

# CASE Network Reports

## The Impact of Institutional and Socio-Ecological Drivers on Activity at Older Ages

Izabela Styczyńska  
Aart-Jan Riekhoff  
Maciej Lis  
Agnieszka Kamińska

No. 115/2013



Warsaw Bishkek Kyiv Tbilisi Chisinau Minsk

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This report was prepared within a research project entitled NEUJOBS financed by the European Commission, under the 7th Framework Programme.



**Keywords: Productivity, Age-Earning Profiles, Lifelong Learning**

**JEL codes: J24, J31**

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Graphic Design: Agnieszka Natalia Bury

EAN 9788371785962

**Publisher:**

CASE-Center for Social and Economic Research on behalf of CASE Network

al. Jana Pawla II 61, office 212, 01-031 Warsaw, Poland

tel.: (48 22) 206 29 00, 828 61 33, fax: (48 22) 206 29 01

e-mail: [case@case-research.eu](mailto:case@case-research.eu)

<http://www.case-research.eu>

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## **The authors**

**Maciej Lis** is a PhD Student at Warsaw School of Economics. He holds a position of Senior Economist at Institute for Structural Research. He is an author of publications in the fields of health economics, labour market, human capital and poverty. He specializes in micro-econometrics and panel data analysis.

**Agnieszka Kamińska** holds BA in Economics from University of Warsaw and is currently pursuing her master's degree in Computer Sciences and Econometrics. She has worked in Institute for Structural Research (IBS) since 2011. She specializes in labour market analysis.

**Aart-Jan Riekhoff** is a doctoral researcher in Social Policy at the School of Social Sciences and Humanities of the University of Tampere and associated researcher at CASE. Previously, he worked for 4 years for CASE as a project manager. Aart-Jan specializes in quantitative policy-oriented research related to labour markets and welfare states. He holds master's degrees in Sociology and International Relations from the University of Groningen, the Netherlands.

**Izabela Styczynska**, Ph.D., is an economist and author of publications in the fields of labour economics, social policy and health economics. She holds a MA degree in economics from Warsaw University, Master in Economics at the CORIPE Piemonte in Turin and she has obtained a Ph.D. at the University of Turin. She has worked for CASE-Center for Social and Economic Research since 2005, participating in its numerous projects including: NEUJobs (Employment 2025: How will multiple transitions affect the European labour market), ANCIEN (Assessing Needs of Care in European Nations) or AIM (Adequacy of Old-Age Income Maintenance in the EU).

## **Abstract**

We present an insight of the socio-economic drivers of economic and non-economic activity of persons 50+ as well their ability to adopt to SET. Not only the labour market participation, but also social engagement, beliefs, education, religious activities and housework are studied. With the use of European Social Survey data we investigate the general level of the activity among people aged 50+ in Europe as well as the relation between various aspects of activity and general labour market performance. We obtain mixed results on the concomitance of non-market and labour-market activities. We also check the role of personal traits as well as pull and push factors on prematurely leaving labour market in European countries. The differences among countries in terms of the results are confronted with the institutional characteristics of the countries. Finally, selected case studies of successful activation policies are presented.



# 1. Introduction

The continuation of global demographic transitions, presented in WP1 of NEUJOBS project, will fundamentally reshape the global framework conditions for Europe (Fischer, Kowalsky et. al, 2012 pg. 76). While the study examines the direction in which the ageing of the population follows, within-cohort differences of the elderly are omitted/neglected. The aim of our study is to fulfil this gap and look deeper into the changes of the elderly behaviour on the labour market and beyond over time. The analysis is provided by considering differences in elderly activity under different institutional regimes in different countries, as well as by looking at changes in SET. Ageing workforce is a challenging task for Europe. Consequently, it is crucial to examine what are the changes in the elderly preferences toward their activities. The knowledge we provide in this paper, should facilitate to policy makers the decision of what steps could be undertaken in order to increase the elderly's activity, and where to increase their quality of life and work.

The study of Fischer-Kowalsky et al. (2012) assumes that human labour patterns are influenced by socio-metabolic regimes that constantly take place. They prove that the existing transition phase away from fossil fuels (started in 1970s) changes the traditional well-established patterns of employment, increasing part-time work and rising “flexibility”. At the same time, one observes European labour market confronted with a serious problem of ageing, globalisation, high unemployment rate of young and elderly. Our study complements the results of other parts of the NEUJOBS project, by looking at activity of the elderly and its interactions with transformation of labour market institutions and changes in labour market policies.

The aim of this report is to analyse the impact of socio-economic drivers of the activity of people aged 50+. Our hypothesis is that socio-ecological and institutional drivers create ambiguous incentives for activity among the elderly. Reforms in pension and benefit systems and new forms and types of employment create the need to align incentives in a way that creates possibilities for older workers to stay active on the labour market. Societal and ecological changes create opportunities for increased activity, but also obstacles; depending on the country-specific context in which they take place.

First we present the general picture of labour market activity of older persons in European countries in relation to the major drivers of employment i. e. labour market institutions. Consequently we describe the clusters of countries based on the 50+ employment patterns which deliver the framework for further analysis of SET. After describing SET in detail we look into the consequences of SET for the labour market and beyond labour activity of older persons. Finally we present the examples of successful policies of boosting elderly engagement in society. As a result not only the labour market participation, but also social engagement, beliefs, education, religious activities and housework are studied. With the use of European Social Survey data we investigate the general level of the activity in Europe as well as the relation between various aspects of activity and general labour market performance. Labour market performance is measured with the use of employment-rates in specific age groups. We obtain mixed results on the concomitance of non-market and labour-market activities.

The report is a part of Neujobs research project. It was prepared as a deliverable 17.3 of Work Package 17 by Institute for Structural Research (IBS) and Center for Social and Economic Research (CASE).

## **2. Economic Activity of Older Persons**

### **2.1. Employment Related Clusters of Countries**

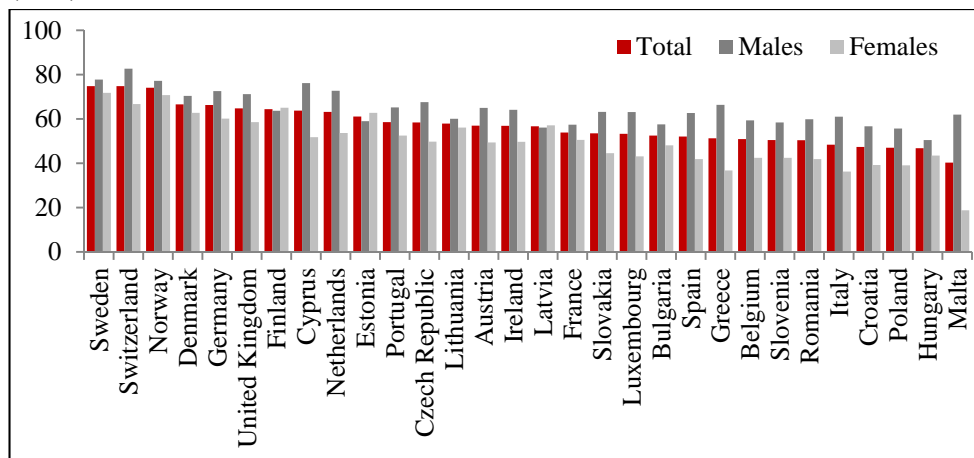
In this section we look at the aggregate level and compare European countries in terms of functioning and structure of the labour market among older workers (50-64) and the influence of the institutional environment on this. There are different factors that influence labour market activity and retirement decisions among older workers and only part of this variation can be attributed to the personal and work-related traits. We look at a group of 30 European countries and compare their labour markets aggregates of older persons with the institutional arrangements. We summarize the evidence of the impact of official retirement age, net replacement rate, the sickness and ability benefits, employment protection and life-long learning on the activity of older persons.

The effects of institutional arrangements on the labour market activity of older workers are reflected in the employment rates among this segment. Figure 1 shows the employment rates among those aged 50-64. Employment range from 74.8% in Sweden to 40.3% in Malta. The best performers are the Nordics, together with Switzerland, Germany, and the UK. Among the worst performers are Malta, Hungary, Poland, Croatia, and Italy. In all countries the employment rates for the group of 50-64 years old is lower than the rates for those of 25-49 years old. Also within the 50-64 segment, the employment rates decline with increasing age. In almost all countries employment rates for men are higher than for women, except for Finland Estonia, and Latvia. The differences between men and women are especially pronounced in Malta, Greece, Italy, Cyprus, and Spain.

Part of the non-employment of the older population can be explained by unemployment, but as we shall see in this section, unemployment rates among older workers in almost all countries are lower than in the younger segments of the labour market. Early retirement is one of the main reasons of inactivity among this part of the population, although the percentages differ starkly both per country as well as for men and women (Figures 2-3). Retirement before the age of 65 is most often the main reason for inactivity in the “short employment” clusters, such as France, the Czech Republic, Austria, Slovakia, and Slovenia. It is the least common in Spain, Norway, Cyprus, Sweden, and Belgium. In those countries where there are

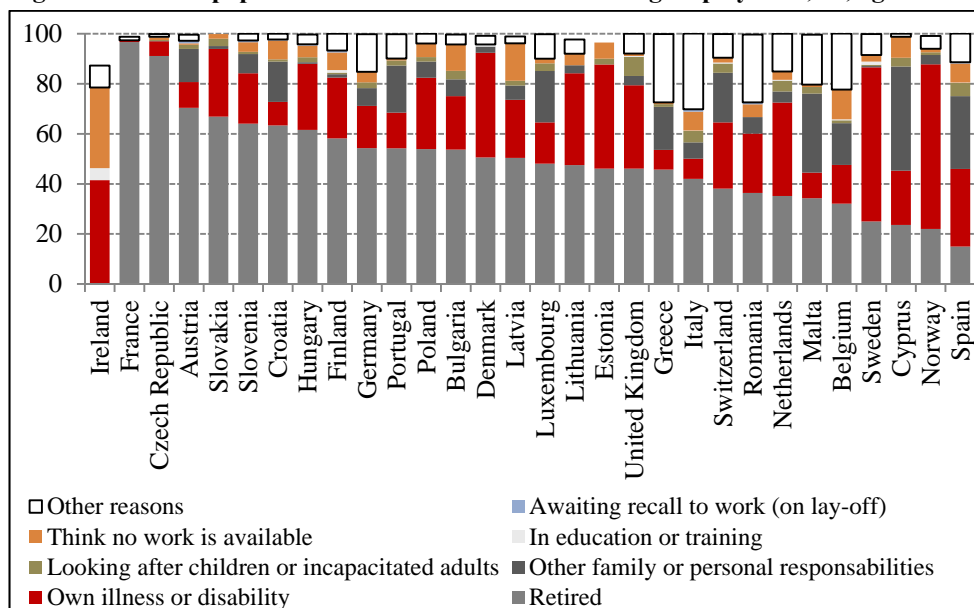
fewer possibilities to retire earlier, the incidence of illness or disability is often the main reason for inactivity, especially among men, although in the Nordic countries also among women. Among women, and especially in the “low employment” clusters, the main reason for being is more often taking care of family or personal responsibilities, as well as looking after children or incapacitated adults. This is visible for example in Spain, Cyprus, Malta, Luxembourg, Belgium, Greece, and Portugal.

**Figure 1. Employment rates for the total population, males, and females, ages 50-64 (2010)**



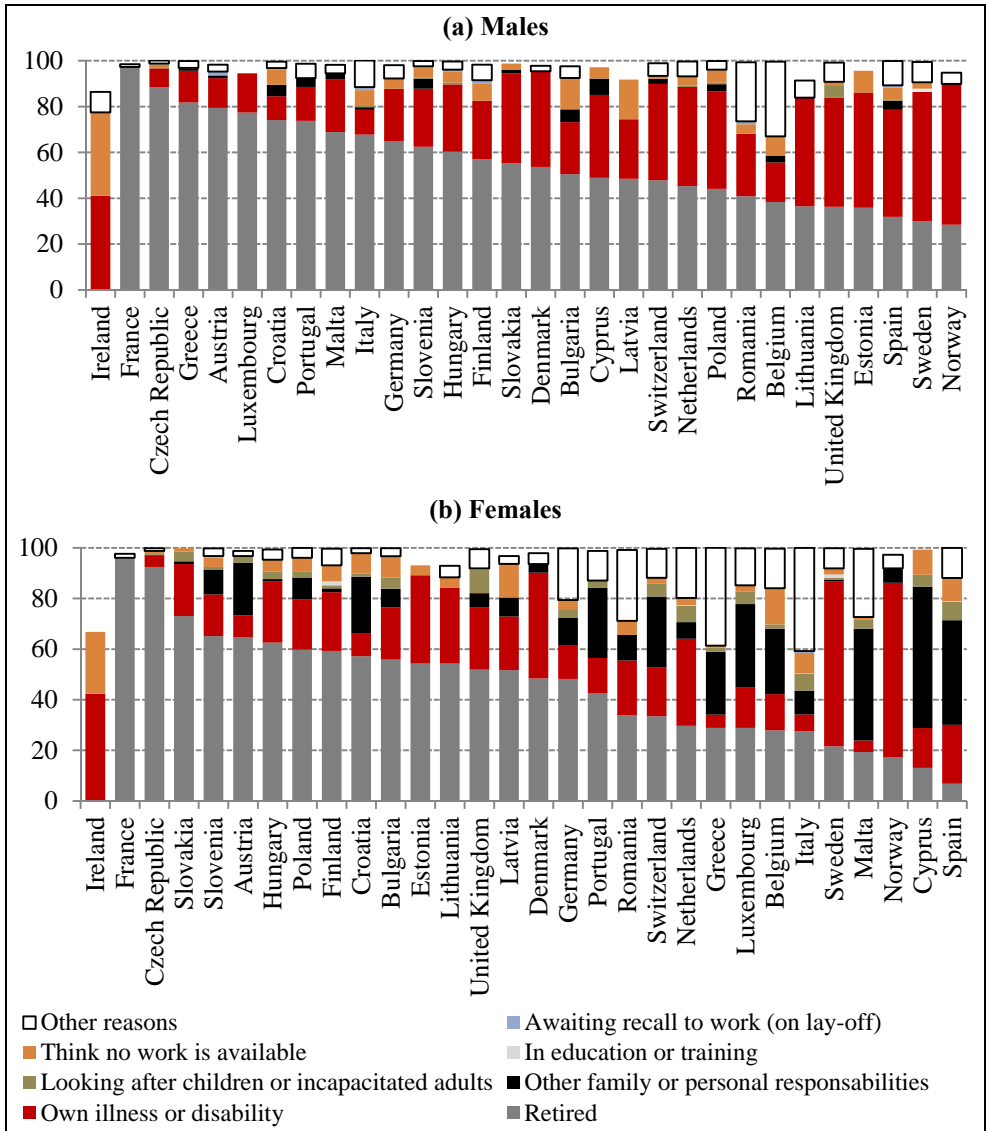
Source: Eurostat (2013).

**Figure 2. Inactive population - main reason for not seeking employment, %, ages 50-64**



Source: Eurostat (2013).

**Figure 3. Inactive population - main reason for not seeking employment, by sex, ages 50-64 (2010)**



Source: Eurostat (2013).

One other exit path into inactivity among older workers can be through unemployment. Studies have shown that, even though unemployment rates among workers aged 50-64 are usually lower than among those aged 25-49, unemployment spells tend to last longer and in many cases workers do not return to employment (OECD, 2006, p. 35). This is to a large extent due to the reluctant attitude of employers of hiring older workers, fearing that they are too expensive

due to seniority wage, too difficult to fire because of certain legal provisions that affect older employees only, or too unproductive. On the other hand, in some countries, like Finland and Spain, unemployment benefits offer an “unemployment tunnel” for older unemployed towards retirement, offering relatively generous unemployment benefits and exempting them from job-search requirements. A recent study by Inderbitzin, Staubli, and Zweimüller (2013) has shown how extended unemployment benefits for older workers are complementary early retirement in the case of Austria. At the same time, other countries, such as Belgium, Germany, Portugal, and Sweden have taken measures to counteract inactivity through unemployment among older people.

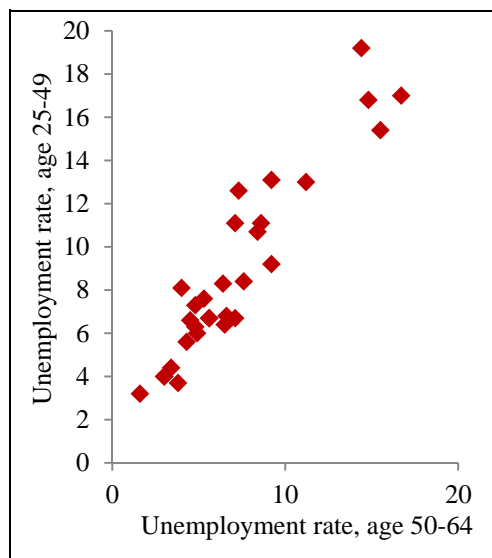
Figure 4 shows the unemployment rates for the population aged 50-64 and 25-49. In most countries, apart from Germany, the Czech Republic, Estonia, and the Netherlands, the unemployment rate for older workers was higher than for younger workers (and only very small or no differences in for example Finland, Bulgaria, and Latvia). The differences are the largest in two, not mutually exclusive, types of countries. First, younger people are more often unemployed in those countries where the population retires earlier, such as Italy, Greece, Belgium, France, Hungary, Croatia, and Slovakia. In those countries, workers disappear into retirement and are no longer counted as unemployed. Second, in those countries hit by the economic crisis, unemployment hits the younger workers first, whereas older workers are more often working on permanent contracts and better protected by legislation. These countries probably include Italy, Greece, Ireland, and Spain.

Figure 5 shows what many other studies have already shown, namely that unemployment among older workers much more often is lasting over 2 years than among younger workers. In other words, for older workers it is more difficult finding a new job in almost all European countries. The difference between young and old is particularly visible in Belgium, Portugal, Germany, Slovenia, France and Spain (cases where more than 50% of the unemployed are long-term unemployed). We do not find any evidence that easy access or high replacement rates have any effect on the take-up rates of unemployment benefits. The main issue seems to be the reluctance of employers to hire older workers. In the next section we will look at some policies that might contribute to the attractiveness of older workers, as well as possible barriers for employing them.

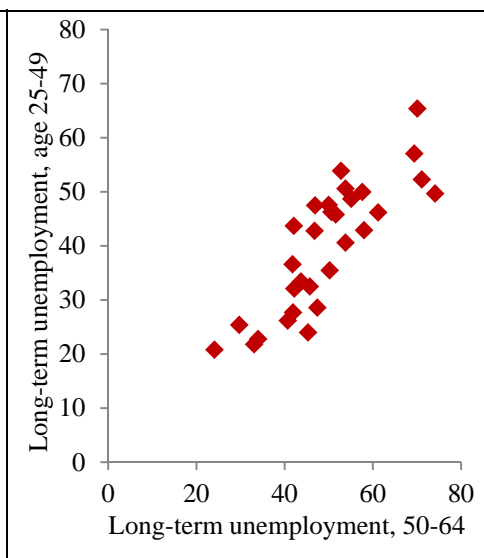
The accompanying paper (Lis et al. 2013) analyses the age-related employment profiles among countries in detail and group European countries into four clusters. The division of countries is based on two criteria: average length of employment and the employment rate at 50-ties. As a result four clusters are obtained: high (employment rates at 50) –short (average employment length in a life cycle - C1), low-long (C2), low-short (C3) and high-long (C4). We will use these clusters

to grasp the key differences in the interaction of elderly activity, labour market and SET in the following part. Therefore we provide a brief description of the clusters, following (Lis at al. 2013).

**Figure 4. Unemployment rate for the labour market population aged 50-64 vs. 25-49**



**Figure 5. Longer term unemployment rate (as % of unemployed), ages 50-64 vs. 25-49**



Source: Eurostat (2013).

The first group is “High-short” (C1), consisting of Austria, France, Czech Republic, Slovakia and Bulgaria. These countries are characterized by high employment rates at 50 and a slide afterwards. Ireland, Cyprus, Portugal, Spain, Greece, Lithuania, Romania belong to the second group (“Low long” – C2). The employment is not so high at prime age there, but it remains quite high after 50. Separate group of countries from Belgium, Luxemburg, Italy, Hungary, Slovenia, Poland where the labour market is weakest with low employment rates which drop quickly after 50-ies. They are named low-short (C3). The last cluster of countries with the healthiest labour markets is characterized by high employment rates at all ages and is named high-long (C4). Norway, Sweden, Finland, Netherlands, Denmark, Germany, Latvia, Estonia, Iceland, United Kingdom belong to the last nest.

## 2.2. Labour Market Institutions

Clusters differ in terms of labour market institutions and policies. Table 1 summarises how each of the clusters scores on a set of labour market and institutional indicators. First of all it shows that indeed the “long” clusters’ labour markets perform better in terms of higher employment, later retirement and longer working lives than in the “low” clusters. This is related to the level of the pension benefits that are obtained after retirement: net replacement rates are lower in the “high” clusters, making it financially less attractive to retire earlier. In the high-long cluster labour markets are on average slightly more flexible (with lower a EPL score). Temporary contracts and self-employment among those aged 50-64 are less common in the “high” clusters. Part-time work is most common in the high-long cluster, followed – perhaps surprisingly – by the low-short cluster. Participation in training among older workers in the high-long cluster by far outranks the other clusters. In this section we go deeper into the reasons behind these results and also point out the differences within clusters and between countries.

**Table 1. Institutional indicators for each of the clusters (age groups 50-64, unless indicated otherwise)**

	<b>High-long</b>	<b>High-short</b>	<b>Low-long</b>	<b>Low-short</b>
Employment rate	65.8	55.1	55.9	49.5
Average exit age	62.87	60.90	62.50	60.53
Duration of working live (in years)	38.1	33.6	34.3	31.5
Pension net replacement rate	69.0	74.0	75.3	82.7
Employment protection legislation	2.2	2.5	2.6	2.6
Temporary contracts (% of all contracts)	5.0	5.5	6.3	7.4
Self-employment (% of total employment)	13.6	16.4	26.5	19.4
Part-time work (% of all employment)	22.2	11.5	9.2	15.3
Participation in training (% of age group 55-64)	10.6	3.0	2.6	3.5

*Note.* Unweighted mean value for each cluster.

*Source:* OECD (2011), Eurostat (2013).

### Retirement and pensions

In the majority of European countries the official retirement age lies at 65 and in a great deal of countries reforms are currently implemented, on their way or being discussed to raise the official retirement age 1 or more years. In some



countries where the retirement age lies lower, reforms are on the way to raise the official retirement age to 65 (e.g. in Estonia, Latvia and Lithuania). Whereas some countries still have lower retirement ages for women, this is usually under discussion for equalisation (for details on recent developments in reforms of the official retirement age, see: European Commission, 2012). However, when one looks at the average exit ages of the population in Europe, one can conclude that the official retirement age has little effect on the real retirement age of people (Table 4). In most countries, the average exit age is well-below the official retirement age. Countries with the lowest average exit ages find themselves mainly in the “short-low employment” employment cluster and include Slovakia, Poland, Slovenia, Luxemburg, Hungary, Slovenia, and Lithuania (all below 60). The countries with average exit ages closer to 65 are amongst others Sweden, Romania, Ireland, Bulgaria, Switzerland, and the Netherlands.<sup>1</sup> The early exit age in some countries contribute to the fact that the working life of an average Swiss, Swedish or Finnish person is more than 10 years longer than that of an average Hungarian, Italian or Maltese (Table 4, last column).

The main reason for exit ages lower than retirement ages is that there are options for older workers to leave to retire prematurely, the so-called pull factors that were mentioned earlier (Gruber & Wise, 1997). At least two mechanisms are at work here. First, eligibility or access decides when a person can claim a pension. The official retirement ages in Table 2 are often only the rule to which there are many preconditions and exemptions. Many countries have had early retirement policies, allowing, often redundant, employees to retire early. In many countries this has been extensively made use of by employers, employees, and the government, each for their own reasons. In some countries, like France, Luxembourg, and Italy, claiming one’s pension is possible after a certain amount of years of having worked and paid pension contributions. In some countries, occupational pension schemes offer access to retirement before public schemes (OECD, 2006, 2011). Nowadays, early retirement options are being severely restricted in most European countries, most recently in Belgium, Germany, Greece, Hungary, Luxembourg, the Netherlands, Austria, Slovakia, and Sweden (European Commission, 2012).

The second mechanism is the level of the pension benefits in relation to the level of income that can be gained by staying in a paid job, or in other words, the replacement rate. The income effect of pensions means that a higher pension replacement rate makes retirement more attractive vis-à-vis continuing work (OECD, 2006, p. 54; Duval, 2003). Figure 6 shows that there is slightly negative relation between the net pension replacement rate and the average exit

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<sup>1</sup> The data for Romania and Bulgaria are from 2006 and might not be fully reliable.

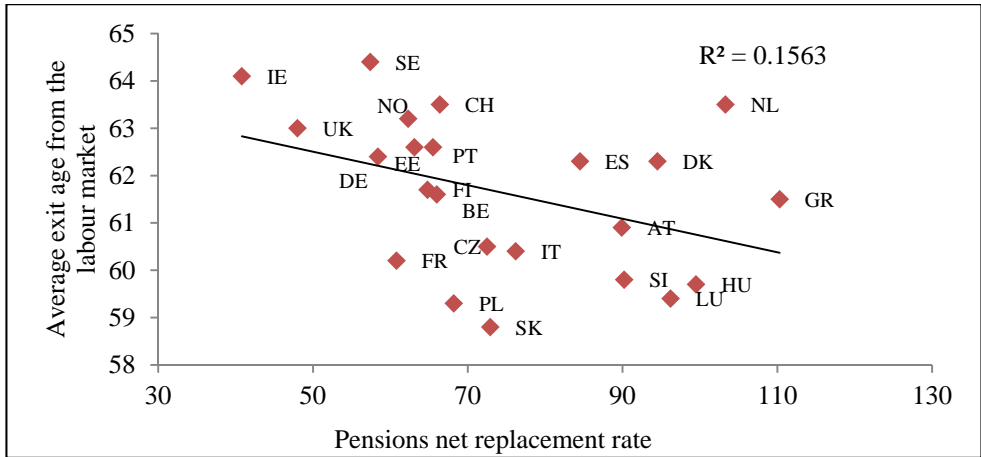
age for 23 European OECD countries. It shows that some countries with higher replacement rates of their pensions have lower exit ages of their workforce, where lower replacement rates might induce workers to stay longer on the labour market. With a few exceptions, one can see the “short employment” countries below the regression line, whereas the “long employment” cluster finds itself above it.

**Table 2. Official retirement age, average exit age and average duration of the working life**

Country	Official retirement age men (women)	Average exit age from the labour market	Average duration of working life (years)
Austria	65	60.9 <sup>a</sup>	36.3
Belgium	65	61.6 <sup>a</sup>	32.5
Bulgaria	63 (60)	64.1 <sup>b</sup>	31.5
Croatia	65 (60)	60.6 <sup>c</sup>	31.3
Cyprus	65	62.8 <sup>c</sup>	36.9
Czech Republic	65 (62-65)	60.5	33.9
Denmark	67	62.3	39.4
Estonia	63	62.6 <sup>c</sup>	35.8
Finland	65	61.7 <sup>c</sup>	40.1
France	60	60.2	34.1
Germany	67	62.4	36.8
Greece	65	61.5 <sup>c</sup>	32.4
Hungary	65	59.7	29.3
Ireland	66/65	64.1 <sup>b</sup>	34.2
Italy	65 (60)	60.4	29.7
Latvia	62	62.7 <sup>d</sup>	34.6
Lithuania	62.5 (60)	59.9 <sup>b</sup>	33.3
Luxembourg	65	59.4 <sup>e</sup>	31.6
Malta	61 (60)	60.5	30.3
Netherlands	65	63.5 <sup>c</sup>	39.0
Norway	67	63.2 <sup>c</sup>	39.5
Poland	65 (60)	59.3 <sup>a</sup>	31.6
Portugal	65	62.6 <sup>a</sup>	36.9
Romania	63 (58)	64.3 <sup>b</sup>	31.7
Slovakia	62	58.8 <sup>c</sup>	32.4
Slovenia	63	59.8 <sup>b</sup>	34.2
Spain	65	62.3	34.4
Sweden	65	64.4	40.1
Switzerland	65 (64)	63.5 <sup>c</sup>	41.1
United Kingdom	68	63.0 <sup>c</sup>	37.9

Source: OECD (2011), Eurostat (2013). Data for the year 2010, unless indicated otherwise: a 2007, b 2006, c 2009, d 2008, e 2005.

**Figure 6. Pensions net replacement rate for an average worker vs. average exit age**



Source: OECD (2011), Eurostat (2013).

As we have showed in the second logistic regression model, in some countries, a substantial part of the population retires early than they would have preferred. It was also shown that the level of the current income (or the pension) has a significant effect on that. In many countries, reforms have been aimed at making working longer more lucrative than retiring early. Most countries already have systems in place where earlier retirement induces lower levels of benefits and many have been moving towards increasing pension benefits for working longer than the official retirement age (amongst others Belgium, Denmark, Germany, Spain, Cyprus, Finland, and the UK). Another issue is the possibility for older workers to continue to work while after retirement (see: Eurofound, 2012). Often it has not been allowed to have income from any other source when pension benefits are already drawn. Work after retirement has been encouraged by for instance supportive legislation in Bulgaria, Denmark, Estonia, Malta, and Sweden, but has been restricted in Belgium, Cyprus, Poland, and Slovakia (European Commission, 2012).

Important for the functioning of the right financial incentives is also the construction of the tax system. In the majority of the countries, an average pensioner pays fewer taxes and social contributions than the average worker. In Ireland, Hungary, and Slovakia for example, pensioners pay no taxes at all over their received benefits.<sup>2</sup> In other countries, including Sweden, Denmark, the Netherlands, Luxembourg, and Finland, taxation rates of pensioners remain much higher and closer to those for the working population. There are many ways

<sup>2</sup> Situation in 2011 (OECD, 2011).

to make work more attractive financially than retirement, by for example providing in-work benefits, as for example already implemented in Germany, Austria, Belgium, and Sweden. Employers can be encouraged to hire or retain older workers by waiving refunding the payment of social security contributions for workers over a certain age, as has been introduced in Luxembourg, Slovenia, Belgium, Sweden, Greece, Spain, Poland, Portugal, and Romania (European Commission, 2012).

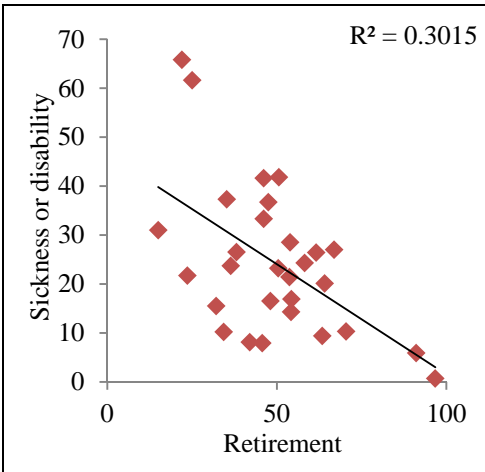
### **Sickness and disability**

The Figures 7-9 show that in countries where the early retirement is a less common reason for inactivity among older workers, sickness or disability appears to become a substitute. Especially in countries with relatively high labour market participation and fewer options to retire early, such as the Nordics as well as Estonia and the Netherlands, sickness and disability is a much more common route from the labour market than early retirement. In some countries, easily accessible and generous disability benefits have been an attractive alternative for work for older employees and an easy way for employers to shed older workers, making it a direct substitute for early retirement while pension eligibility has tightened (e.g. in Belgium, Denmark, Estonia, and Slovakia). Again, in many countries, reforms have taken place in recent years in order to limit the misuse of disability benefits and pension, including in the Czech Republic, Finland, Germany, Hungary, Austria, the Netherlands, and Romania. Studies have shown that closing alternative pathways to retirement in the form of reforms of disability benefits (often combined with early retirement schemes) can have a significant effect on the retirement behaviour of older workers (e.g. for Sweden, see: Karlström et al., 2008; for Austria, see: Staubli, 2009; for Finland, see: Kyyrä, 2010; for the Netherlands, see: De Vos, Kapteyn and Kalwijn, 2011; Euwals, Van Vuren and Van Vuuren, 2012).

The question is how far governments can go in restricting access to disability benefits or lower benefit levels, as there are strong equity arguments for keeping those kinds of benefits as a safety net for those in society that are not able to work outside of their own fault. If those who are unable to work cannot retire, they need to be able to access other benefits. As we have shown in the first logistic regression model, deteriorating health is one of the main predictors of inactivity among older workers. Better working conditions (health and safety at work), better access to healthcare, and prophylactics and disease prevention, might be some of the most effective ways of keeping the older segments of the labour market active. Figure 8 shows that there is slightly positive relation between the expected

healthy life years (in this case for men) and the average exit age from the labour market. In countries where people tend to enjoy more health years, like in Sweden, Norway, Switzerland, and Ireland, people tend to retire later as well. At the same time, in countries with less expected healthy years, like Slovakia, Slovenia, Hungary, and Lithuania, exit from the labour market takes place at an earlier age. The greatest imbalances can be found in for example Romania, Latvia, and Estonia where despite relative few healthy years, people tend to work longer, whereas in countries like Malta, Italy, and Greece people enjoy relatively many healthy years, but still exit the labour market at an early age.

**Figure 7. Retirement vs. sickness or disability as % of reasons for inactivity (2010)**



**Figure 8. Healthy life years vs. average exit age (2010)**



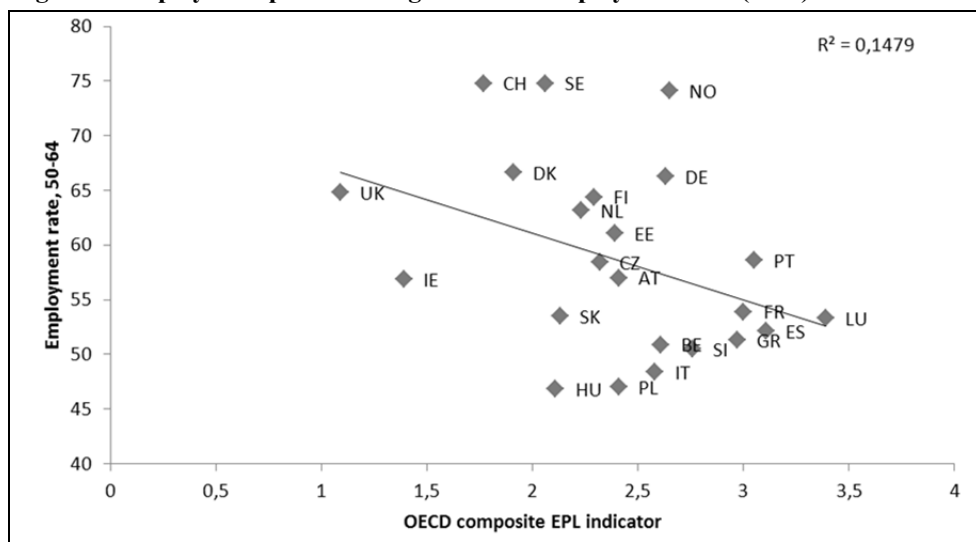
Source: Eurostat (2013).

**Employment protection legislation and types of contracts**

Labour law and employment protection legislation contain various features that affect the employment possibilities of older workers. On the one hand, employment protection raises the costs of firing workers, leading to greater retentions. This is especially the cases when the law prescribes “first in, first out” principles, which benefit the older workers. However, as mentioned earlier, the prospect of difficulties of firing older employees in the future causes employers to be reluctant in hiring them now. Figure 9 shows the OECD indicator for employment protection legislation (EPL) strictness plotted against the employment rate for the 50-64 age group. It shows that there is a slight

negative relation between EPL strictness and employment. Countries with rather flexible labour markets, including the UK, Denmark, Switzerland and Sweden, tend to have somewhat higher employment rates. At the other end of the spectrum are countries like Luxembourg, Spain, Greece, France, and Portugal with rigid labour markets and lower employment rates. At the bottom of the employment rate ranking are however Poland, Hungary, and Italy, whose low rates cannot be attributed to labour market rigidity alone.

**Figure 9. Employment protection legislation vs. employment rate (2010)**

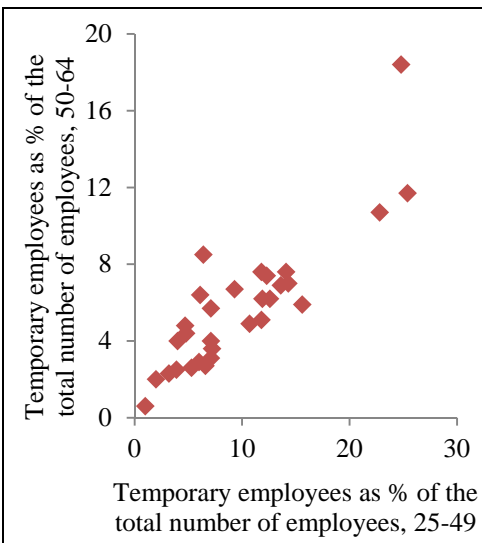


Source: Eurostat (2013), OECD (2012a).

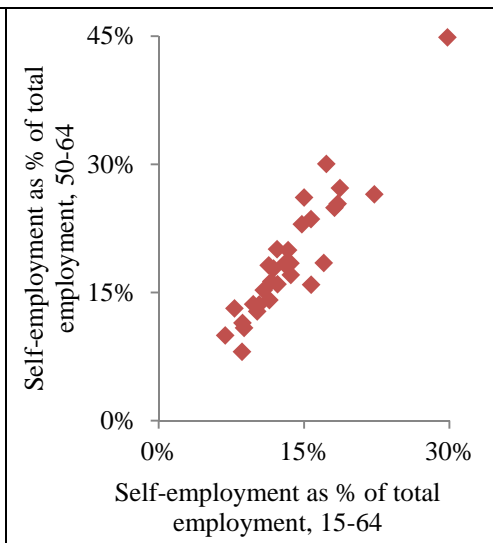
One way of circumventing rigid employment legislation for permanent contracts, is by hiring employees on temporary contracts. The practice and possibility to do this also varies per country. Some employers might prefer to give temporary contracts, so that they can simply refuse to extend the contract once it expires. Figure 10 shows that temporary contracts are, however, more common among younger workers than among older workers (except in the Czech Republic). This is probably related to the fact that with the increase in tenure, the possibility to offer multiple temporary contracts becomes restricted under labour law in most countries. Especially in Spain and Portugal one can see the relation between strict EPL and a high incidence of temporary contracts, in particular among the younger segments of the labour market. Poland has the highest incidence of temporary employees older than 50, whereas Romania, Lithuania, and Estonia have the lowest percentage.

Another way to circumvent rigid employment legislation is the use of individuals who are self-employed. Labour law often does not apply and one can contract a worker for the time need to perform a task. Those who contract self-employed are often exempted from paying for example social security or pension contributions. In this way, using the services of an older worker might become more attractive to a company. Figure 11 shows that the incidence of self-employment for older workers is generally higher in comparison with the whole labour market population.<sup>3</sup> These data also include those who are self-employed and have personnel (meaning that they are running a firm), but the majority is without personnel or at least with less than 10 employees. In any case, the proportion of self-employment among the population of 50-64 is the highest in the “low employment” countries, such as Greece, Portugal, Romania, and Italy. Self-employment is rarer among older workers in the “long employment” cluster, including in Estonia, Norway, Lithuania, Latvia, and Denmark.

**Figure 10. Temporary employees as percentage of the total number of employees, ages 25-49 vs. 50-64 (2010)**



**Figure 11. Self-employment as percentage of the total employment, ages 15-64 vs. 50-64 (2010)**



Source: Eurostat (2013).

<sup>3</sup> Data on self-employment specified for the population aged 25-49 is not available from Eurostat.

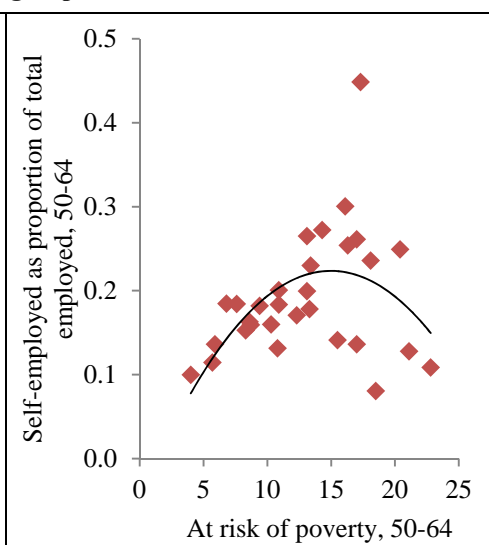
There is a substitution effect between self-employment and employment (Figure 12). Self-employment among older workers is relatively more common in countries where employment rates are lower (e.g. Greece, Portugal, Romania, Italy, Poland, and Croatia). There may be various explanations for this phenomenon. First, as employment options for older workers are fewer in these countries, self-employment might offer a suitable way of staying employed. Second, self-employed people are less able than their salaried compatriots to enjoy early retirement options, and thereby make up a larger part of the older workforce that remains active after 50. Third, being a salaried worker offers more security and comfort than being self-employed, and that is why in countries with less self-employment, more people stay employed after the age of 50.

In any case, the incidence of self-employment also appears to be related to the distribution of wealth in society and the risk of poverty. Figure 13 shows an almost concave shaped relation between poverty rates and the incidence of self-employment among the 50-64 population. Salaried employment is not an overall guarantee of having a low risk of poverty, as the three Baltic countries, Bulgaria, and Germany show. In “low employment” countries like Italy, Romania, Poland, Portugal, and Greece, self-employment still is no cure for poverty, but might actually contribute to preventing further deprivation.

**Figure 12. Self-employment as proportion of total employment vs. employment rates (2010)**



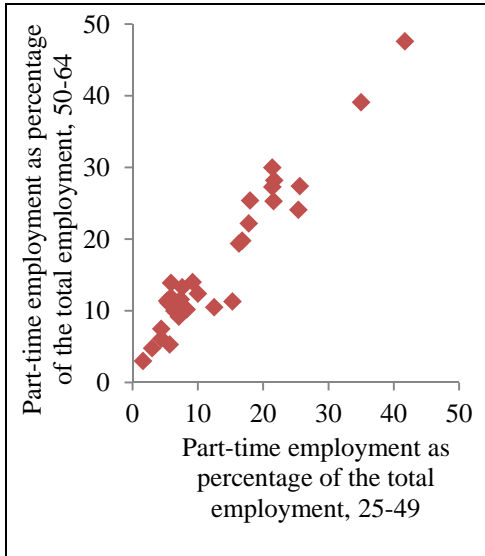
**Figure 13. Self-employment and the risk of poverty as percentage of population, age group 50-64**



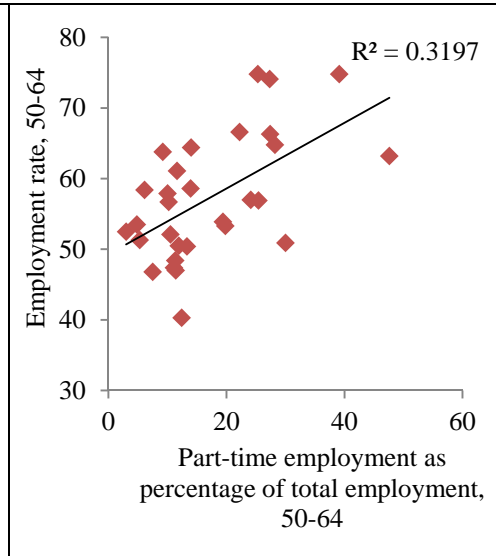
Source: Eurostat (2013).



**Figure 14. Part-time employment as percentage of the total employment, ages 25-49 vs. 50-64 (2010)**



**Figure 15. Part-time employment as percentage of total employment vs. employment rates (2010)**



Source: Eurostat (2013).

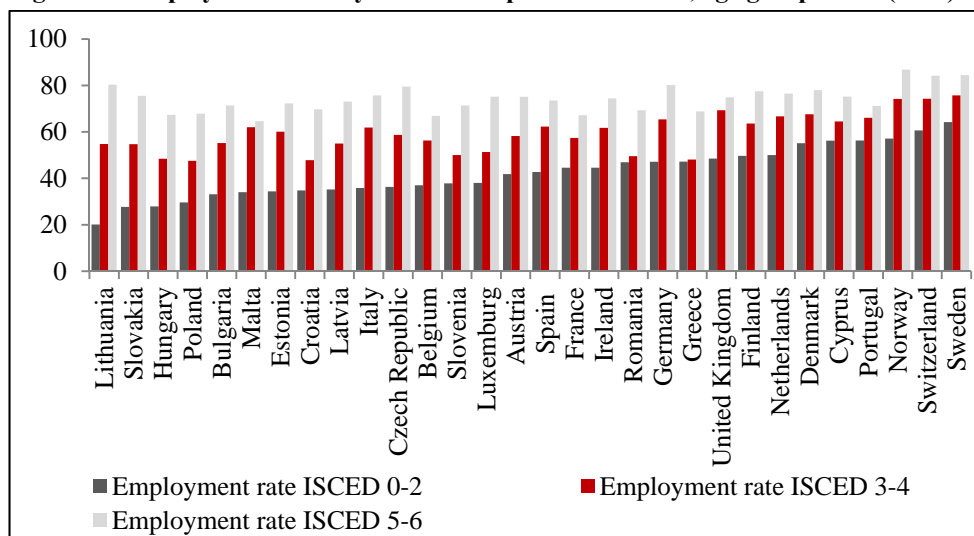
Another type of contract that affects older workers in particular, is the part-time contract. As we saw in the first logistic regression analysis, in some countries the availability of part-time contracts can induce workers to remain active on the labour market. Especially when workers suffer from deteriorating health or have less ability to work longer, the option to work fewer hours might be an attractive option. On the other hand, part-time work can also be involuntary and can lead to the situation where an older worker works fewer hours than he or she would like to. Figure 11 shows that in most European countries (apart from Spain, Italy, and Austria) part-time work is slightly more common among older workers than among the younger generations. The champion of part-time work is the Netherlands, followed by Switzerland, Belgium, the UK, Norway, Germany, Ireland, and Sweden. Part-time work is the least common among older workers in Bulgaria, Slovakia, Greece, the Czech Republic, and Hungary. Figure 15 shows a positive relation between part-time work and employment rates.

**Education and life-long learning**

Life-long learning constitutes an important part of European active ageing strategies. Continuous education and training can contribute to the continuous

development of workers' skills and prevent them from becoming obsolete. In this way, employers remain interested in employing older workers and the workers have more opportunities to remain mobile and autonomous, and thereby satisfied and secure, in their jobs. To start with, the level of education someone has intended has a great effect on the likelihood of working longer. As we already saw in the logistic regression models of sections 2 and 3, in a number of countries a higher level of education has a significant effect on the probability to be active on the labour market, as well as on the preference for remaining in paid work.

**Figure 16. Employment rates by level of completed education, age group 50-64 (2010)**



Source: Eurostat (2013).

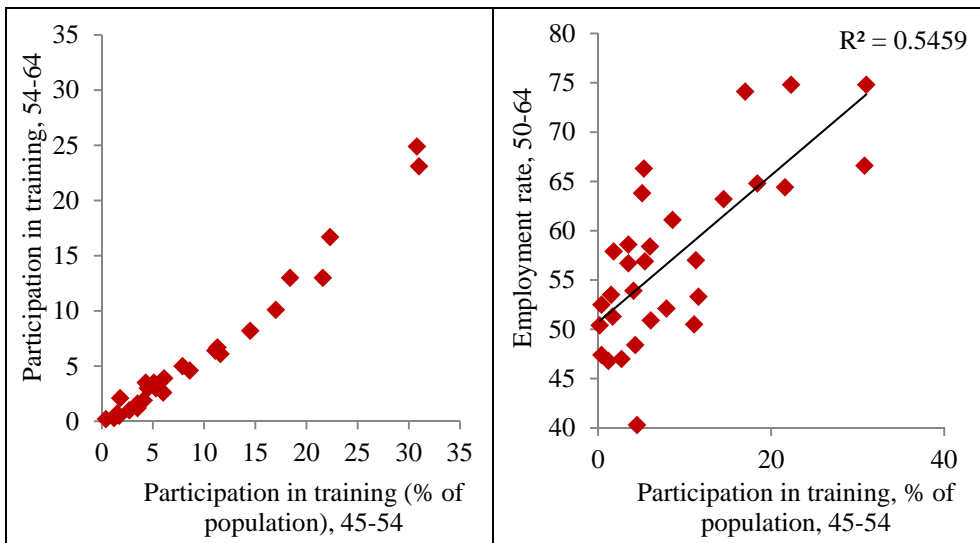
In all European countries, employment rates among those who have attended little education tended to be significantly lower than among those who have finished vocational, secondary, and especially tertiary education. Differences between countries are also large. Whereas employment rates among the lowest educated still are over 60% in Sweden and Switzerland, they are less than 30% in Poland, Hungary, Slovakia, and Lithuania. Among the higher education levels, differences between countries are smaller and do not necessary correlate with overall national employment rates for this age group.

Continuous participation in training throughout the life course is an important part of life-long learning. After the age of 50, however, participation in training among employees tends to decrease. Employers might not find it worth investing in their ageing employees human capital, as the returns from this might not outweigh the costs for the time that the employee will still be with

the organisation. Employees might not see the use in learning new skills at a later age. Figure 17 shows that for all countries counts that participation in training tends to decrease with age. The Nordic countries, Switzerland and the UK still perform relatively well among older workers, whereas very few of them participate in training in for instance Croatia, Hungary, Greece, and Poland. Figure 18 shows that there is a positive relation between the incidence of the participation in training and the employment rate. Obviously, when employment rates are low, less people work and need training for that reason. Fouarge and Schils (2009) have shown that the choice to participate in training among older workers much depends on their expected exit from the labour market. When expected returns outweigh the costs, people will choose to participate in training. However, they also conclude that, the other way around, training can contribute to keeping workers active in the labour market (p. 104). Furthermore, training may contribute to improving working conditions, including work autonomy, which we have shown to positively and significant contributes to labour market participation.

**Figure 17. Participation in training of age group 45-54 vs. age group 55-64**

**Figure 18. Participation in training of age group 45-54 vs. employment rate of age group 50-64 (2010)**



Source: Eurostat (2013).

## **3. SET and Activity of Elderly**

### **3.1. Description of SET**

We define a socio-ecological transition as a transition between two different societal energy regimes, as well as societal changes in the individuals' culture, consumption, preferences, and way of living (Fischer-Kowalsky et al, 2012). Energy transition is characterized as a transition away from fossil fuels regime, towards solar and other low carbon energy sources. In societal transition several co-dependent changes in the economy, the demography, the settlement patterns, the social relations and the very make-up of human personalities are observed. In effect, the challenge of a “new” socio-ecological transition for Europe may not just consist in greening the energy system and further improving efficiency, but be more fundamental in requiring substantial physical changes. It will consist of changes in the participation in labour force, social, economic, cultural, spiritual and civic affairs, and even in the ability to be physically active. Older people who retire from work, even ill or with disabilities can remain active contributors to the society, if proper policy measures are undertaken in advance.

We look at how the impact of SET could affect labour market activity among older workers. As a starting point, we take Fischer-Kowalski et al.'s (2012) scenarios of structural change that will impact the future of work. In short, in terms of the quality of work, they see an increase in the importance of physical work, especially in “new green jobs” in the following sectors: agriculture, forestry, construction, and trade and transport. Second, work based on empathy will increase, especially in the care sector, as a result of ageing populations. In terms of the institutional form of work, they foresee a changing balance between work, family, and other types of engagement (see Table 3). These trends can be expected to have ambiguous or even contradictory effects on the working lives of people in Europe. Whereas work in the “new green jobs” often entail heavy physical work and might force workers in these sectors to retire earlier because of health reasons, work in the care sector can be heavy and stressful as well, but might come paired with great intrinsic work motivation. Similarly, changing work-family balances could entice older workers to stay on the labour market longer, if embedded in the right structures and provisions, but it might as well draw people away from the labour market and into their family sphere.

**Table 3. Types of SET transitions**

<b>Quality of work transitions</b>	<b>Institutional form transitions</b>	<b>Type of employment transitions</b>
Increase of “new green jobs”	Changing work-family balance	Increasing need for autonomy
Increase of work based on empathy	Increase of non-gainful employment	Increasing use of part-time work

*Source:* Fischer-Kowalski et al. (2012).

The effects of these trends will be dependent on the institutional structures and other developments on the labour market within which they are taking place (as presented in the previous section), as well as the quality of the individual jobs (cf. Tuomi et al., 2001; Blanchet and Debrand, 2005). Under SET, it is likely that overall new types of contracts and flexibility within the jobs will be needed. In the previous section it was already shown that self-employment and part-time work tend to be more prevalent among older workers in most countries. It is expected that these are trends that will be reinforced by SET. If the share of physical and stressful work increases, one might counterbalance this with greater autonomy for older workers to handle these conditions (potentially in the form of self-employment). It has already been shown that difficult work conditions and lack of autonomy will lead to earlier retirement (Blanchet and Debrand, 2005; Anxo, Ericson, and Jolivet, 2012). The role of self-employment here is ambiguous, however, as in the previous section it has been shown that in countries with higher rates of self-employed, overall employment tends to be lower. Furthermore, the changing work-family balance and the shift to non-gainful types of employment may increase the demand for part-time work, in order to combine all different tasks. As already shown in the previous section and in the literature (cf. Gustman and Steinmeier, 2004), a reduction of working hours can contribute to longer working lives.

### **3.2. Labour Market**

In this section we look at the possible effects of the ongoing socio-ecological transition on the labour market activity of older workers, while controlling for a set of personal and job-related traits. A broad literature already exists on the effect of labour market institutions and policies on work-and-retirement decisions and labour market activity of older workers (for an extensive overview, see: Riedel and Hofer, 2013). In this section we are partly forced repeat some

of these exercises, but add variables and reinterpret them in the light of SET, hence the novelty of this paper and its relevance to the NEUJOBS project. Based on our results, we attempt to make some prognoses for future developments in labour market activity and retirement behaviour among older workers under the SET scenarios.

The analysis is performed on the ESS data of round 5 (2010-2011) for 24 countries. The ESS data has certain limitations in comparison with ELFS, EU-SILC, and SHARE, especially in terms of detailed labour market data, sample size and the possibilities for longitudinal analysis. The advantages however are that round 5 ESS data includes a detailed rotating module on “Work, Family, and Well-Being”. Moreover, the data is freely available. Sample sizes for the group of persons aged 50-64 can be considered large enough for our aims.

In this first logistic regression model with as a dependent variable whether some is active on the labour market or not. The respondents are asked in the survey what their main activity in the last 7 days has been. Those who have responded with “in paid work, “in education”<sup>4</sup>, “unemployed and actively looking for a job”, and “in community or military service” have been recoded as “active on the labour market”. Those who responded “unemployed, wanting a job but not actively looking for a job”, “permanently sick or disabled”, “retired”, “doing housework, looking after children or other persons”, and “other”<sup>5</sup> have been recoded as “inactive”. For each country the age group of 50-64 is analysed. One may argue that this is problematic and that this distorts the results, because not in all countries the statutory retirement is at 65 for both men and women, but well in advance of that. The aim of the analysis is to see what decides on activity before the age of 65, not before official retirement. Therefore, we see it as legitimate to keep 65 as a cut-off point for all countries.

The results are presented in Table 4. The sectoral shifts as a result of SET, are likely to have little effect as such on the labour market activity of older workers. The results for the dummies for work in the “**new green jobs**” and the **care sector** do not yield significant results for any of the clusters, apart from work in the care sector in the low-long employment sector, where working in care jobs increase the likelihood of being active in the labour market. In two of the individual countries, Lithuania and Slovenia, working in the “new green sector” significantly decreases the likelihood of being active.

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<sup>4</sup> Eurostat for example labels “in education” as inactive, but if someone attends education at an age of over 50, one might assume that this is employment related. In any case, the number in the sample is so small that it should not influence the results drastically.

<sup>5</sup> It is unclear what the category “other” includes, but we will assume that it is a type of inactivity.

In the work-family balance, taking care of children obviously becomes less of an issue for older workers, but the probability of the need for taking care of grandchildren, a spouse or other older family members increases, as we have seen in the previous section. In all clusters, **living with a partner who is employed** increases the likelihood of being employed themselves. This confirms the results of other studies that show that retirement decisions are often taken together when living with a partner (cf. OECD, 2006, p. 53).<sup>6</sup> **Social activity** figures as a substitute for labour market activity in the low employment clusters, but not significantly in the high employment clusters. It shows that labour market inactivity in these countries does not necessary lead to social exclusion, but can lead to other types of social engagement.

**Table 4. Logistic regression for factors influencing labour market activity of persons aged 50-64 per cluster**

	<b>High-short employment</b>	<b>Low-long employment</b>	<b>Low-short employment</b>	<b>High-long employment</b>
Green sector dummy	1.251	1.031	.748	.981
Care sector dummy	1.249	3.173**	1.390	1.361
Work autonomy	1.033**	1.047**	1.042**	1.018**
Contracted hours	.997	.995	.993	1.002
Social activity	1.121	.801**	.851*	.992
Living with employed partner	1.635**	1.384*	1.458*	2.103**
Gender	.711**	.434**	.450**	.647**
Age	.709**	.854**	.772**	.805**
Education	1.225**	1.115**	1.140**	1.214**
Health	2.508**	2.510**	3.525**	2.670**
N	2090	2076	1510	3068
Nagelkerke R <sup>2</sup>	0.48	0.31	0.42	0.36

*Note.* Indicated are the odds ratios for each of the independent variables, significant at \*p<0.05; \*\*p<0.01.

<sup>6</sup> A separate model was run with “living with partner” to check if it matters whether the partner was employed or not. In most cases, the explanatory power of the models was the same or higher with the “living with employed partner” variable. There were 3 countries where the model performed better with the “living with partner” variable instead: Spain, Greece, and Ireland. In these countries, living with a partner (regardless of whether they are employed or not) significantly decreases the probability of being active on the labour market. This effect could be explained by the traditional role of women in the family, taking care of housework or family members in these countries. Also the severity of the economic crisis might have an effect in these countries on couples being inactive together.

The work-family balance is also affected by the possibilities to work fewer hours to combine tasks in both spheres. In the previous section it was shown that countries where **part-time work** is more prevalent, employment rates among older workers tend to be higher. Whereas several studies have shown that the possibility to work fewer hours or part-time may lead to postponement of exit from the labour market (cf. Gustman and Steinmeier, 2004), the results from our logistic regression do not confirm this for the clusters.<sup>7</sup> The possibility to **work autonomously**, however, does have a significant effect for all the clusters. A shift to more autonomous jobs might contribute to more labour market activity among older workers. The link with self-employment can be made here. As shown earlier, countries with high rates of self-employment among the elderly generally have lower overall employment rates. Self-employed, however, generally score much higher on the work autonomy indicator than those who are salaried employees. Therefore, the promotion of self-employment among older workers might be an effective measure to increase overall activity rates.

All control variables are significant for all clusters (although not for all countries), confirming findings in most of the literature. **Women** are generally less likely to be active on the labour market over 50 than men. The closer one approaches the age of 65, the less likely one is to be active. Those with higher **education** are more likely to stay active on the labour market. Not surprisingly, the state of one's **health** is one of the most important predictors of labour market activity over 50.

As many European governments are restricting the possibilities of becoming inactive before the official retirement age, it will be more and more important that workers have physical and mental possibilities of making it until retirement. As we have seen in the first section of this paper, the institutional conditions for active ageing vary widely throughout Europe. Our first logit model focused on what affects whether a person between 50 and 65 years old is active on the labour market or not. It is not clear, however, whether inactivity is a voluntary choice of people in these countries or the result of either push or pull factors caused by the institutional environment. Table 5 below shows the percentages from the ESS data of those who have retired at the age of 50 or later and who would have preferred to stay in paid work. They left the labour force while having preferred to stay employed,. Greece has the lowest percentage, meaning that a large majority of people was rather content to retire. In Lithuania,

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<sup>7</sup> For some of the individual countries the amount of working hours has a significant effect. In Finland, Ireland, Slovakia and Slovenia, working less hours increases the likelihood of labour market activity significantly. For Switzerland and Lithuania, it is the other way around; working more hours increases the likelihood being active.



on the other hand, up to 42.5% indicated that they would have preferred to continue to work. The ranking is rather mixed in terms of the division into our clusters. Among the least eager to continue to work are countries like Greece, Cyprus, and Portugal that are situated in the low-long cluster, Bulgaria from the short-high cluster, but also Norway, the Netherlands, and Sweden from the high-long cluster. Also among the countries with high percentages of those who would have wanted to continue in paid work, Lithuania and Spain find themselves in the long-low cluster, whereas Germany, Estonia, the UK and Denmark belong to the high-long regime.

**Table 5. Preferred to continue in paid work, % of those who retired after 49**

Country	Preferred to continue in paid work (%)	Country	Preferred to continue in paid work (%)
Greece	9.6	Finland	23.8
Cyprus	12.9	France	25.3
Bulgaria	15.0	Poland	25.4
Norway	17.5	Slovakia	25.8
Portugal	19.1	Ireland	26.4
Netherlands	19.1	Hungary	26.5
Sweden	19.2	Denmark	27.4
Slovenia	19.7	United Kingdom	28.3
Belgium	20.4	Spain	30.9
Croatia	22.1	Estonia	35.3
Czech Republic	22.5	Germany	36.5
Switzerland	23.7	Lithuania	42.2

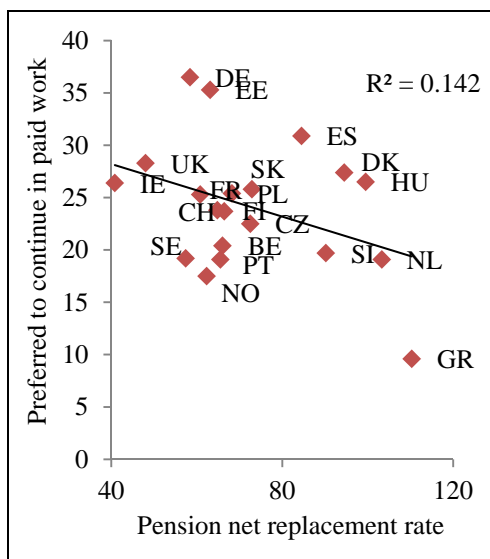
*Source:* Own calculations based on ESS data (2010).

When we plot the percentages of those who had preferred to continue in paid work against the net replacement rate of pensions, we can see that there is a rather weak correlation (Figure 19). Overall, countries with lower replacement rates tend to show that workers would have preferred to stay employed when they retired, but this result is somewhat driven by the strong outlier position of Greece. Figure 20 shows that the average exit age from the labour market is not related to whether workers would have preferred to continue to work. This means that there must be other factors that decide on the will of older works to stay active on the labour market. Therefore, we need to look again at personal characteristic and job traits.

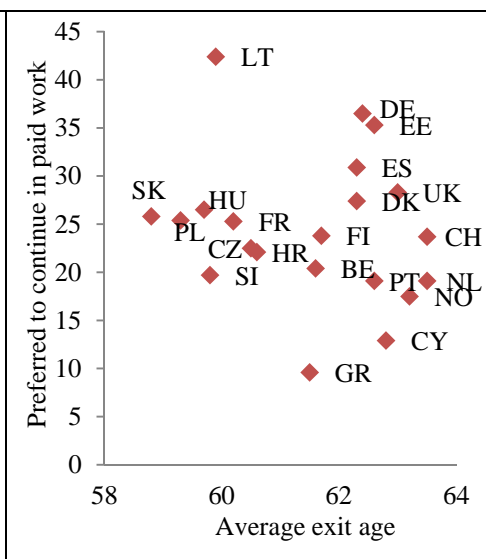
In order to account for the different institutional push and pull factors at a micro-level, we take “would have preferred to stay in paid employment or not” among those who retired after the age of 49 as a dichotomous dependent variable. Moreover, we check whether the SET-related factors can tell us anything

about voluntary retirement behaviour. Therefore, we include the same independent variables, complemented by the age of retirement and the feeling about income nowadays. Variables for “Health” and “Living with employed” partner cannot be included, because they refer to the moment when the respondent was interviewed and not to the moment when they retired. Unfortunately, there are no proper substitutes for these. The results of this logit regression are reported in Table 6. Again, an overview of the variables and results of the logit regressions analysis for each of the independent countries are available in the Annex.

**Figure 19. Pension net replacement rate vs. percentage that preferred to continue in paid work (%)**



**Figure 20. Average exit age vs. percentage that preferred to continue in paid work (%)**



Source: Own calculations based on ESS data (2010), Eurostat (2013), OECD (2011).

The **age at which one retired** has a significant effect on the attitude towards retirement and paid work in 3 of the clusters (not in high-short). In all cases, those who retired earlier tend to indicate that they would have preferred to stay in a paid job. In these cases it is suspected that (early) retirement is not an entirely voluntary decision for everyone. Especially in the “long” regimes, where the norm is to work until a later age, earlier retirement can bear a cultural stigma and usually is the result of factors outside of one’s own control. In the cluster where the effect of the retirement age is not significant, it can be expected that this can be explained by the fact that the majority retires relatively early. Also in some countries where the norm is to retire relatively late (such as Switzerland, Ireland

and Sweden), there is no effect of the retirement age on voluntary retirement, as the spread is relatively low.

The effect of the replacement rate of old-age pensions can be seen reflected in the level of **satisfaction with current income** in the high-short, low-short and high-long clusters. This effect can mostly be seen in countries where there is a relatively low level basic pension and higher variation in net replacement rates, through different occupational pension schemes or taxation. In these clusters, a lower replacement rate of pension benefits can motivate people to retire at a later age.

Working in the **sectors that are most affected by SET** has no significant effect, except for working in the “green jobs” sectors in the high-short cluster, where it decreases the likelihood of wanting to stay employed longer. These are often heavy physical jobs, making it unattractive for workers to stay employed longer.

**Social activity** is not significant as a substitute to employment, except to some extent in the high-long cluster. Here, people who engage more in social activities are less likely to have preferred to have stayed in paid work.

**Table 6. Logistic regression for factors influencing the preference to have remained in paid work among those who retired after the age of 50 per cluster**

	<b>High-short employment</b>	<b>Low-long employment</b>	<b>Low-short employment</b>	<b>High-long employment</b>
Retirement age	.983	.889**	.929**	.882**
Satisfaction with current income	1.360**	1.197	1.800**	1.549**
Work autonomy	1.025**	1.019*	1.009	1.001
Contracted hours	1.002	.994	.992	1.001
Social activity	1.038	1.146	.913	.852**
Green sector dummy	.451**	1.020	1.068	1.019
Care sector dummy	.629	1.942	.964	.870
Gender	.765*	.703	.719	.611**
Education level	1.005	.879*	1.063	1.075*
N	2004	1847	1074	2300
Nagelkerke R <sup>2</sup>	0.05	0.11	0.07	0.13

*Note.* Indicated are the odds ratios for each of the independent variables, significant at \*p<0.05; \*\*p<0.01.

The availability of **part-time work** as such is not expected to increase the motivation of older people to stay in paid work in any of the clusters. However, this result can be the effect of those who work part-time already work

longer and retire at a preferred age which is already later.<sup>8</sup> **Work autonomy** gives only significant positive effects in the high-short and low-long clusters. Here, having more autonomy at the job can induce workers to postpone their retirement.

Control for **gender** indicates that in the high-short and high-long clusters, men more often than women indicate that they would have preferred to have stayed in paid work. This effect may be due to the fact that in the high employment clusters, more women are employed than in the low employment clusters. The control for education is only significant in the low-long and high-long clusters, but having opposite effects. In the low-long cluster those with lower **education** are more likely to prefer to remain in employment, whereas in the high-long employment those with higher education are more likely to have remained in paid work. In the low-long cluster there is a strong negative correlation between the satisfaction with current income and education, so it might be that the effect of the skill-level is stronger than that of income in this model, as the variable for income is not significant in this cluster. In the high-long cluster, higher skilled generally prefer to remain in employment longer than lower skilled.

### **3.3. Beyond the Labour Market**

As stated in WHO (2002) report, there is a need to “increase the number of people participating actively as they age in the social, cultural, economic and political aspects of society in paid and unpaid roles and in domestic, family and community life” in order to improve their quality of lives and wellbeing. At present societal and economic lives undergo extensive transformations that influence people’s intensity in participating in several societal activities (Fischer-Kowalsky et al., 2012). Additionally, this intensity is also related to country-specific regimes that guarantee different level of institutional support. Consequently, the issue that need to be addressed it to anticipate in which direction SET would influence the elderly activity and in consequence, their well-being, under different welfare regimes. For example, Nordic countries assure extensive institutional support for the elderly, or families with children, while in Southern European countries, these initiatives lay mainly under the responsibility of the family. Therefore, one-fit-all policy addressed to increase

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<sup>8</sup> However, although correlations between number of working hours and retirement age are generally negative, they are not significant for any of the cluster and among the countries only significant for Germany.

the participation of the elderly in social and economic lives might not be efficient due to misleading assumptions in each of the group of countries.

The aim of this part is to complement the literature in this field by looking at the differences in the participation of the elderly in activities undergoing SET between different groups of countries. Our analysis is based on a Cluster distinction derived in Lis et. al (2013) report.

Analysing the participation of the elderly in activities related to SET at European level is a difficult task due to several data limitations, missing information or the difficulties in the comparability of information between countries. We make an attempt to analyse the phenomenon on large European cross-country dataset, namely the European Social Survey (ESS). The construction of ESS enables us to cover five years from the time period 2002 to 2010 and 17 European countries (Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovenia, Slovakia, Spain, Sweden, Switzerland and UK). We decide to consider only those countries for which we have all relevant information for all periods. We provide our analysis on a sample of people aged 50 plus.

Based on the literature, we divide the activity of the elderly in four categories:

1. The first one, called **labour market participation and retirement**, includes changes in employment participation and employment structure. The labour market participation of older people is important from a broad range of perspectives. For the individual, participation in the labour market can be associated with an increase in income and enhanced levels of life satisfaction, if work is a source of positive social contacts and engagement. At the macro level, higher participation among the elderly translate into a bigger labour force and hence increases potential output. The study of Fischer-Kowalsky et al. (2012) assumes that human labour patterns are influenced by socio-metabolic regimes that constantly take place. They prove that the existing transition phase away from fossil fuels regime (started in 1970s- the latest regime) changes the traditional well-established patterns of employment, increasing part-time work, unemployment and rising “flexibility”. They find out that in this regime working time per employee continues to decline in Europe. More generally, they admit that there are signs of erosion of traditional well-established patterns of employment, and rising insecurity, while no clear-cut new pattern has established itself. Given these two contexts, it is important to understand more deeply the differences in patterns and determinants of labour market participation among people over 50s between countries.

2. The second category includes **social engagement of the elderly**. There are many ways of describing older adults' engagement in social activities. In our paper, social engagement comprises participation in leisure activities, changes in the individuals' participation in religious services and voting behaviour. These activities are especially important for Europe as it is "an active expression of civic participation which strengthens common European values such as solidarity and social cohesion". (European Year of Volunteering, 2011). Community involvement makes older adults feel belonging to a society that values and appreciates them. Community support, both received and provided enables seniors to improve their self-efficacy, self-esteem and coping skills, as well as their overall quality of life. Community involvement represents therefore a crucial mediating element to achieve a condition of well-being along the ageing process (Philipson et al., 2011).
3. Thirdly, we consider older people as **members of their families and communities**. Consequently, we look at their engagement in home-works, caregiving and their community life. Social engagement through intergenerational activities can also play a positive role in the lives of both older adults and young people. It leads to multiple benefits across the generations (EC, 2011). However, societal transition is taking place in a context of pronounced decline of the traditional nuclear family and a rise of the two-earner, double-career unit, of divorced, single-person and single-parent households, with, as a consequence, also a rise in the share of single older people in the total population (Fischer-Kowalsky et al., 2012). It is unclear how the elderly participation in social life will be changed under different welfare regimes.
4. Last, we analyse the between-country differences in changes in the elderly **quality of life and human values**. We think that this is an important part of the transition, as changes in the way of living are closely related to changes in individuals' values and beliefs.

### **Changes in the elderly activity in different types of countries**

According to the study on active aging initiatives of older people in civil society (2002), strong differences are found with regard to health state, satisfaction, values, and perceptions which determine the readiness of older people for engagement in civil society and for supportive self-oriented voluntary activities. The activity levels of older people are generally higher in Norway and Great Britain and much lower in Poland and Italy. Taking all together,

the situation of older people seems to be relatively good in Scandinavian countries, Switzerland and Great Britain and rather bad and unsatisfactory in Poland and Italy. Also in our analysis, we do expect significant differences in the elderly participation in activities related to SET between countries, which can be traced back to the different welfare regimes. The aim of this part is to present the disparities in the elderly activities related to SET in different groups of countries, as described in Part 1. Table 7 summarizes the results of the descriptive statistics presented in Annex of this paper.

**Table 7. Labour market and social engagement of the elderly, by employment clusters**

Activity	Employment			
	High-short (C1)	Low-long (C2)	Low-short (C3)	High-long (C4)
<i>Labour market activity</i>				
Employment	Medium	Medium	Low	High
Unemployment	Medium	Medium	High	Low
Retired	Medium	Low	High	Medium
Full-time employment	Low	Medium	High	Medium
Unlimited duration contract	High	Low	High	High
<i>Social engagement of older people</i>				
Leisure	High	Low	Medium	Medium
Attendance in religious services	Low	High	High	Medium
Political activity	Low	Medium	Medium	High
<i>Family and community engagement</i>				
Housework, looking after children	Low	Medium	High	Medium
Meeting with friends	High	Low	Medium	High
<i>Quality of life</i>				
Happiness	High	Medium	Low	High
Loyalty	Medium	Low	High	Medium
Being rich	Low	Medium	High	Medium

Source: Own calculations based on ESS and SHARE databases.

### **Differences in labour market participation and retirement of older people**

The analysis of labour market situation is based on the question about self-reported labour market status, which reflects individuals' perception about their role in the labour market. Older workers do not form a homogenous group in terms of labour market participation and labour market patterns between countries (Table 7). The situation in the Nordic countries and some continental countries (Germany, Netherland) represented by Cluster 4 is the best, when

compared to other groups of countries. This Cluster is characterised by high employment and low unemployment rates, which are relatively stable over time. At the same time, a small decrease in the fraction of the elderly being employed on permanent basis is observed (from 82% in 2002, up to 78% in 2010). The worst labour market performance among the elderly is observed in countries from Cluster 3, characterised by low employment rates of people aged 50 plus, which drop quickly with age. This Cluster is characterised by high unemployment rate, high fraction of retired people and low employment rate. The fraction of employed remain stable over time (Table A1). The unemployment rate slightly decreases at the cost of increasing fraction of retired. The fraction of full-time employed and people with unlimited duration contracts are the highest in this Cluster, and do not change in time significantly. It indicates that people of poorer productivity which should have been employed on more flexible contracts are crowded out.

The results suggest that Nordic countries, with developed social protection system guarantee better stability for the elderly on the labour market during the transition. The labour market rigidity, which is higher in other groups of countries, makes the labour market situation of the elderly less favourable.

## **Disparities in social engagement of older people**

There are many ways of describing older adults' engagement in social activities. We limit social engagement to participation in leisure activities, change in the individuals' participation in religious services and voting behavior.

Solitary activities such as watching television and listening to the radio are the most popular leisure pursuits among older people in the whole Europe. The least commonly reported activity is still the use of internet; however its use is more common in Cluster 4 than in the rest of Clusters. The use of internet increases with time for the whole Europe. Again, the fastest increase is observed in Cluster 4 and the slowest in Cluster 2 (Figures A4 and A5).

Religion is another way in which people engage with their communities. This can occur through active participation in religious services, or the perception of belonging to a particular religion. Majority of people indicate that they are associated to a particular religion. However, attendance to religious services is much less common. About 50% of people attend religious services less than once a week in Cluster 1. The corresponding number is slightly higher in Cluster 4 and it accounts for about 60%. The highest fraction of people attending religious activities is observed in Cluster 2. The frequency of attending religious services slightly decreases with time in all Clusters (Figure A6). It confirms the fact that



the elderly also participate in the ongoing secularization of the society (The economist, 2010).

Voting is a civic form of social engagement. Significant differences are observed in the elderly interest in politics. Over 55% of the elderly from Cluster 4 express some interest in politics. This number is significantly lower in other countries and it accounts for about 40% in Cluster 1, 38% in Cluster 2, and 42% in Cluster 3. During the 2002-2010 year we observe falling interest in politics for all Clusters (Figure A7). Demographic ageing can have a significant impact on the structure and distribution of political preferences with regard to the (re)distribution of public resources (Wilkoszewski et al, 2009). A common argument here is that the political influence of the older voters will increase, which might produce pressures towards allocating an increasing share of public resources to policies targeted at the older cohorts. These two (potential) trends might work towards a strengthening of distributive conflicts, which might be further amplified by the current drive towards tight budgetary policies (Preston, 1984).

Summing up, in Clusters characterised by high employment rate (Clusters 1 and 4) people's engagement in social life (like voting, meeting with friends) is higher and their engagement in religious activities is lower. They are characterised by faster implementation of new technologies in the elderly use. In Clusters characterized by low employment rate (especially Cluster 3) people's political activity is relatively lower, their engagement in religious activities is high.

### **Older people as members of their families and communities**

The role of the family is often emphasized as a significant factor in elderly activity. Despite the household transformation, families still remain central organizing units for economic, emotional and care support of individuals. Older family members are often an increasingly important source to support for their families, however this support differs depending on the welfare regime of the country. Our results confirm that Cluster 4 is characterized by relatively low participation of the elderly in household activities, whereas this activity is the highest in Cluster 3. We observe slow decrease in household activities of the elderly in all Clusters for 2002-2010 years (Figure A8).

Findings presented here support a view that the decline of the traditional nuclear family goes hand in hand with the decrease of the elderly activities within families and communities. This result might constitute a starting point for a further discussion of how to enhance or substitute the elderly activity in their

communities, or how to convince younger household members to invite their older relatives to their social lives.

### **Differences in older people's quality of life and beliefs**

Figure A.9 shows that the majority of the elderly express themselves as being happy in all Clusters. This fraction accounts for around 90% among the Clusters 1, 2 and 4, and it is the lowest in Cluster 3. The fraction of people being happy slightly decreases in the whole Europe during the 2002-2010 years.

Human values, such as loyalty and care, are the most frequent values indicated in all Clusters. They are the highest among the Cluster 3 and the lowest in Cluster 4. These values decrease with time during the 2002-2010 years.

Summing up, the lowest fraction of people express themselves as being happy in Clusters characterized by low employment rate (especially Cluster 3). Loyalty is an important value for them, as well as being rich. In Cluster 4, characterized by the highest employment rate among the elderly, the level of happiness is the highest. People devote there less significance to human beliefs, like loyalty, and they do not consider being rich as a one of important human values.

### **Discussion**

The ambitious challenge of this part of the paper was to anticipate some possible fundamental changes in the elderly activity in SET in time and to distinguish disparities between groups of countries with different welfare regimes.

The main results indicate that the changes in the traditional well-established patterns of employment, i.e. increasing part-time work and increasing number of contracts with limited duration might affect the labour market activity of the elderly differently between countries. The increase in part-time employment among the elderly in Cluster 4, as well as their high employment rate, suggests that the type of welfare regime they have, facilitates the elderly adaptation of labour market activities influences by SET. On the other hand, the high fraction of unemployed, the unchanged and high fraction of full-time employed, or high fraction of unlimited duration contracts in Cluster 3 indicate that the labour market rigidity is still significant constrain in enabling smooth implementation of SET. Older adults are active respondents in societal engagement in the whole Europe, however, significant differences are observed between Clusters. While Cluster 4 is characterized by a faster adaptation to the introduction of new technologies into

the elderly lives, such a transformation is relatively lower in the rest of Clusters. Additionally, the elderly from Cluster 4 are more prone to participate in political life of their country than the elderly from other countries. Their involvement in religious activities is the lowest. To conclude, we might assume that despite the observed decline in societal cohesion and increasing fragmentation of society, the active aging strategies affect people toward civic engagement in all countries, but with different speed, which depends on the welfare regime of the country.

The elderly activity in their families and communities exhibits downward trends in all Clusters. It suggests that the decline of a traditional nuclear family has an impact on the elderly activity in this field of their lives. This might have an ambiguous effect on the elderly quality of lives in some Clusters. In countries of Cluster 4, where the participation in housework is relatively the lowest, the elderly should be affected the least. In countries, where the elderly activity in family lives is the highest, we might expect two opposite trends. The first one is that these people would feel excluded from their social life and exposed to social exclusion. On the other hand, we might assume that these people are forced to provide housework due to the lack of institutional help for families with children, or the elderly in need. When the magnitude of responsibilities is limited due to societal transformation, they might have more time on their own initiatives, which would keep them active and increase the quality of their lives.

One should note that this small piece of research constitutes only a starting point for the further analysis of the impact of the elderly participation in SET activities in the context of between countries differences. We highlight that this is an important aspect for policy makers, as significant between-countries differences are found. Nevertheless more research is needed in order to come up with consistent results on the nature of the change in elderly activities related to SET and country differences.

## **4. Policies for Activation of Older Persons – Case Studies**

After studying the participation of older persons in the labour market and the role of institutions on the activity we turn to present a few cases of policies aimed at increasing the activity of older people. We draw attention to existing policies which are the public answers to ageing. We focus the analysis also on the activity not directly related to labour market. We identify the best practices in increasing the activity of people aged 50+. Our purpose is to present a few cases of most recent and successful policies and not a complete critical review of the whole menu of available ones.

All identified policy examples come from countries with highest rates of employment at all ages – Denmark, Finland, Germany, Netherlands, United Kingdom and Sweden. It itself indicates that in order to maintain high level of employment, reasonable constructed multi-dimensional policies are needed. We first present the life-long learning programs for older workers as a tools aimed against the depreciation of human capital and the lack of incentives to invest in new competences. Then some initiatives of active employment services and tax-benefits labour market policies are presented. The reluctance of employers to employ older people is addressed by specific policies which we present next. The final part of the analysis is devoted to programs with less direct links to labour market: volunteering and the steps taken by non-government organisation.

### **Lifelong learning programmes for older workers**

In countries with high employment rate among older people governments provide programs, which main objective is to match the skills of older workers to labour market demand. Such programs have been implemented in Germany and United Kingdom. Finland goes one step further and to prevent mismatch on labour market creates programs, that support adult guidance and counselling services.

In Germany WeGebAU programme (abbreviation of Weiterbildung Geringqualifizierter und beschäftigter älterer Arbeitnehmer in Unternehmen)

has been implemented in 2006 and its main aim is to promote further training of employees, enhancing qualifications and updating older workers' skills. Project is directed to low-skilled workers aged 45 and over, that for at least 4 years have not been employed in their learned profession. An additional requirement is the size of the company. To be qualified to the programme the number of employees should not exceed 250. The project is administrated by The Federal Employment Agency (Bundesagentur für Arbeit - BA) and covers up to 75% of the employee training costs. The research conducted by the Institute for Employment Research (IAB) shows that 73% of surveyed companies see no need for upskilling and qualifying their employees. However, about 90% of employees are interested in further training. In 2011 about 5100 older workers were supported through WeGebAU and 85 % of the companies that used WeGebAU rated the results positively (Müller, 2012).

A similar program to WeGebAU was introduced in 2006 in United Kingdom. Train to Gain is the central project of the Government's skills strategy that aims at raising skill levels in the adult population by 2020. The programme consists of a few phases. At the first step Train to Gain helps employers identifying their training needs by providing skills brokerage service. After the recommendations given by the skills broker, employer can decide to train his employees. The training can be delivered in the workplace. Moreover, a full public funding of training for eligible employees is provided. For the rest of employees there are subsidies to some other training paid for by employers. There has been a substantial increase in the scale of training that seeks to respond to the needs of employers. In England, there had been over 143 thousand employer engagements with a skill broker by April 2009, which is equivalent to 6 per cent of employers. It resulted in that 1.25 million people had started training and over 55 thousand learners had gained qualifications. Similarly to German WeGebAU, the demand for training within the Train to Gain was lower than expected in the first two years. However, recent survey evidence suggests that a half of employers who took part in Train to Gain stated that they would have arranged training for their employees even in the absence of the programme (NAO, 2009).

In Finland government focuses on career planning and the smooth flow of information from employers to employees to prevent qualification mismatch among older workers. The OPIN OVI (eng. Door to Learning) is a set of projects, which have been carried out in Finland since 2008. The OPIN OVI is a national programme that aims to develop an accessibility of information, improve the quality of counselling services and enhance the competencies of teaching personnel in adult education and the persons responsible for developing employee skills in their workplace (Ministry of Employment and the Economy, 2010). The project is administrated by the 15 regional Centres for Economic

Development, Transport and the Environment, that operate within the administrative sector of the Ministry of Employment and the Economy. The OPIN OVI includes three large-scale subprogrammes: NUOVE, STUDIO and ERKKERI. THE NUOVE develops multi-channel services and a quality of counselling services. The STUDIO and the ERKKERI segments are aimed to develop the skills of trainers and educators of adults. The main advantage of the OPIN OVI is an action at the regional level. Over 30 regional projects result in both permanent and mobile service points, in particular telephone service points providing educational counselling and brochures on the adult education services are available in each region of Finland.

A significant part of lifelong learning programs participants are workers with extensive labour market experience. During their work career they accumulate specific human capital, so they might have problems with find job suitable for their qualification and they might need help. More problematic group in terms of finding a job is a group of older long-term unemployed, who have had long break from work. In countries with high employment rates among older people special employment services for older workers have been implemented.

### **Employment services for older workers**

One of the aims of the Danish 2006 Welfare Reform was to avoid the use of unemployment benefits as a pathway to early retirement. In 2011 the unemployment benefit for all unemployed people has been limited to a period of two years instead of the previous four, irrespective of age. Workers aged 55 and over, that exhausted maximum period of unemployment benefits, receive a right to a senior job. Senior job is a job with standard pay in the public sector in a municipality of person's residence. If the job is abolished, the municipality is obligated to offer another senior job to a person. Municipalities that provide senior jobs receive a subsidy of about DKK 123 922 (about 16.6 thousand Euro) yearly per a full-time senior job (OECD, 2012).

Besides providing a job, policies support job placement. One of the aims of German 'Perspektive 50plus' is to find regional solutions to convince the regional or local companies of the advantages of older workers (over 50 year old) even if they have had experience of long unemployment spell. The program involves the creation of regional employment pacts between job centers, companies, chambers and associations, social service providers, trade unions, municipalities, training institutions and churches (Duell & Vogler-Ludwig, 2012). Local pacts use a wide range of instruments addressed mainly to companies, for example special trainings and workshops, internships in companies, actions

aimed at adapting workplaces to special needs of the target group, wage subsidies for enterprises, time management trainings and publicity campaigns to raise awareness of the challenges of demographic change (OECD, 2008).

Perspektive 50plus, has been running from 2005 and it has recently been extended until 2015. In the first two years of this project more than 16 500 former long-term unemployed over 50 years of age found regular jobs (OECD, 2008). In 2011, more than 200 000 out of 550 000 older long-term unemployed people were activated and 70 000 of them were placed on the regular labour market jobs (Duell & Vogler-Ludwig, 2012).

Nowadays, beside traditional employment services, governments invest in online support for job seekers. On April 2012 new National Careers Service was launched in United Kingdom. Its main purpose is to offer employment advice and deliver information to people of all ages, with special counselling services for older workers. Counselling for older workers include a help of qualified career advisers. The greatest advantage of the National Careers Service is the availability for clients. It offers support via online, telephone and face-to-face in eight different languages.

### **Incentives for employers to retain and recruit older workers**

As a part of ALMP incentives for employers to retain and recruit older workers are constructed. The New Start Job programme in Sweden is aimed at increasing employment of those, who are most excluded from the labour market, such as unemployed at the age of 55 and over. Employers engaged in the New Start Jobs hire people from the target groups and are not required to pay social security contributions or payroll tax for the new recruits. The maximum duration of New Start Job is 5 years for regular participant, but for persons over 55 years the programme might last up to twice longer than a person has been absent from the labour market (till to 65 years of age).

In Germany employers receive incentives if they hire older people with special needs. Employers can receive wage subsidies to help integrate workers with special needs. The amount of the subsidy depends on the needs of the workplace and the extent to which a worker's productivity is reduced. The amount of the integration subsidy may not normally exceed 50 percent of the wage and may be paid for up to 12 months. If the subsidized employee is over 50 years old, the subsidy may be paid for 36 months (BMAS, 2011).

## **Older workers friendly tax-benefit systems**

Tax incentives and employment-benefits are a common tool to retain older worker at the labour market. They differ among countries but the common tendency is lowering tax wedge for older persons. In some of them older workers pay lower taxes, in others they receive subsidies or contributions to the statutory pension scheme.

In order to promote work at older ages and to delay retirement decisions two different labour tax credits for employers aged 65 or above were introduced in Sweden in 2007. Older workers received extra tax credit than other workers. Moreover, the additional tax credit for a worker at the 25th percentile of the earnings distribution in aged 65 or above, amounted to about 9 per cent of net earnings. The second is a payroll tax credit that reduces the payroll tax rate by about 16 percentage points, which is almost a half of the standard payroll tax which is about 30% in Sweden. The analysis of results of this policy suggest that employment rate for people aged 66 increased by 1.5 percentage points. However, the growth in employment was not large enough to offset the decline in tax revenue (Laun, 2012).

In Netherlands tax-benefit system younger and older workers are differentiated by tax rates. For the first two brackets tax rates are 33% and 42%, but for taxpayers aged 65 or older rates apply for the first two brackets are reduced to: 15.75% and 23.5%, respectively. In the United Kingdom most of the conditions of tax-benefit system are the same throughout a person's working life. But, the personal allowance depends on age. It is 11% higher than standard for persons between 65 and 75 years of age, and 13% higher for persons over 75, if the total income does not exceed 26.100 £ (in 2013).

An interesting way to encourage older to work has been applied in Germany. Older employees who terminate or avoid unemployment by taking on lower paid job get the right to insurance deductions and on top of that they receive additional wage subsidies and additional contributions to the statutory pension scheme. This subsidy is provided only for employees in age of 50 or above and only for limited time. The wage subsidy is 50 % of the monthly net wage difference in the first year of taking on the new employment and 30 % in the second year. Furthermore, lower old-age security is weakened by an additional subsidy for the contributions to the statutory pension scheme (BA, 2013).



## **Volunteering and popularization of physical activity**

In the face of progressive ageing process the labour market policies need to be complemented by effort to retain mental and physical health of people 50+. Greater social activity of people aged 50 and above is a method used for this purpose in discussed countries.

Danish government recognises the potential in older people and encourages them to help others. 'Well-being of the elderly locally' is a project funded by the Danish Ministry of Social Affairs (Naegele & Schnabel, 2010). The project is a continuation of the 'Elderly helping elderly' project that had started in 1996 and lasted for eight years. The target group of 'Well-being of the elderly locally' are people aged 60 and over. Less independent elderly become beneficiary of the project whereas more healthy are volunteers. The project is aimed at strengthening empowerment among the elderly volunteers and prevent loneliness among both the users and the volunteers. An evaluation among volunteers in 2005 showed that 76% of men and 73% of women active as volunteers stated that volunteering has encouraged them to become actively involved in other activities. According to an evaluation among users group in 2007, 76% of users felt that their quality of life had increased due to being part of the project, and 34% felt that their health had improved.

Moreover elderly volunteers can assist younger people. In 2010, the German government approved a National Strategy on the Promotion of Volunteering which includes the implementation of Volunteering Service for all Generations, a nationwide programme for volunteers of all age groups funded by the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (Ehlers, Naegele, & Reichert, 2011). The main purpose is to strengthen the relationship between people of different ages, dissemination of positive image of elderly in society. Young and old people meet in public space in their neighbourhood and can thus benefit from each other's various skills, experiences and interests.

In Finland The Ministry of Education and Culture and Ministry of Social Affairs and Health decided to start to promote the financing and development of older people's physical activity (Karvinen, Kalmari, & Koivumäki, 2011). The national policy programme aims to promote the well-being of Finnish older people with the help of physical exercise. The starting point is the promotion of comprehensive mobility of elderly including independent and/or assisted mobility in everyday life and physical exercise independently or in guided groups. The policy programme concerns older people who, according to current exercise recommendations, do not get enough physical activity for their health. Target groups include: (1) 60+ people going into retirement whose life style

has not included exercise and whose mobility decreases after retirement, (2) 75+ people living independently in their homes but whose independent coping is threatened by early problems of mobility, memory illnesses, depression or loneliness, (3) older people living in home services, service housing or long-term institutional care with decreased functional capacity and lowered mobility.

Elderly want to be active part of society even without government initiative. Interesting example comes from United Kingdom where Retired and Senior Volunteer Programme (RSVP) was created. RSVP is a part of the Community Service Volunteers (CSV), UK volunteering and learning charity. RSVP started its activities 1988. It aims to encourage anyone aged 50 years or more to participate in volunteering. Nowadays RSVP has over 10000 members in Wales, England and Scotland. RSVP volunteers are involved in all manner of projects which benefit the community, like children education, maintaining and improving public spaces to providing domestic gardening services, knitting clothing for premature babies and much more.

**Table 8. Review of programs for activation older persons**

Country	Type of activation of older persons				
	Lifelong learning programmes	Employment services	Tax-benefit systems	Incentives for employers	Volunteering and popularization of physical activity
Denmark		Senior Job: since 2006 providing jobs for unemployment people age 55+			Well-being of the elderly locally: – since 1996 – elderly help other elderly The Spare Grandparents Programme: – since 1996 – elderly volunteer support single parents
Germany	WeGebAU: since 2006 training of low-skilled and older employees in companies	Perspective 50plus : since 2005 offering jobs for older long-term unemployed persons	2011-2013 wage subsidies for older employers	subsidies for employers hiring older people with special needs	

Country	Type of activation of older persons				
	Lifelong learning programmes	Employment services	Tax-benefit systems	Incentives for employers	Volunteering and popularization of physical activity
Finland	OpinOvi: 2008-2013 developing counselling services for adults to securing the availability of skilled manpower				The National Policy Programme for Older People's Physical Activity: – since 2012 – popularization of physical exercise
Netherlands			since 2001 lower tax rates for taxpayers in age 65+		
United Kingdom	The Train to Gain: since 2006 support employers in improving the skills of their employee	National Careers Service: since 2012 advice on job search for older workers	since 2000 higher personal allowance for people in age65+		Retired and Senior Volunteer Programme: – since 1988 – activities from children education to social care
Sweden			since 2007 tax credit for workers who have turned 65	New-start jobs: since 2007 payroll tax exemption for employers hiring unemployed in age 55+	

Source: Own elaboration.

## 5. Conclusions

Countries differ in the activity of elderly which is closely related to labour market institutions. We show the main sources of the between-countries variation of employment rate, which go much in line with literature consensus. The core of our analysis relates SET to economic and non-economic activity of persons aged 50+.

We show that the causes for labour market activity among the older segment of the labour market can never be reduced by just personal traits, job characteristics or the presence of certain institutions or policies. Employers and employees take decisions in complex environments and have to outweigh different options. We point out that not in each European country the same individual and job characteristics have the same effect on labour market participation and retirement. Health and age matter in all countries, but other factors such as gender, education, and income have different effects in different countries. Under certain conditions people are more conducive for working longer than under others. Benefit systems, taxes, legislation, labour market structure, education, the availability of training: they all differ per European country and all seem to affect the labour market activity of older workers to different extents.

We found out that the effect of the replacement rate of old-age pensions can be seen reflected in the level of satisfaction with current income. A lower replacement rate of pension benefits can motivate people to retire at a later age. On the other hand working in the sectors that are most affected by SET has no significant effect, except for working in the “green jobs” sectors in the high-short cluster, where it decreases the likelihood of wanting to stay employed longer. These are often heavy physical jobs, making it unattractive for workers to stay employed longer. The age at which one retired has a significant effect on the attitude towards retirement and paid work. Additionally, countries with lower replacement rates tend to show that workers would have preferred to stay employed when they retired, but this result is somewhat driven by the strong outlier position of Greece. Labour market inactivity in these countries does not necessary lead to social exclusion, but can lead to other types of social engagement.

The main results indicate that the changes in the traditional well-established patterns of employment, i.e. increasing part-time work and increasing number

of contracts with limited duration might affect the labour market activity of the elderly differently among countries. The results suggest that Nordic countries, with developed social protection system guarantee better stability for the elderly on the labour market during the transition. The labour market rigidity, which is higher in other groups of countries, makes the labour market situation of the elderly less favourable. The labour market rigidity in still significant constrain in enabling smooth implementation of SET.

Older adults are rather active respondents in societal engagement. Their activity in volunteering, religious services or political engagement is at relatively high level despite the observed decline in societal cohesion and increasing fragmentation of society. Again we might assume that the active aging strategies affects people toward civic engagement. The elderly activity in their families and communities exhibits a downward trends. The fraction of the elderly participating in housework as well as in friends' meeting decreases, suggesting that the decline of a traditional nuclear family has an impact of the elderly activity in this field of their lives.

We have found significant differences in activities of older persons among countries with diversified labour market participation rates. In clusters of countries where employment rate is high, people's engagement in social life is higher as well. These people express more happiness, loyalty is of less significance for them, and they do not consider being rich as a one of important value. Their engagement in housework is lower. Contrary, in clusters characterized by low employment rate, people's political activity is relatively lower, their engagement in housework is high, loyalty is an important value for them, as well as being rich. Their level of happiness is relatively the lowest.

Despite the observed decline in societal cohesion and increasing fragmentation of society, the active aging strategies affect people toward civic engagement in all countries, but with different speed, which depends on the welfare regime of the country. Engagement in social life (like voting, meeting with friends) goes in line with economic activity and against engagement in religious activities is lower. High economic and social activity is connected with faster implementation of new technologies in the elderly use.

The decline of the traditional nuclear family goes hand in hand with the decrease of the elderly activities within families and communities. This result might constitute a starting point for a further discussion of how to enhance or substitute the elderly activity in their communities, or how to convince younger household members to invite their older relatives to their social lives

In countries, where the elderly activity in family lives is the highest, we might expect two opposite trends. The first one is that these people would feel excluded

from their social life and exposed to social exclusion. On the other hand, we might assume that these people are forced to provide housework due to the lack of institutional help for families with children, or the elderly in need. When the magnitude of responsibilities is limited due to societal transformation, they might have more time on their own initiatives, which would keep them active and increase the quality of their lives.

The presented case studies of activation policies show that in countries with high employment rates among people 50+ complex policy measure have been applied. There are examples of successful policies of retaining older persons at work, delaying the retirement decision, easing the wage loss associated with the job change and rising qualification of persons older than 50. Public support is also used to address social and physical health issues of older persons and also some private initiative support volunteering activities which increase intergeneration bounds. Countries with lower employment rate for persons after 50 lack also appropriate policies to cope with aging.

## **Bibliography**

Anxo, D., Ericson, T. and Jolivet, A. (2012). Working longer in European countries: underestimated and unexpected effects. *International Journal of Manpower* 33 (6), 612-628.

Barrett, A. Savva, G., Timonen, V. and R.A. Kenny, 2011, *Fifty Plus in Ireland, 2011, First Results from the Irish Longitudinal Study on Ageing (TILDA)* [http://www.tcd.ie/tilda/assets/pdf/glossy/Tilda\\_Master\\_First\\_Findings\\_Report.pdf](http://www.tcd.ie/tilda/assets/pdf/glossy/Tilda_Master_First_Findings_Report.pdf)

Blanchet D. and Debrand T. (2005). Retirement intentions, health and satisfaction at work: a European comparison. *IRDES: Issues in Health Economics*, no. 103.

BMAS. (2011). *Social Security at a Glance*. Bonn: Federal Ministry of Labour and Social Affairs.

De Vos, K., Kapteyn, A. and Kalwijn, A. (2011). Disability insurance and labour market exit routes of older workers in the Netherlands. *NBER Working Paper*, no. 17053.

Debrand, T. and Sirven, N. (2009). What are the motivations of pathways to retirement in Europe: Individual, familial, professional situation or social protection systems? *IRDES Working Paper*, no. 28.

Duell, N., & Vogler-Ludwig, K. (2012). *Employment policies to promote active ageing*. Germany. European Employment Observatory.

Duval, R. (2003). Retirement behaviour in OECD countries: Impact of old-age pension schemes and other social transfer programmes. *OECD Economic Studies* 37 (2), 7-50.

Ehlers, A., Naegele, G., & Reichert, M. (2011). *Volunteering by older people in the EU*. Dublin: European Foundation for the Improvement of Living and Working Conditions.

ESS Round 5: *European Social Survey Round 5 Data (2010)*. Data file edition 3.0. Norwegian Social Science Data Services, Norway – Data Archive and distributor of ESS data.

Eurofound (2011), *Volunteering of the elderly*, <http://www.eurofound.europa.eu/pubdocs/2011/34/en/1/EF1134EN.pdf>

Eurofound (2012). *Income from work after retirement in the EU*. Luxembourg: Publications Office of the European Union.

European Commission (2012). EEO review: Employment policies to promote active ageing 2012. Luxembourg: Publications Office of the European Union.

European Commission The social dimension of the Europe 2020 strategy. Report of the Social protection committee, Directorate-General for Employment, Social Affairs and Inclusion, 2011.

Eurostat (2013). Online structural indicators database. Brussels: Eurostat. [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database).

Euwals, R., Van Vuren, A. and Van Vuuren, D. (2012). The decline of substitute pathways into retirement: Empirical evidence from the Dutch health care sector. *International Social Security Review* 65 (3), 101-122.

Fischer-Kowalsky, M., Haas, W., Wiedenhofer, D., Weisz, U., Pallua, I., Possanner, N. and A. Behrens (2012), "Socio-Ecological Transitions: Definition, Dynamics and Related Global Scenarios", NEUJOBS Working Paper.

Fouarge, D. and Schils, T. (2009). The effect of early retirement incentives on the training participation of older workers. *LABOUR* 23 (special issue), 85-109.

Gruber, J. and Wise, D. (1997). Social security programs and retirement around the world. NBER Working Paper, no. 6134.

Gustman, A. and Steinmeier, T. (2004). Minimum hours constraints, job requirements and retirement. NBER Working Paper, no. 10876.

Hank, M. and K. Erlinghagen, (2005), "Participation of older European in volunteer work", MEA discussion papers, Mannheim, University of Mannheim.

Inderbitzin, L., Staubli, S., and Zweimüller, J. (2013). Extended unemployment benefits and early retirement: Program complementarity and program substitution. IZA Discussion Paper, no. 7330.

Karlström, A., Palme, M., and Svensson, I. (2008). The employment effect of stricter rules for eligibility for DI: Evidence from a natural experiment in Sweden. *Journal of Public Economics* 92, 2071-2082.

Karvinen, E., Kalmari, P., & Koivumäki, K. (2011). The National Policy Programme for Older People's Physical Activity. Ministry of Education and Culture.

Kyyrä, T. (2010). Early retirement policy in the presence of competing exit pathways: Evidence from policy reforms in Finland. VATT Working Papers, no. 17.

Laun, L. (2012). The effect of age-targeted tax credits on retirement behaviour. Uppsala: Institute for Evaluation of Labour Market and Education Policy.

McCloughan, P., Batt, W.H., Costine, M., and D. Scully, 2011, Participation in volunteering and unpaid work. Second European Quality of Life Survey,



European Foundation for the Improvement of Living and Working Conditions, Dublin.

Ministry of Employment and the Economy. (2010). National Development Programmes. Ministry of Employment and the Economy.

Müller, W. (2012). Sustaining employability through learning – Benefits of investing in ageing workers. Bundesagentur für Arbeit.

Naegele, G., & Schnabel, E. (2010). Measures for social inclusion of the elderly: The case of volunteering. Dublin: European Foundation for the Improvement of Living and Working Conditions.

NAO. (2009). Train to Gain: Developing the skills of the workforce. London: National Audit Office.

OECD (2006). Ageing and employment policies: Live longer, work longer. Paris: OECD Publishing.

OECD (2008), Perspective 50plus – Employment pacts for older workers in the regions. OECD. OECD (2011). Pensions at a glance 2011: Retirement-income systems in OECD and G20 Countries. Paris: OECD Publishing.

OECD (2012)a. Employment and Labour Market Statistics. Employment Protection Legislation: Strictness of employment protection legislation: overall.

OECD (2012)b, Thematic Follow-up Review of Policies to Improve Labour Market. Denmark. OECD.

Philipson, C., 2011, Societal networks and social support in later life, in C. Philipson, G. Allan and D. Morgan (eds.), Social Networks and Social Exclusion: Sociological and Policy Perspectives, The Handbook of Health Psychology, New York, NY: Oxford University Press.

Preston, S. 'Children and the Elderly: Divergent Paths for America's Dependents.' *Demography*, N°. 21, pp.435-57, 1984

Riedel, M. and Hofer, H. (2013). Determinants of the transition from work into retirement. NEUJOBS Working Paper, no. 17.1.

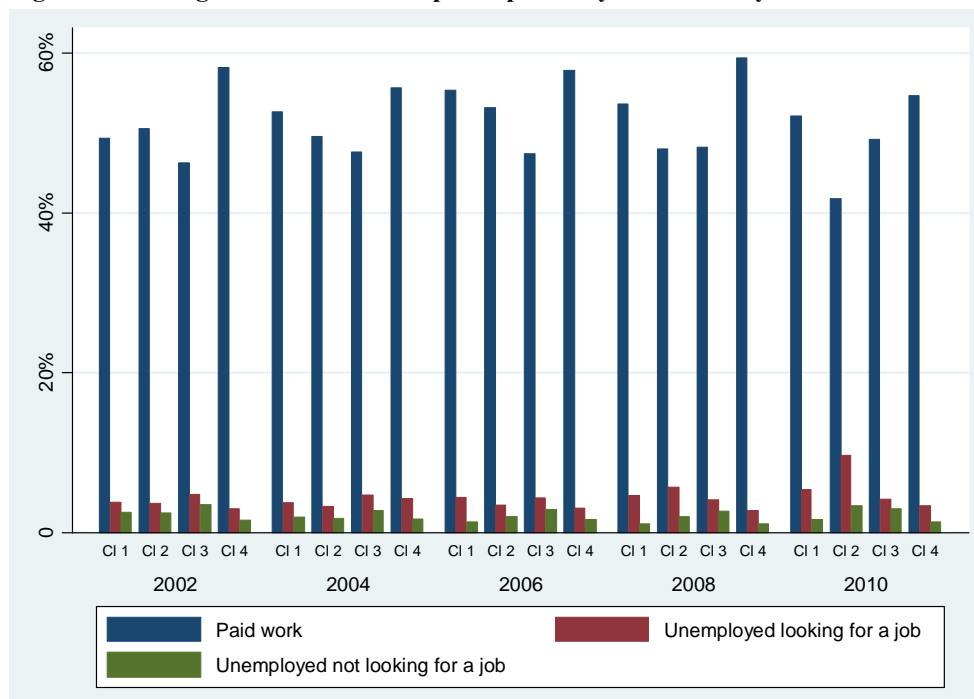
Staubli, S. (2009). Tightening the purse string: The effect of stricter DI eligibility criteria on labour supply. Institute for Empirical Research in Economics, University of Zurich, Working Paper, no. 458.

Stiglitz J., Sen, A. and Fitoussi, J.P. (2009), Report by the Commission on the Measurement of Economic Performance and Social Progress

Wilkoszewski, H. 'Age Trajectories of Social Policy Preferences Support for Intergenerational Transfers from a Demographic Perspective', MPIDR Working Paper 2009-034, Rostock: Max Planck Institute for Demographic Research, 2009

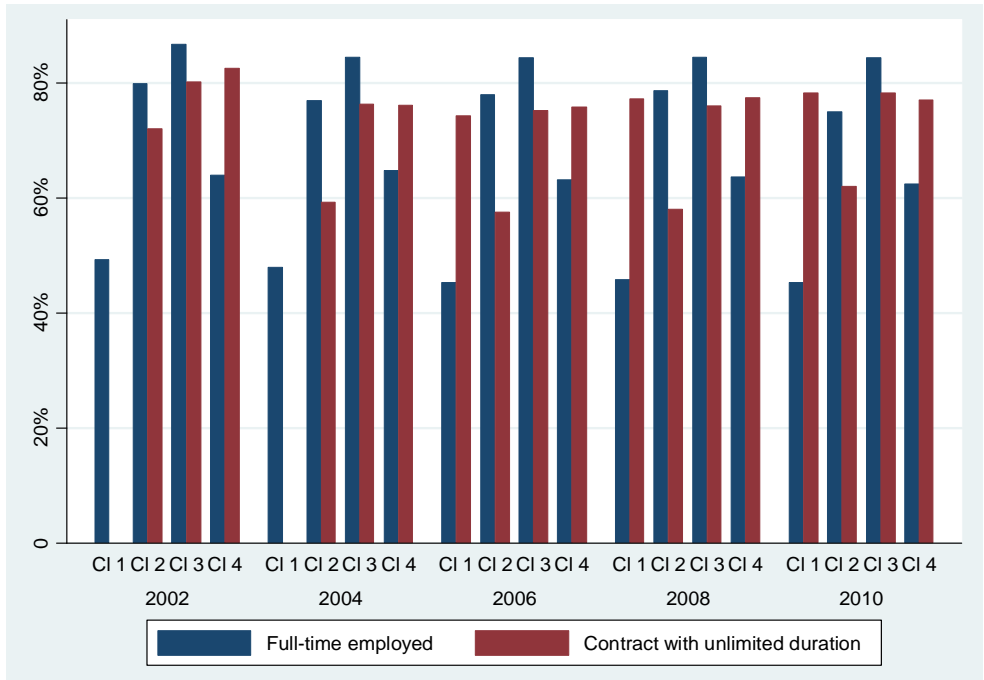
# Annex

**Figure A1. Changes in labour market participation by Cluster and year**



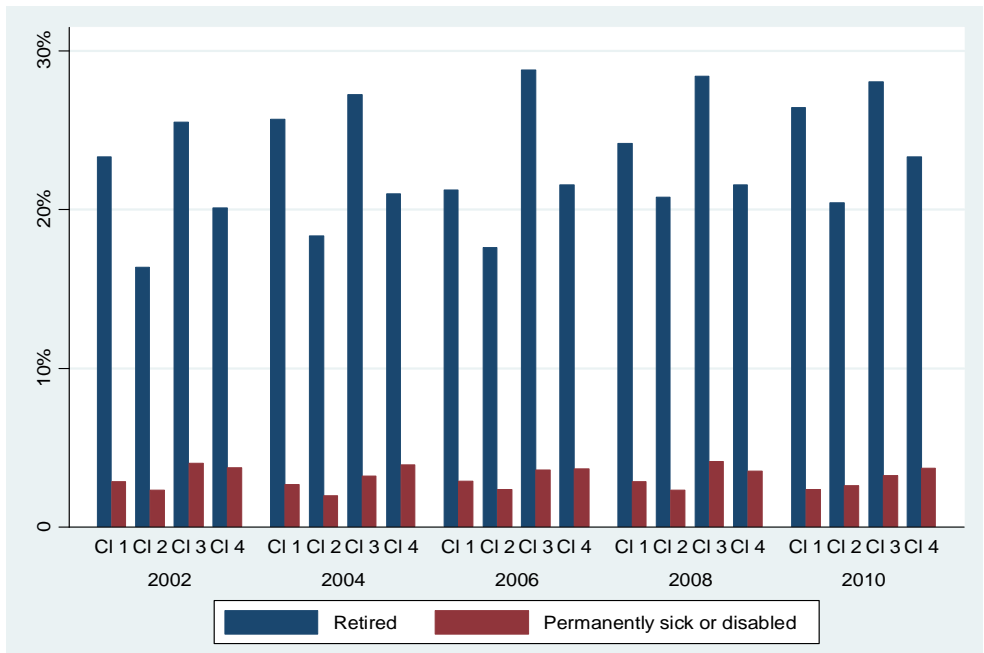
Source: Own calculations based on ESS database.

**Figure A2. Changes in employment structure by Cluster and year**



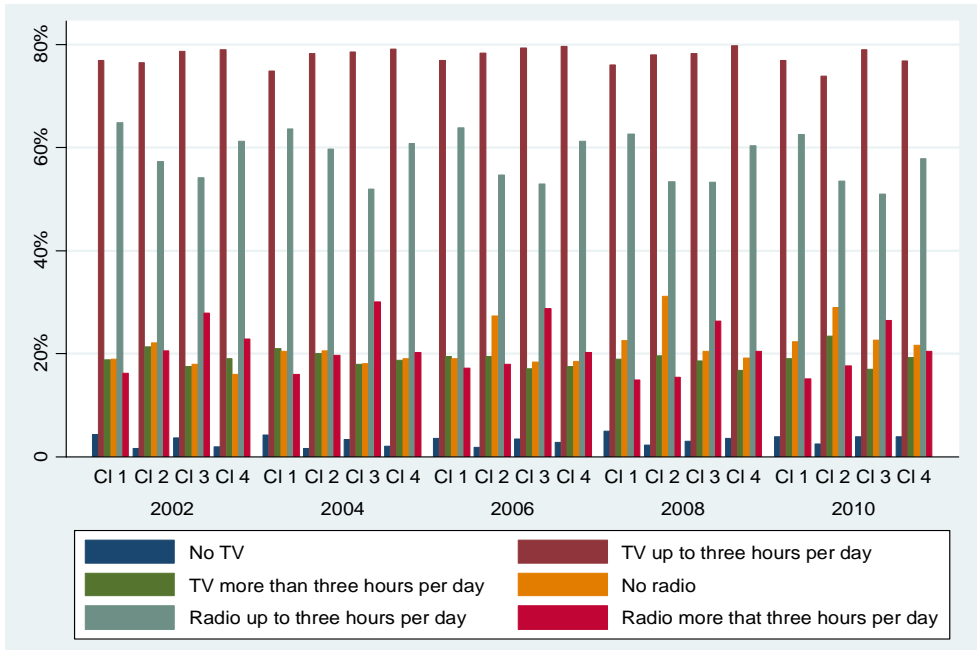
Source: Own calculations based on ESS database.

**Figure A3. Changes in retirement by Cluster and year**



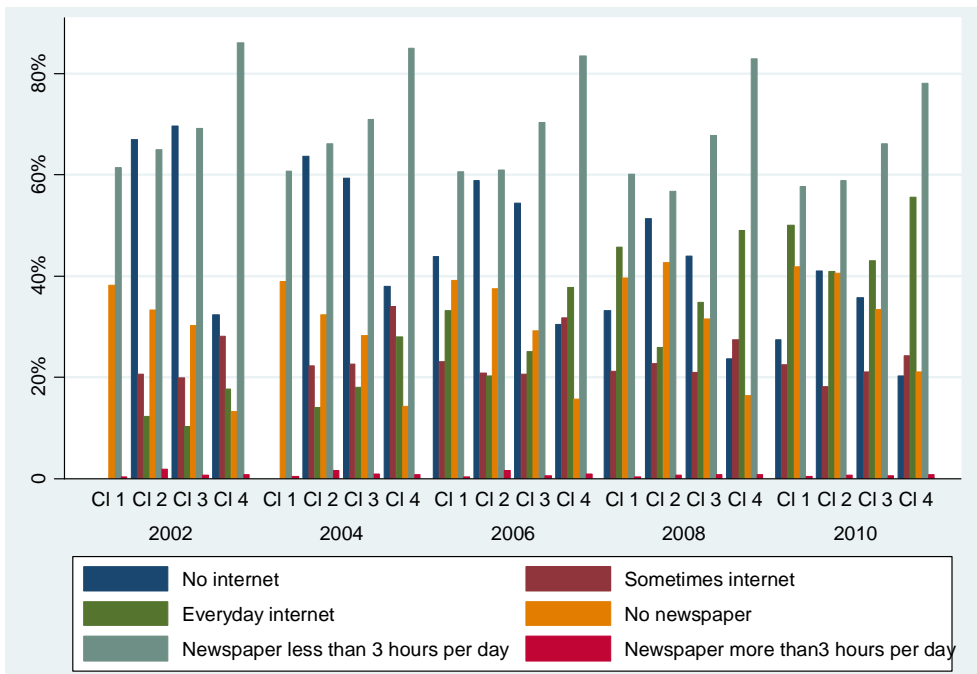
Source: Own calculations based on ESS database.

**Figure A4. Changes in leisure by Cluster and year**



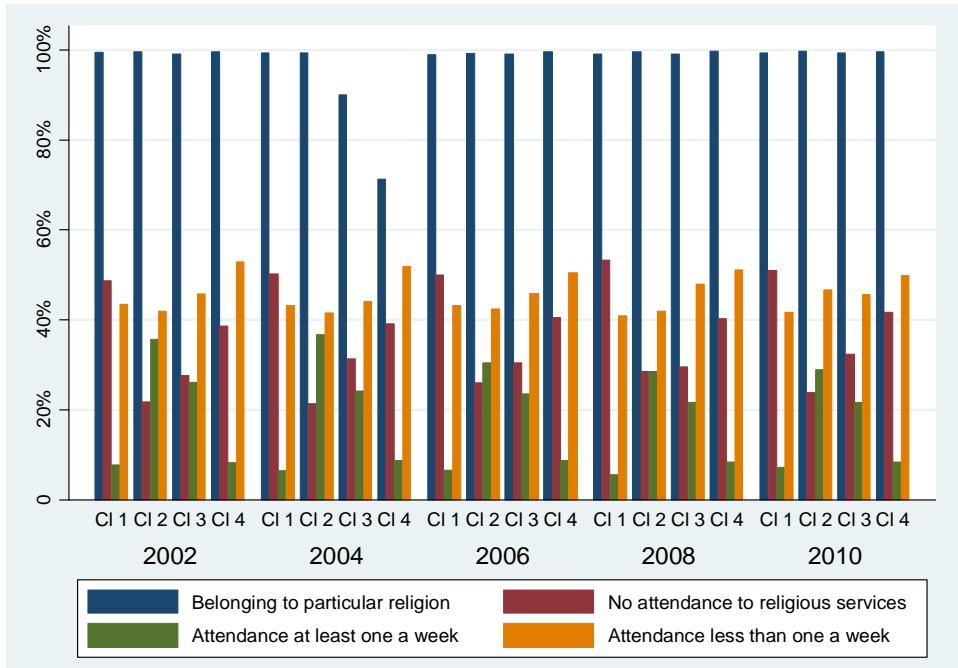
Source: Own calculations based on ESS database.

**Figure A5. Changes in leisure II by Cluster and year**



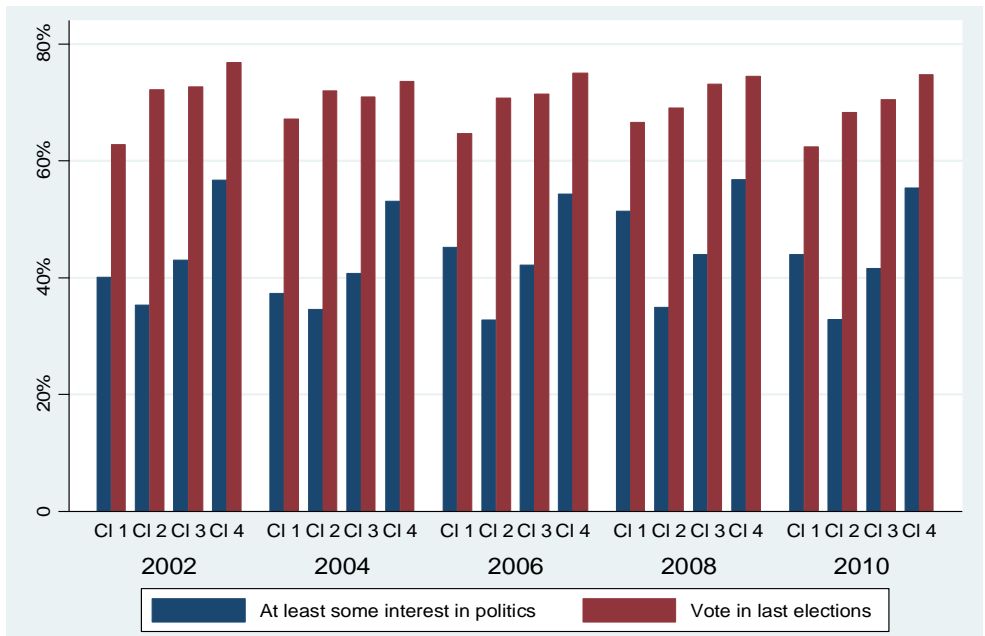
Source: Own calculations based on ESS database.

Figure A6. Changes in attendance in religious services by Cluster and year



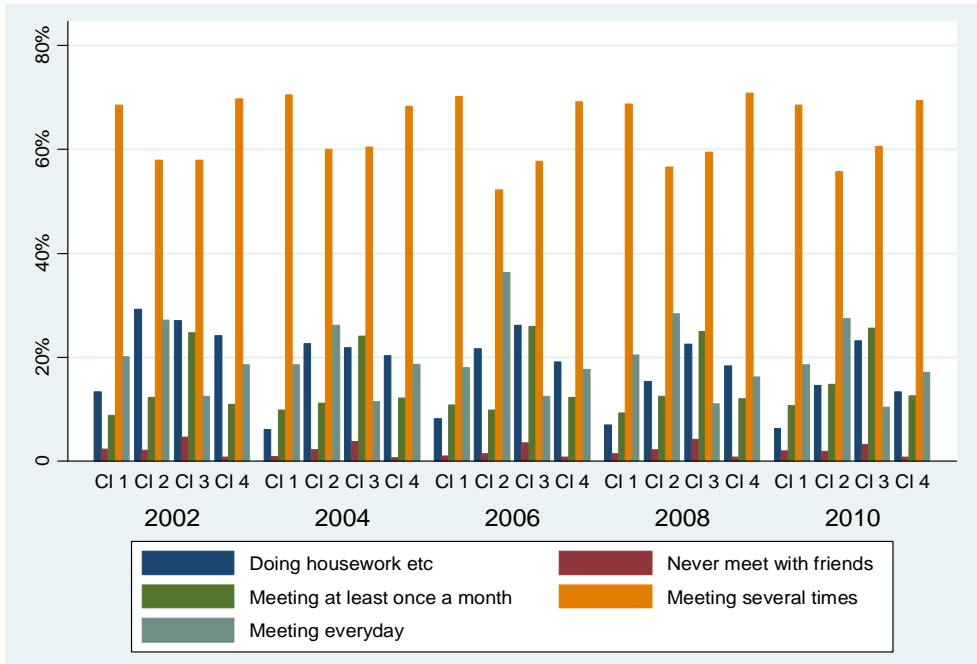
Source: Own calculations based on ESS database.

Figure A7. Changes in political activity by Cluster and year



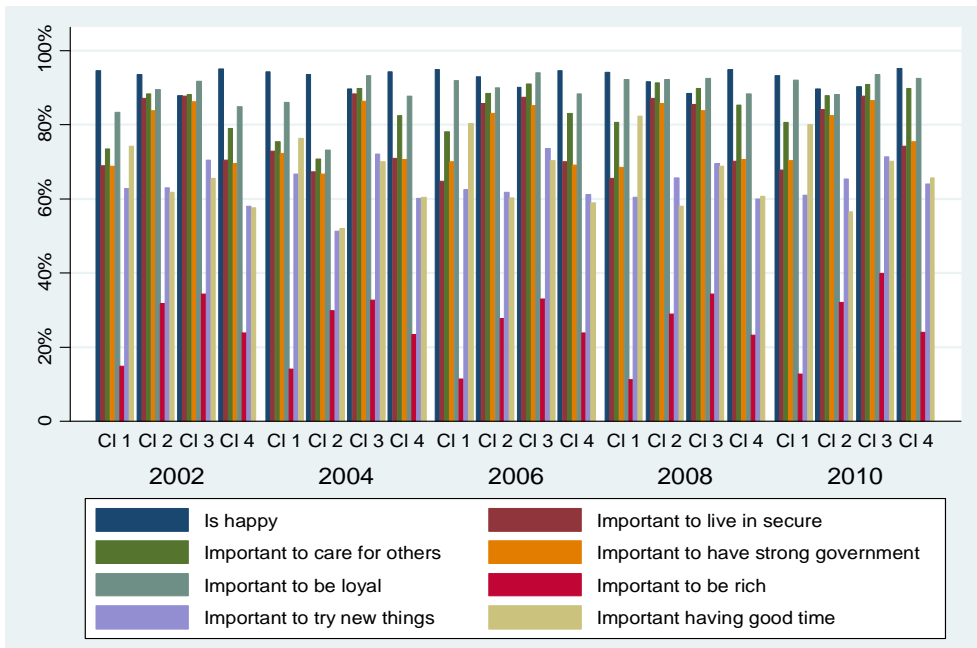
Source: Own calculations based on ESS database.

**Figure A8. Changes in family and community life by Cluster and year**



Source: Own calculations based on ESS database.

**Figure A9. Changes in people's happiness and their human values**



Source: Own calculations based on ESS database.

**Table A1. Logistic regression for factors influencing labour market activity of persons aged 50-64 per country**

Country	Green sector	Care sector	Work aut.	Contracted hours	Social activity	Empl partner	Gender	Age	Level of edu	Health	N	Nagelkerke R <sup>2</sup>
Belgium	.580	2.149	1.046**	.990	.976	2.507**	.497*	.770**	1.050	3.157**	400	.450
Bulgaria	1.325	1.269	1.025*	.998	1.013	.821	.590**	.783**	1.313**	2.889**	625	.357
Switzerland	.821	.540	1.035*	1.056**	.899	1.543	.935	.786**	1.192	1.968**	352	.345
Cyprus	.584	1.986	1.065**	.955	.976	.609	.266**	.837**	.883	3.436**	185	.391
Czech R	.982	1.370	1.045**	.969	1.225	1.323	.328**	.667**	1.183	2.785**	544	.550
Germany	1.122	1.428	1.007	.998	1.014	2.147**	.637*	.791**	1.269**	2.468**	704	.365
Denmark	.956	1.289	.998	.998	.874	2.851**	.603	.747**	1.024	5.397**	382	.460
Estonia	.446**	2.814	1.016	.997	1.178	1.155	.630	.771**	1.154	2.486**	391	.406
Spain	.935	4.131*	1.058**	1.001	.727*	1.236	.430**	.866**	1.152	3.050**	322	.336
Finland	1.247	1.444	1.061**	.970**	.901	1.418	.883	.704**	1.197*	4.438**	472	.526
France	1.304	1.181	1.039**	.996	1.170	1.726	.865	.697**	1.211*	2.435**	425	.492
UK	1.314	4.375**	1.021	.997	1.146	1.871**	.379**	.822**	1.114	3.733**	508	.389
Greece	1.543	-	1.055**	1.005	.872	1.210	.356**	.771**	1.027	.909	375	.345
Croatia	1.463	6.145**	1.035	.991	.843	1.904*	.425**	.731**	1.807**	2.592**	345	.524
Hungary	.945	1.238	1.035*	.974	.972	2.591**	.746	.711**	1.111	3.536**	386	.533
Ireland	.959	1.884	1.059**	.959**	.955	1.125	.184**	.887**	1.051	3.249**	473	.338
Lithuania	.252**	1.009	1.041*	1.066*	1.001	3.310**	1.378	.706**	1.286*	1.544*	311	.510
Netherlands	.601	1.398	1.025	.997	.935	1.883**	.425**	.837**	1.110	2.573**	418	.319
Norway	.557	1.898	1.087**	1.031	2.030**	1.726	1.032	.827**	1.274*	8.362**	364	.582
Poland	.725	1.263	1.047**	.995	.772	1.175	.376**	.792**	1.143	4.058**	396	.402
Portugal	1.343	2.448	1.023	.978	1.080	1.830*	.373**	.785**	.911	4.794**	410	.381
Sweden	1.491	.723	1.033	1.005	.942	1.954*	.826	.830**	1.177	3.684**	337	.338
Slovenia	.421*	-	1.019	.866**	.964	1.284	.270**	.635**	2.813**	2.758**	328	.646
Slovakia	.991	1.750	1.035*	.963*	1.238	2.106**	.274**	.696**	1.294**	4.064**	496	.552

Note. Indicated are the odds ratios for each of the independent variables, significant at \*p<0.05; \*\*p<0.01, dweight on.

**Table A2. Logistic regression for factors influencing the preference to have remained in paid work among those who retired after the age of 50**

Country	Retirement age	Feeling about income	Work autonomy	Working hours	Social activity	Green sect	Care sector	Gender	Education level	N	Nagelkerke R <sup>2</sup>
Belgium	.929	2.073**	1.019	.981	1.091	2.867*	.000	.663	1.039	236	.131
Bulgaria	.936	1.356	1.024	1.032	1.096	.569	.792	.491**	1.323**	669	.120
Switzerland	.914	1.276	1.008	1.012	.860	.710	.876	2.218*	1.118	215	.082
Cyprus	.850*	1.696	1.046	1.031	1.200	.638	5.538	.677	.979	166	.131
Czech Rep.	.933	1.058	.990	.963	1.120	1.278	1.199	.609	1.092	424	.039
Germany	.877**	1.509**	1.005	1.001	.828	.973	.840	.561**	1.068	578	.138
Denmark	.836**	1.660*	.996	.983	.812	.762	.591	.783	.971	310	.198
Estonia	.950	1.202	.991	.988	.840	1.312	.672	.803	.992	379	.054
Spain	.795**	1.821*	1.051	1.001	1.269	1.120	2.547	.993	.826	189	.292
Finland	.916*	.836	.959*	1.010	.854	.987	2.069	.674	.890	266	.101
France	.980	1.848**	1.023	1.005	1.080	.367**	.505	.781	1.045	416	.084
UK	.944*	2.441**	1.021	1.014	1.013	1.383	1.733	.759	.933	453	.144
Greece	.950	1.621*	.976	1.017	1.005	1.472	-	.714	1.311*	419	.074
Croatia	.835**	1.843**	1.077**	.969	.992	.426*	1.033	.528	.960	304	.234
Hungary	.848**	1.466*	.994	1.022	1.055	.972	1.555	.567*	1.036	337	.106
Ireland	.985	1.598*	.977	.996	1.103	1.078	1.091	1.115	1.023	326	.055
Lithuania	.896**	.708	1.045*	1.020	.889	1.350	2.384	.891	.964	323	.119
Netherlands	.934	1.424	1.007	.996	.833	2.450*	1.960	.982	.998	264	.076
Norway	.891**	1.106	1.024	.996	1.334	.684	1.351	.689	1.031	219	.094
Poland	.948	2.065**	1.009	.989	.820	.936	.976	.718	1.129	255	.081
Portugal	.892**	1.700**	1.006	1.002	1.050	1.081	1.907	.384**	.976	424	.134
Sweden	.938	1.677*	1.005	1.013	1.224	1.433	.453	.825	1.153	284	.072
Slovenia	.910	1.113	1.051**	1.002	1.111	.814	-	.588	.822	243	.077
Slovakia	.934	1.473*	1.011	.954*	.886	1.017	1.222	.911	1.029	495	.059

Note. Indicated are the odds ratios for each of the independent variables, significant at \*p<0.05; \*\*p<0.01, dweight on.



**Table B1. Variables used in the logistic regression models**

Variable	Indicator	Values
<i>Response variables</i>		
Labour market activity	Coded according to main activity in the last 7 days	“In paid work, “in education”, “unemployed and actively looking for a job”, and “in community or military service” are “active (1) and “unemployed, wanting a job but not actively looking for a job”, “permanently sick or disabled”, “retired”, “doing housework, looking after children or other persons”, and “other” are “inactive” (0).
Preference to stay in paid work	Wanted to retire or preferred to continue paid work	“Preferred to continue in paid work” (1) and “Wanted to retire” (0)
<i>Explanatory variables</i>		
Green sector dummy	Working in one of the following sectors (NACER2): Crop and animal production, hunting and related service activities, Forestry and logging, Fishing and aquaculture, Water collection, treatment and supply, Sewerage, Waste collection, treatment and disposal activities; materials recovery, Remediation activities and other waste management services, Construction of buildings, Civil engineering, Specialised construction activities, Wholesale and retail trade and repair of motor vehicles and motorcycles, Wholesale trade, except of motor vehicles and motorcycles, Retail trade, except of motor vehicles and motorcycles, Land transport and transport via pipelines, Water transport, Air transport, Warehousing and support activities for transportation.	“Working in a green sector job” (1) and “Not working in a green sector job” (0)
Care sector dummy	Working in one of the following sectors (NACER2): Human health activities, Residential care activities.	“Working in a care sector job” (1) and “Not working in a care sector job” (0)

<b>Variable</b>	<b>Indicator</b>	<b>Values</b>
Social activity	Take part in social activities compared to others of same age	Scale 1 (Much less than most) - 5 (Much more than most)
Work autonomy	Composite indicator. “Allowed to decide how daily work is organised”, “Allowed to influence policy decisions about activities of organisation”, “Allowed to choose/change pace of work”	Scale 0 (I have/had no influence) – 30 (I have/had complete control)
Contracted hours	Total contracted hours per week in main job overtime excluded	Continuous scale
Health	Are you hampered in your daily activities in any way by any longstanding illness, or disability, infirmity or mental health problem?	“Yes a lot” (1), “Yes to some extent” (2), “No” (3)
Living with employed partner	Recoded	Lives with a partner who is employed (1) or does not live with a partner or lives with a partner who is not employed (0)
Gender	Gender	Male (0), Female (1)
Age	Age	Continuous scale
Level of education	Highest level of education, ES – ISCED	Scale 1 (ES-ISCED I , less than lower secondary) – 7 (ES-ISCED VII, higher tertiary education, >= MA level)
Retirement age	Recoded: Year of retirement – year of birth	Continuous scale
Feeling about income nowadays	Feeling about household's income nowadays	Scale 1 (Living comfortably on present income) – 4 (Finding it very difficult on present income)