 3 | | 1.089*** | 0.976 | 0.956 |
| Cluster 4 | | | 1.141*** | 0.958 |
| Cluster 5 | | | | 1.163*** |
| Pseudo R2 | 0.205 | 0.205 | 0.205 | 0.205 |

| | Parameters of combined employment and family categories in regressions with: | | | |
|---|---|---|---|---|
| | 2 clusters | 3 clusters | 4 clusters | 5 clusters |
| Cluster 1 - reference | - | - | - | - |
| Cluster 2 | 1.297*** | 1.130*** | 1.020 | 0.994 |
| Cluster 3 | | 1.431*** | 1.229*** | 1.095*** |
| Cluster 4 | | | 1.430*** | 1.273*** |
| Cluster 5 | | | | 1.492*** |
| Pseudo R2 | 0.207 | 0.208 | 0.208 | 0.208 |