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POLICY DEPARTMENT
ECONOMIC AND SCIENTIFIC POLICY **A**



Economic and Monetary Affairs

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Combining the entry of young people in the labour market with the retention of older workers

STUDY



DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: EMPLOYMENT POLICY

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Abstract

This study provides an overview of the employment situation of young and old workers in the EU Member States, setting out the most recent developments during the crisis and dealing with policies implemented to promote the employment of both groups. The evidence collected shows that there is no competition between young and older workers on the labour market. Structural or general policies to enhance the functioning of EU labour markets are crucial to improving the situation of both groups. However, the responsibility for employment policies still predominantly lies within Member States of the European Union, although initiatives taken at the EU level can provide added value, particularly through stimulating the exchange of experiences and facilitating regional and cross-border mobility throughout the EU.

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AUTHORS

Eichhorst, Werner (IZA)
Boeri, Tito (frdb)
Braga, Michela (fdb)
De Coen, An (IDEA Consult)
Galasso, Vincenzo (frdb)
Gerard, Maarten (IDEA Consult)
Kendzia, Michael (IZA)
Mayrhuber, Christine (WIFO)
Pedersen, Jakob Louis (NIRAS)
Schmidl. Ricarda (IZA)
Steiber, Nadia (WIFO)

RESPONSIBLE ADMINISTRATOR

Ms. Laurence Smajda
Policy Department A: Economic and Scientific Policy
European Parliament
B-1047 Brussels
E-mail: Poldep-Economy-Science@ep.europa.eu

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ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its newsletter please write to:
Poldep-Economy-Science@ep.europa.eu

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CONTENTS

LIST OF ABBREVIATIONS	5
LIST OF TABLES	6
LIST OF FIGURES	6
EXECUTIVE SUMMARY	7
1. CHALLENGES FOR POLICY MAKERS RELATED TO THE EMPLOYMENT LEVELS OF YOUNG AND OLD WORKERS	10
1.1 Demographic shifts	10
1.2 The impact of the crisis	12
1.2.1 Activity rate	12
1.2.2 Employment rates	14
1.2.3 Unemployment rate	19
1.3 Pressures of low employment levels of young and old on social security systems, especially pensions systems	22
2. MEASURES TO INCREASE EMPLOYMENT OF YOUNGER AND OLDER WORKERS	26
2.1 Difficulties for younger and older workers	27
2.1.1 Younger workers	29
2.1.2 Older workers	29
2.2 Overview of measures targeting the entry into the labour market of the youth	31
2.2.1 Launch of various policies to increase youth employment	31
2.2.2 Evaluation results	37
2.3 Overview of measures to prevent the early exit of the labour market of the older workers	40
2.3.1 Policies in place at the European level	40
2.3.2 Theoretical framework	41
2.3.3 Institutional framework	42
2.3.4 Measures taken at the national level	44
2.4 Measures promoting employment of both groups	48
2.4.1 Targeted measures	48
2.4.2 Universal measures	49
3. DO POLICY MAKERS REALLY FACE TWO COMPETING CHALLENGES?	51
3.1 Is there an impact of the retention of older workers on the entry of young workers into the labour market?	52
3.1.1 The lump of labour theory	52
3.1.2 Review of existing evidence on the potential links between the postponement of retirement and the employment chances of youth	53
3.1.3 Economic downturn and recovery	55

3.1.4	The dual labour market and age-based inequality in job quality	59
3.1.5	The potential impact of recent reforms of EU pension systems	60
3.1.6	The imperfect substitutability between young and older workers	64
3.2	Do these two issues need to be treated independently by policymakers or should they better be linked?	69
3.3	Converting employment challenges into opportunities for new sectors	70
3.3.1	The need to identify employment opportunities	70
3.3.2	Employment opportunities in developing sectors	70
3.3.3	Requiring the necessary skills	73
4.	CASE STUDIES ON THE MEASURES TAKEN	76
4.1	Denmark	76
4.2	Germany	78
4.3	Belgium	82
4.4	Italy	84
4.5	Austria	88
5.	CONCLUSION AND POLICY RECOMMENDATIONS	91
5.1	Concluding remarks: Young and old workers on the labour market	91
5.2	Policy recommendations	93
	REFERENCES	97
	ANNEX	111

LIST OF ABBREVIATIONS

ALMP	Active Labour Market Policies
AR	Ageing Report
CEDEFOP	European Centre for the Development of Vocational Training
DG ECFIN	Directorate General for Economic and Financial Affairs
EC	European Commission
ECB	European Central Bank
ECJ	European Court of Justice
eDR	Economic Dependency Ratio
EEO	European Employment Observatory
EPC	Economic Policy Committee
EPL	Employment Protection Legislation
EREC	European Renewable Energy Council
ESDE	Report on Employment and Social Developments in Europe
ESF	European Social Fund
EU	European Union
EU LFS	European Union Labour Force Survey
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ILO	International Labour Organisation
IMF	International Monetary Fund
ISCO	International Standard Classification of Occupations
IT	Intelligent Technology
NUTS	Nomenclature of territorial units for statistics
OECD	Organisation for Economic Co-operation and Development
SHARE	Survey on Health, Ageing and Retirement in Europe
STEM	Science, tech, engineering, and maths
UB	Unemployment Benefits
UNEP	United Nations Environmental Programme
VET	Vocational Education and Training
WB	World Bank
WHP	Workplace Health Promotion

LIST OF TABLES

Table 1:	Distribution of the 15-24 population according to their educational and employment status, EU-27, 2001-2011	17
Table 2:	Youth/older workers unemployment ratios, 2008-2011	58

LIST OF FIGURES

Figure 1:	Projected change of the population of working age and the elderly (in % change over the period 2011-2060)	11
Figure 2:	Total dependency ratio (in percentage)	12
Figure 3:	Evolution of EU-27 activity rate (%)	13
Figure 4:	Changes in activity rate of younger workers (15-24), 2000-2008 and 2008-2011	13
Figure 5:	Changes in activity rate of older workers (55-64), 2001-2008 and 2008-2011	14
Figure 6:	Evolution of EU-27 employment rate (%)	15
Figure 7:	Changes in employment rates of younger workers (15-24), 2001-2008 and 2008-2011	15
Figure 8:	Changes in employment rates of older workers (55-64), 2001-2008 and 2008-2011	16
Figure 9:	Duration of working life at age 50 (number of years)	18
Figure 10:	Evolution of EU-27 unemployment rate (%)	19
Figure 11:	Changes in unemployment rate of younger workers (15-24), 2001-2008 and 2008-2011	21
Figure 12:	Changes in unemployment rate of older workers (55-64), 2001-2008 and 2008-2011	21
Figure 13:	Demographic dependency ratio and total economic dependency ratio in comparison, 2010	24
Figure 14:	'Inactive dependency ratio' and 'effective old age dependency ratio' in comparison 2010	25
Figure 15:	Conceptual model for career mobility	27
Figure 16:	Employment average annual growth needed 2011-2020 to meet the Europe 2020 employment target (employment rate 75% in 2020)	41
Figure 17:	Increase in total employment rate and employment rate 55-64 between 2000-2011	47
Figure 18:	External conditions and the employment of older and younger workers	54
Figure 19:	Change in unemployment rates, 2008-2011, two age groups	55
Figure 20:	Activity rates age 55-64 and youth unemployment, 2011	57
Figure 21:	Changes in activity rates (55-64) and youth unemployment, 2008-2011	57
Figure 22:	Effective Retirement Age in OECD countries 1970-2011	60
Figure 23:	Trends in employment rates for young and elderly individuals in European Countries	63
Figure 24:	Employment rates by age groups in Denmark, 2000-2011	77
Figure 25:	Employment rates by age groups in Germany, 2000-2011	79
Figure 26:	Employment rates by age groups in Belgium, 2000-2011	82
Figure 27:	Employment rates by age groups in Italy, 2000-2011	84
Figure 28:	Employment rates by age groups in Austria, 2000-2011	88

EXECUTIVE SUMMARY

This study provides an overview of the employment situation of young and old workers in EU Member States, adopting a specific focus on: (i) the most recent developments during the crisis and medium-term demographic developments; (ii) policies implemented to promote the employment of both groups; (iii) evidence on the alleged tension between the employment prospects of young and older workers; and (iv) offering policy recommendations for EU Member States and European institutions.

Young workers represent the more fragile group

In terms of the recent situation for young and old workers in European labour markets, it is evident that young people have suffered most from the recent crisis through rising unemployment and declining employment, particularly in those countries where entry into employment, and typically into permanent jobs, was quite difficult even before the crisis.

At the same time, the employment rates of older workers have been more resilient and less responsive to the crisis, owing to the withdrawal of early retirement incentives and a more stable employment position compared to younger labour market entrants.

Considering a more long-term perspective, most of the EU will face a significant demographic ageing over the coming decades, thus placing an additional burden on the welfare state, marked by an expected increase in old-age dependency. Accordingly, it is important to achieve a high level of employment in EU Member States to contain the fiscal implications of this development. This particularly concerns the retention of older workers, yet also young people who currently find themselves in a vulnerable situation in many EU Member States. Indeed, failing to enter the labour market via proper vocational training and education and subsequent employment increases the risk of being later left behind.

Regarding younger workers, many EU Member States have developed a set of targeted active labour market policies, and have made the labour market more flexible. However, not all such programmes are delivered in an effective way, with some preparatory or temporary training and employment schemes simply postponing integration problems. Indeed, this is the case for fixed-term contracts and other flexible forms of employment that often fail to provide a proper stepping-stone into more stable employment.

In the case of older workers, the withdrawal of early retirement programmes, less generous unemployment benefits and changes in public pension schemes have represented the most important factors in prolonging the working life. Moreover, training over the life cycle and other active labour market policies can have a positive impact in this case. The higher employment rates of older workers often stem from the longer employment of employed people, whereas re-entry into work may remain difficult for older unemployed. Given fiscal tensions, it is most notable that incentives to retire early or move into long-term unemployment benefit have been reduced, with EU Member States having generally resisted the temptation to further expand early retirement in the current situation, unlike in earlier economic crises.

There is no crowding out between young and old workers

The evidence in our study shows that structural general policies are most relevant in promoting the employment of both younger and older workers, and are more prominent than targeted policies addressing either group. In fact, targeted policies focus on either group, whereas policies attempting to establish employment 'bridges' between young and older workers have not been of major importance, and when implemented have proven to

be rather ineffective. Most importantly, it can be clearly noted that the early retirement of older workers is neither beneficial nor necessary to promote young people's entry into the labour market.

There is also strong evidence that there is no fixed amount of labour to be distributed among different age groups; moreover, despite a widespread belief in a 'lump of labour', this does not hold empirically. Aside from particular circumstances that may arise in certain (stagnant) firms or sectors with no labour mobility, there is no competition for jobs between young and old workers, given the limited substitutability of the two age groups due to differences in sectors, occupations, experiences and skills.

There is no need to be particularly concerned about the negative side effects of the better employment retention of older workers; rather, this is generally beneficial to overall labour market performance. Therefore, from a policy perspective there is no trade-off between the aim of the higher employment of older workers and containing youth unemployment. Indeed, both goals can be reached simultaneously, particularly if the labour market is dynamic, flexible and adaptable to technological, sectoral and occupational change, where workers can move between jobs without encountering major risks.

Our country case studies confirm these comparative and general findings, highlighting some innovative and targeted policies for both, yet separate target groups. However, some tensions may arise between young and old workers, and particularly in countries with severe duality of youth and prime-age or older workers' labour markets, such as Italy, where the labour market is less dynamic and job creation has been insufficient in recent years.

Policy recommendations

Our evidence shows that no political or economic trade-off exists between young people's good start into the working life and the better retention of older workers in employment. Rather, well-designed policies can promote better employment opportunities for all, through making working-age people employable and adaptable to a dynamically changing economy.

It is essential to make productive use of all available human resources, particularly in a situation of rapid demographic ageing, given that they will be needed if EU Member States want to maintain and improve their economic perspectives. Therefore, policy makers need to avoid long-term unemployment, benefit dependency and social exclusion. As shown by our analysis, the most important policy priority is to enhance labour market performance **by implementing employment-friendly policies** to improve the employment prospects of both young and older workers. The empirical findings of this study clearly support the view that such general employment-oriented reforms are beneficial to both target groups, without any significant direct or indirect negative side effects between the two.

Activation policies help reduce benefit dependency and bring more people into the labour market with a realistic chance of moving into gainful and productive employment. Accordingly, such policies should be applied in a universal manner to the whole working-age population to minimise the risk of benefit dependency. Policy makers should facilitate the **mobility** of working-age people to best available jobs, including both younger and older workers, implying both sectoral and occupational mobility and regional and cross-border mobility, which is an important lever in reducing mismatch within the labour market, and making productive use of increasingly scarce human resources.

In addition, it is important to address regulatory issues. As shown from recent evidence in EU Member States, **unbalanced employment protection legislation** creates barriers to mobility. Here, reforms of labour market regulation should facilitate transitions between

jobs and firms, reducing barriers to labour market entry and transitions between different employment forms. This issue challenges the duality between strict dismissal protection for permanent workers and highly flexible temporary contracts or self-employment, which is characteristic for many EU Member States.

Furthermore, the importance of **initial vocational education and training** as well as **continuous skill updating** and retraining during the working life cannot be overstated. Acquiring and adjusting job-related skills is essential in a dynamically changing economy, where future job creation also depends on speedy technological innovation and adjustment. Indeed, this is relevant both for young people, where initial training and early work experience help to establish a solid employment record, and for older workers, whose productivity and employability would be at risk if skills become obsolete due to the neglect of continuous training. Moreover, given that productivity does not automatically decline with age and can actually be maintained or improved with appropriate policies, there is strong potential to gain labour force productivity and adaptability through continuous job-related training over the life cycle.

EU policy makers can support innovation and policy transfer through **monitoring** Member States' policies and performance, thereby stimulating an **exchange of experiences**. Moreover, the EU can also provide additional resources to develop and experiment with innovative measures that complement, build upon or modify existing national programmes. EU funds can also be used to reinforce active labour market policies or training programmes, particularly in Member States where such policies are underdeveloped or underfunded, and especially owing to current austerity policies. European policy makers should continue to refrain from policies aimed at reducing labour supply via easier access to passive benefit receipt, or public employment schemes that do not pave the way to gainful regular employment. In particular, early retirement needs to be phased out, as has been the case over the past decade, given that the sustainability of pension systems and demand for skilled labour in ageing societies will have to lead to a longer rather than shorter working life in the short- and medium-run. Accordingly, appropriate incentives in unemployment benefit and pension systems should be set to prevent an early, irreversible and prolonged exit from work.

1. CHALLENGES FOR POLICY MAKERS RELATED TO THE EMPLOYMENT LEVELS OF YOUNG AND OLD WORKERS

KEY FINDINGS

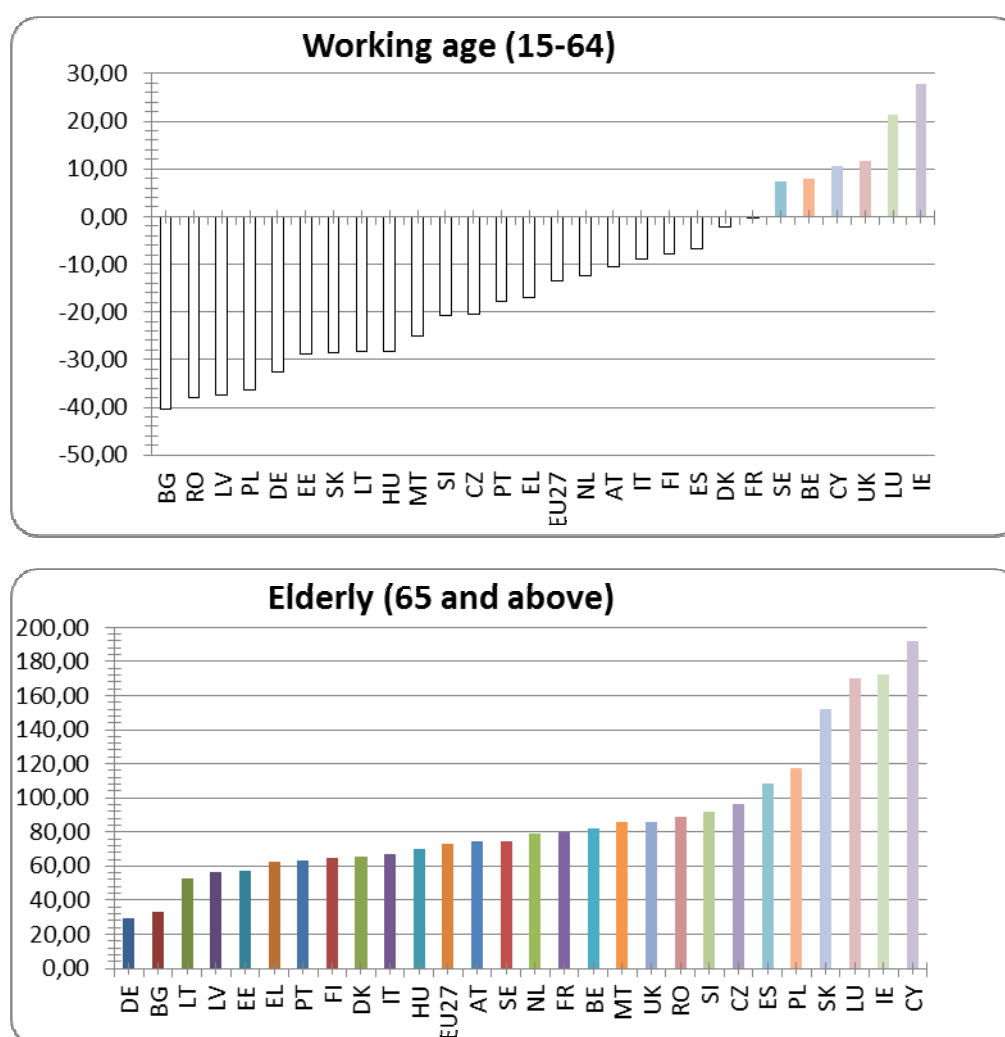
- EU Member States have significant demographic shifts ahead of them. Despite important differences across countries, the general picture shows a shrinking working-age population and increasing shares of people of retirement age, which will lead to increasing total and old age dependency ratios.
- The recent economic crisis has had a huge impact on European labour markets, including both the young and old. Besides large cross-country variation, there has been a remarkable resilience of the employment rates of prime-aged and older workers compared to the more vulnerable situation of young people, who now face severe difficulties in finding jobs in many EU Member States.
- The welfare state will face particular difficulties stemming from demographic ageing, and particularly if EU Member States are unable to raise overall employment levels, including a better transition from school to work for young workers and a higher employment level of older workers.

1.1 Demographic shifts

Over the forthcoming decades, Europe will be confronted with substantial demographic changes, with the population projected to increase by 2.8% from 502 million in 2011 to 517 million in 2060. However, due to population ageing owing to low fertility rates and growing life expectancy, the age profile of the EU population is expected to change dramatically. Overall, the extent and speed of ageing depend on future life expectancy, fertility and migration. Considering these factors, Figure 1 shows the projected (percentual) change of the elderly and population at working age for the EU-27 Member States. However, an increase in the size of a population group does not necessarily imply a larger share of the population participating in the labour market as illustrated by Figure 1.

The proportion of young people (aged 0-14) is projected to remain constant in the EU-27 area, declining from 15.6% of the total population in 2011 to 14.3% in 2060. While the proportion of young people fluctuated between 13.2% (**Bulgaria**) and 21.3% (**Ireland**) in 2011, it is projected to range between 11.6% and 18.1% in 2060. The population of persons aged 15 to 64 will become substantially smaller in share, with a projected decline from 66.9% to 56.2% in the EU-27 area. While the working age share of the total population ranged between 61.7% (**France**) and 72% (**Slovakia**) in 2011, it is projected to remain below 60% in 2060. Furthermore, a similar increase is projected for the proportion of persons aged 65 and over, which accounted for 11.54% to 20.6% of the population in 2011. With the share of the elderly projected to rise from 17.5% to 29.5% of the population, they will represent almost one third of citizens by 2060.

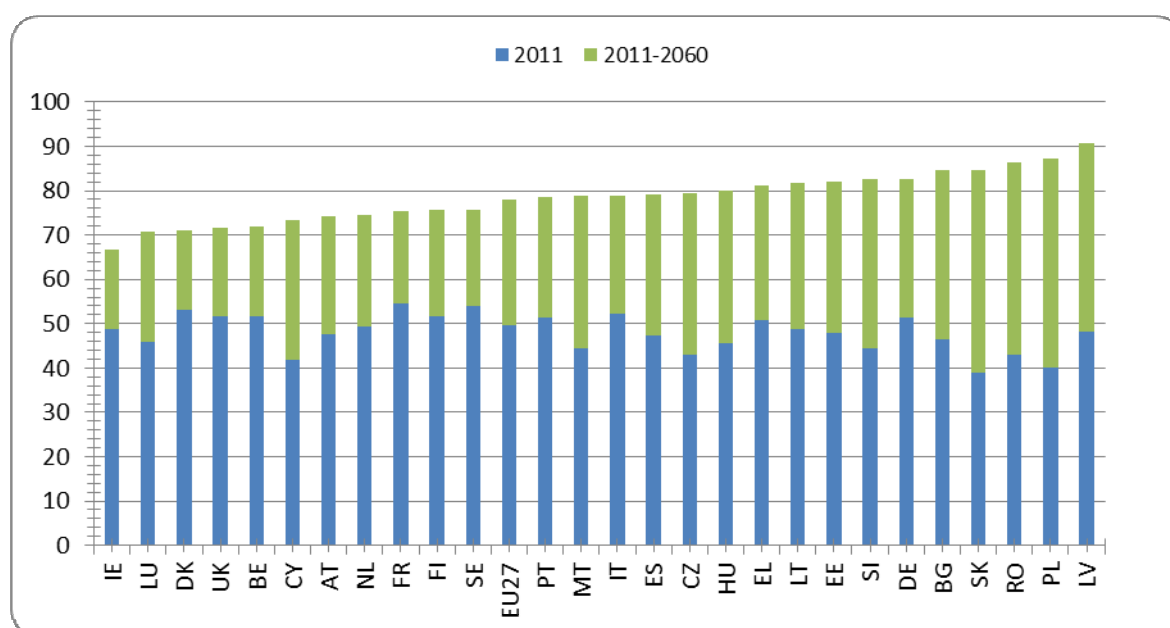
This ageing of the population creates an important challenge for the economies and welfare systems of European societies, with fewer persons of a working age capable of contributing to the social security system. The projected demographic dependency ratios across the EU Member States are depicted in Figure 2.

Figure 1: Projected change of the population of working age and the elderly (in % change over the period 2011-2060)

Source: Eurostat

The old-age dependency ratio is defined as the number of persons aged 65 or older divided by the number of persons 15-64 years old, reflecting the number of persons of a working age capable of supporting elderly persons. The total dependency ratio reflects the number of persons of a working age who are able to support both children (younger than 15 years old) and elderly persons (aged 65 and older).

Figure 2 highlights the dramatically increasing burden on the working population over the coming decades. For all Member States, the demographic dependency ratio was around 20 to 30% in 2011; however, this will steadily increase to 40 to 60% in 2060. While there were more than four people aged 15 to 64 for every person over 65 in the EU-27 area, projections indicate that there will be on average fewer than two working people for every person over 65 in the EU-27 in 2060, which is further supported by projections from the United Nations for the European population. A similar tendency is projected for the total dependency ratio, which is expected to increase from less than 50% in 2011 to more than 75% in 2060. Therefore, it is extremely important to promote economic activity among persons of a working age.

Figure 2: Total dependency ratio (in percentage)

Source: Eurostat

1.2 The impact of the crisis

To assess the impact of the crisis on the employment levels of younger and older workers, we focus on the evolution of activity, employment and unemployment rates of these age groups for all EU-27 countries since 2001. To gain insight into the impact of the crisis, rates are analysed by age group before and after 2008, with this comparison providing an overview of the impact of the financial and economic crisis for all EU Member States according to the measures adopted by policy makers throughout this period. While this section maps out the evolution of key labour market indicators, the following section discusses the measures taken.

1.2.1 Activity rate

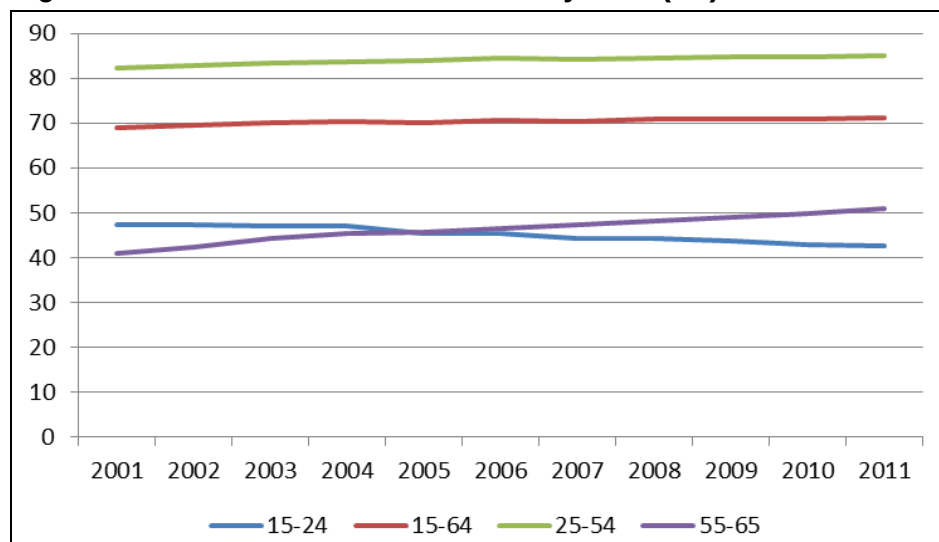
Before discussing the employment and unemployment rates in the EU Member States, we consider the evolution of the labour force (i.e. the economically active population), comprising both employed and unemployed persons, yet not the economically inactive, such as students and pensioners.

Given the demographic shifts discussed in the previous section, it is important to monitor the activity rate, i.e. the rate of the population being part of the labour force. Between 2001 and 2011, activity rates increased in most EU Member States, with only **Romania, Finland, Slovakia** and **Czech Republic** recording a decline over this 10-year period. Moreover, Czech Republic, Romania and Slovakia were three of five countries (besides **Poland** and **Lithuania**) whereby a decrease over the 2001-2008 period was followed by an increase during the 2008-2011 period. By contrast, an increase in the activity rate was countered by a decrease during years of financial and economic crisis in **Belgium, Bulgaria, Denmark, Ireland, Italy, Latvia, the Netherlands, Portugal, Slovenia** and the **United Kingdom**.

The overall increase in the EU-27 area is predominantly due to higher activity rates among prime-age and older persons, with the activity rate of older persons only decreasing in Romania due to sharp falls from 51.4% in 2001 to 39.1% in 2002 and 44.2% in 2008 to 41.5% in 2011 (Table A7 and Figure 5). However, remarkable decreases were registered

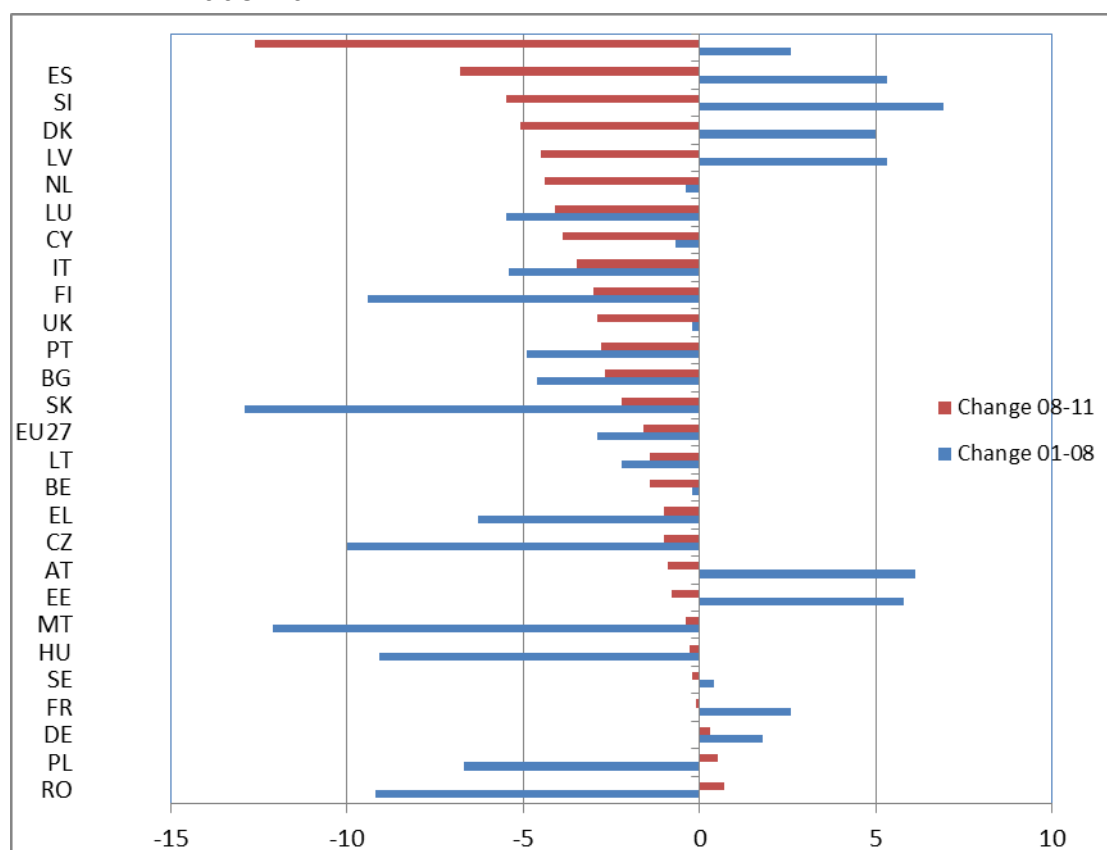
among younger persons (Figure 4). In Ireland, the activity rate declined by even more than 10 percentage points between 2008 and 2011. Indeed, only five countries recorded higher activity rates (at least plus 1 percentage point) among the 15 to 24 year old people in 2011 compared to 2001, namely **Austria, Estonia, France, Germany** and **Slovenia**.

Figure 3: Evolution of EU-27 activity rate (%)

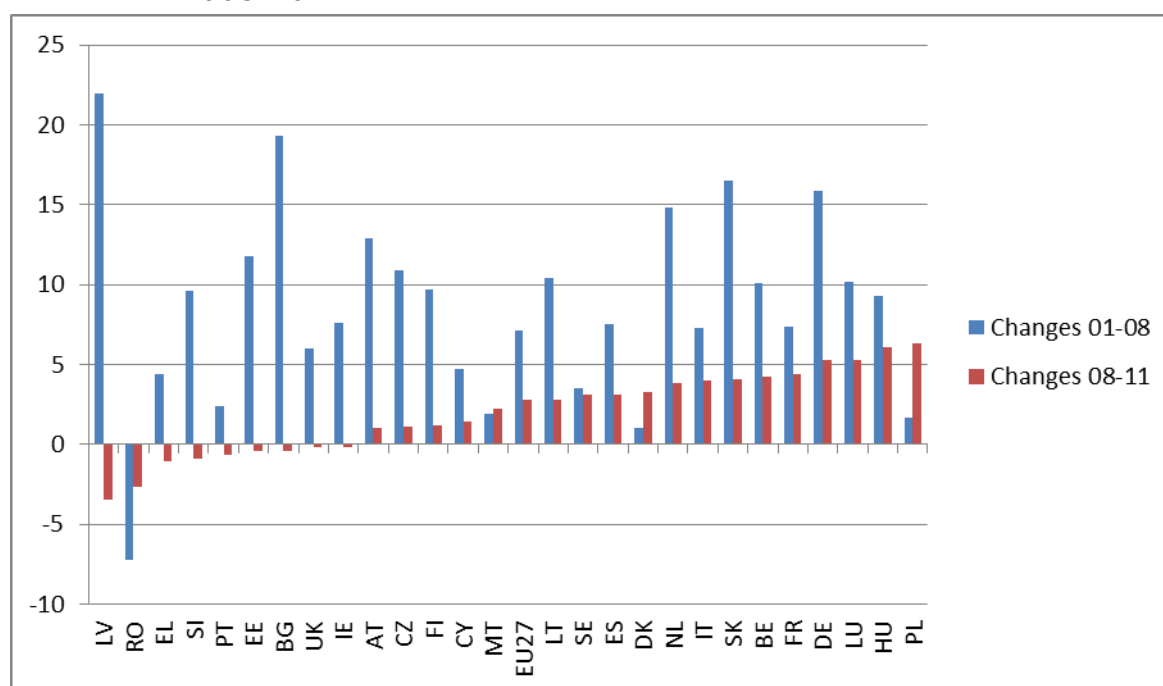


Source: Eurostat

Figure 4: Changes in activity rate of younger workers (15-24), 2000-2008 and 2008-2011



Source: Eurostat

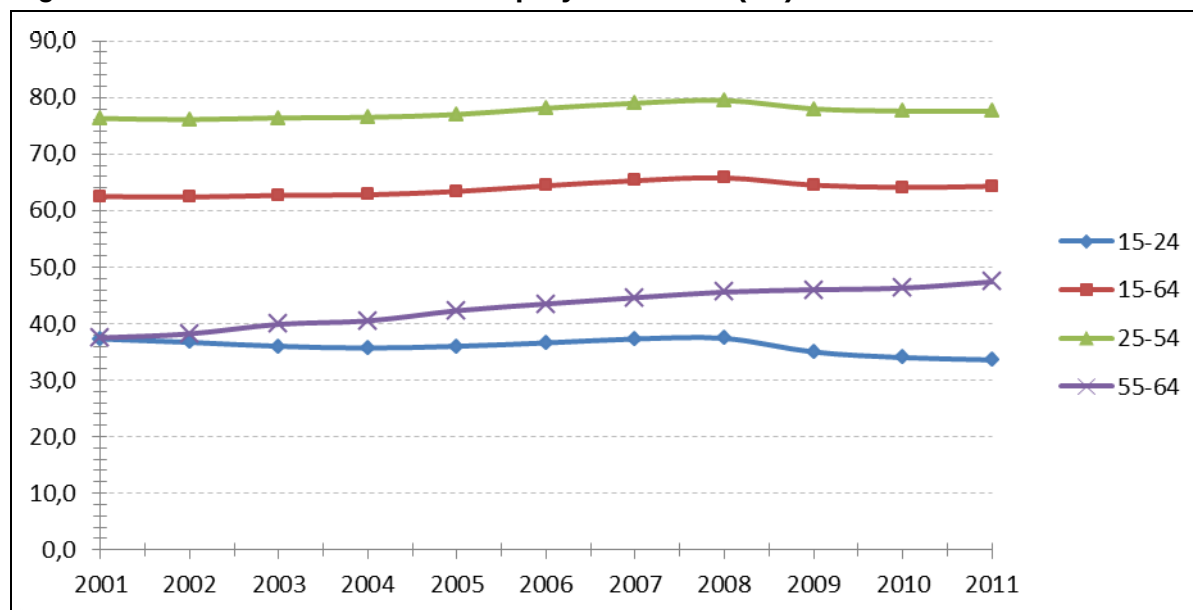
Figure 5: Changes in activity rate of older workers (55-64), 2001-2008 and 2008-2011

Source: Eurostat

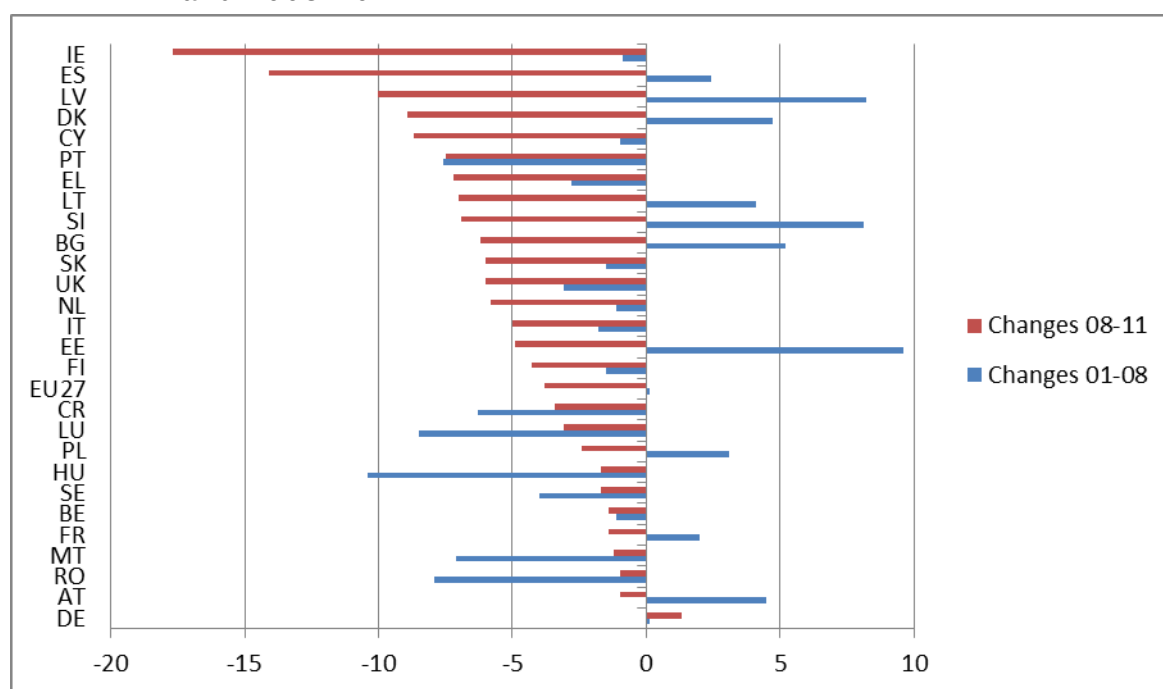
1.2.2 Employment rates

While employment can be measured in terms of either the number of persons or jobs, in full-time equivalents or hours worked, all the figures discussed below are based upon the number of persons. Employment statistics are frequently reported as employment rates, representing the percentage of employed persons in relation to the comparable total population. Not only do employment rates allow discounting the changing size of populations, but they also facilitate comparisons between countries of different sizes. Figure 6 shows the evolution of the EU-27 employment rate over the last decade, highlighting that following a continuous increase from 62.5% in 2001 to 65.8% in 2008, the overall EU-27 employment rate of persons aged 15 to 64 decreased after this 2008 peak. Furthermore, during the years of economic crisis, it dropped by 1.7 percentage points to 64.1% in 2010, before increasing slightly to 64.3% in 2011.

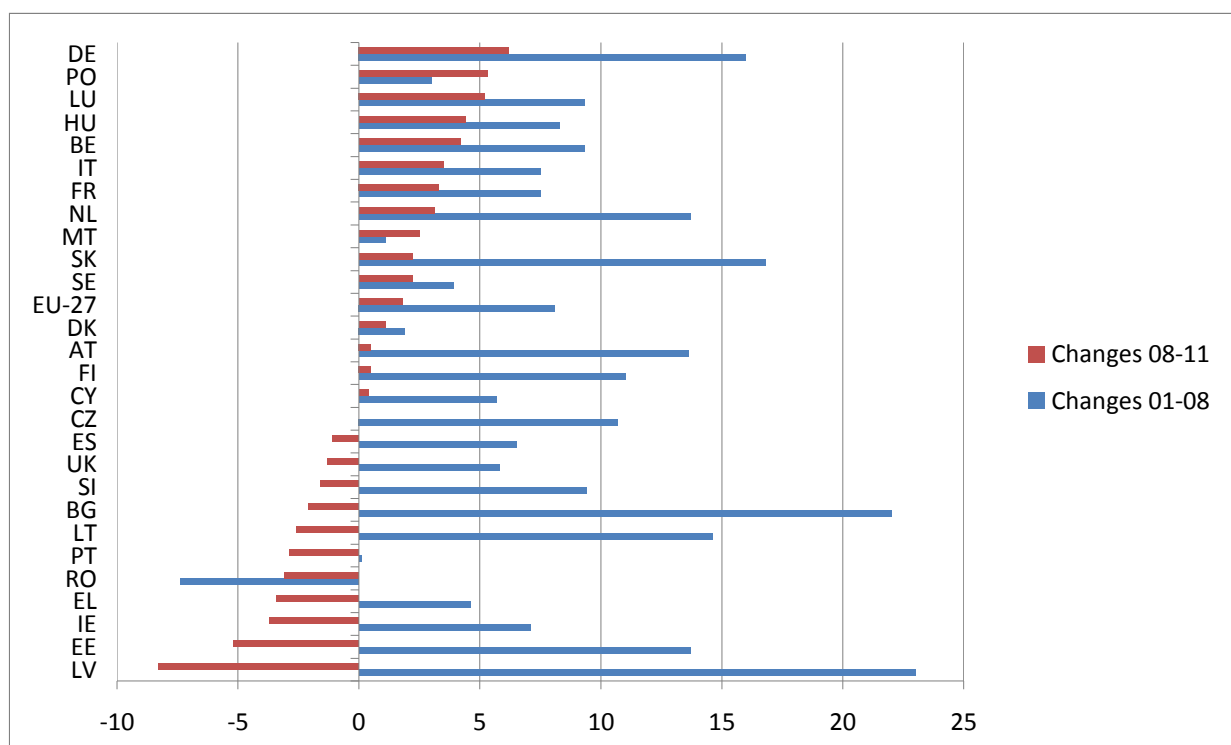
Most Member States show a similar pattern for the working-age population. However, **Germany** was able to maintain an increase in employment rate for persons aged 15 to 64, from 65.7% in 2001 to 70.1% in 2008 and 72.5% in 2011. Similarly, the employment rate in **Malta** rose from 54.7% to 55.3% in 2008 and 57.6% in 2011. While the employment rate also increased in **Luxembourg** (from 63% in 2001 to 63.4% in 2008 and 64.6% in 2011), it remained stable during years of crisis in **Austria**, **Belgium**, **Poland** and **Sweden**, with the increase or decrease over the 2008-2011 period a maximum of 0.5 percentage points. In the case of **Romania**, this stability followed a decrease from 63.3% in 2001 to 59% in 2008. Besides disparities across EU Member States regarding the evolution of employment rates, there are also substantial differences concerning its absolute level. In 2011, employment rates exceeded 70% in **Austria** (72.1%), **Denmark** (73.1%), **Germany** (72.5%), the **Netherlands** (74.9%) and **Sweden** (74.1%), yet were below 60% in **Greece** (55.6%), **Hungary** (55.8%), **Italy** (56.9%), **Malta** (57.6%), **Spain** (57.7%), **Bulgaria** and **Romania** (58.5%), **Ireland** (59.2%), **Slovakia** (59.5%) and **Poland** (59.7%).

Figure 6: Evolution of EU-27 employment rate (%)

Source: Eurostat

Figure 7: Changes in employment rates of younger workers (15-24), 2001-2008 and 2008-2011

Source: Eurostat

Figure 8: Changes in employment rates of older workers (55-64), 2001-2008 and 2008-2011

Source: Eurostat

Employment rates of prime-age workers (25 to 54 years old) are the highest amongst age groups. Moreover, this indicates that changes in the overall employment rate (15-64) are mainly driven by changes in the employment rate of prime-age workers (25-55), with this group of workers accounting for almost two thirds of the total labour force. Nonetheless, in the face of population ageing, the opposite evolutions among younger and older workers are remarkable. While the EU-27 employment rate of **younger workers (15-24)** remained quite stable between 2001 and 2008, it decreased from 37.4% in 2008 to 33.6% in 2011, with Figure 7 and Table A5 (Annex) providing an overview of the evolution in EU Member States. Despite the German employment rate of younger workers dropping from 46.5% in 2001 to 41.4% in 2004, it rose to 46.6% in 2008. Following a small setback of 0.6 percentage point in 2009, it continued to rise to 47.9% in 2011, marking **Germany** as the only country in the EU-27 area where the employment rate of younger workers increased in times of financial and economic crisis. However, five other countries recorded an increase over the past decade, namely **Estonia** (from 26.8% in 2001 to 31.5% in 2011), **Austria** (from 51.4% in 2001 to 54.9% in 2011), **Slovenia** (from 30.3% in 2001 to 31.5% in 2011), **Poland** (from 24.2% in 2001 to 24.9% in 2011) and **France** (from 29.3% in 2001 to 29.9% in 2011). In **Spain**, **Denmark**, **Latvia**, **Lithuania** and **Bulgaria**, an increase during the 2001-2008 period was offset by a vast decrease in the 2008-2011 period. For instance, in Spain, the employment rate of younger persons peaked at 39.5% in 2006, yet dropped to 36% in 2008 and subsequently continued to decrease towards its lowest point of 21.9% in 2011. Furthermore, three countries recorded a continuous decrease in the employment rate of younger workers over the past decade: **Portugal** (from 42.3% in 2001 to 27.2% in 2011), **Hungary** (from 30.4% in 2001 to 18.3% in 2011) and the **United Kingdom** (from 55.5% in 2001 to 45.4% in 2011).

While all other EU Member States had to deal with lower employment rates for younger workers in 2011 compared to 2001, three countries experienced an enormous decline in the 2008-2011 period: in **Ireland**, the employment rate for younger workers declined from 45.9% in 2008 to 28.2% in 2011; in **Cyprus**, it decreased from 38% to 29.3%; and in **Greece**, it fell from 23.5% to 16.3%. Besides Greece, the only countries where less than 20% of the 15 to 24 year old population was employed in 2011 are **Hungary**, **Italy** and **Lithuania**. While the participation and employment rates of young people (aged 15 to 24 years) decreased over this period, their participation in formal or non-formal education and training generally increased (see Table 1). The number of young persons in the EU-27 area participating in education or training rather than working increased from 49.9% in 2001 to 51.3 in 2008, peaking at 53.3% in 2011. While most EU Member States follow this tendency, the participation of young persons not in employment decreased between 2001 and 2008 in **Austria**, **Cyprus**, **Denmark**, **Estonia**, **Finland**, **Lithuania**, **Slovenia** and **Spain**, before increasing in the years of economic crisis. Furthermore, increased participation in education or training over the 2001-2008 period came to an end between 2008 and 2011 in **Belgium**, **Hungary**, **Malta**, **Poland** and **Romania**. However, a similar trend did not occur for younger persons combining education/training and employment. While their share among the population of 15 to 24 year old people in the EU-27 area increased from 12.4% in 2001 to 15% in 2008, it decreased the following years to 13.5% in 2011. The increase continued in **Belgium**, **Czech Republic**, **Malta** and **Austria**, also increasing during the years of economic crisis in **Luxembourg** and **Portugal**, having decreased between 2001 and 2008. The rate of younger persons combining education/training and employment steadily decreased in **Hungary**, **Slovakia** and the **United Kingdom**.

Table 1: Distribution of the 15-24 population according to their educational and employment status, EU-27, 2001-2011

EU27	37.5	30.4	20.7	5.4	4.3	6.4	47.7	55.0	60.1	9.4	10.3	12.7
NL	23.4	19.3	17.6	46.4	50.0	45.9	26.1	27.2	32.7	4.1	3.4	3.8
DK	24.6	17.5	13.6	37.0	48.8	44.0	33.2	29.3	36.2	5.2	4.3	6.3
UK	28.4	28.3	27.0	28.0	24.0	19.3	32.6	35.0	38.7	11.0	12.1	14.3
AT	32.6	30.0	27.6	18.7	25.8	27.3	40.5	37.0	38.1	8.1	7.1	6.9
MT	46.5	38.7	35.5	6.5	7.2	9.2	29.3	44.6	44.7	17.7	9.5	10.6
IE*	33.8	30.5	18.6	11.8	13.0	9.5	40.4	41.6	53.5	14.0	14.8	18.4
DE	22.7	20.9	22.3	23.4	25.8	25.6	46.4	44.9	44.5	7.4	8.4	7.5
SE	28.8	22.8	21.7	18.4	19.3	18.8	45.2	50.0	51.9	7.7	7.8	7.5
PT	20.1	19.4	18.5	19.7	24.0	21.9	51.7	48.8	51.1	8.5	7.8	8.4
FI	24.9	22.4	20.1	12.4	15.0	13.5	49.9	51.3	53.3	12.8	10.9	12.9
CY	34.3	29.2	24.2	4.7	8.8	5.1	53.3	52.4	56.3	7.8	9.7	14.4
ES	28.9	26.4	15.6	5.1	9.6	6.3	54.0	49.6	59.6	12.0	14.4	18.5
LU	26.1	18.2	11.6	6.2	5.6	8.9	62.2	70.0	74.6	5.5	6.2	4.7
CZ*	28.8	23.9	19.3	3.3	4.1	5.3	55.5	65.2	67.0	12.4	6.7	8.3
LV*	20.8	24.3	18.3	10.1	13.0	8.9	54.8	51.3	57.0	14.3	11.4	15.7
SI	20.9	17.8	11.7	10.0	20.6	19.8	58.7	55.1	61.4	10.4	6.5	7.1
FR	21.9	20.9	20.0	7.4	10.5	9.9	60.8	58.4	58.1	9.9	10.2	12.0
BE	25.1	22.6	20.8	4.6	4.8	5.2	54.0	62.5	62.2	16.3	10.1	11.8
RO	30.3	22.5	21.7	2.2	2.3	2.1	49.1	56.7	56.6	18.3	11.6	17.4
HU	27.8	18.2	16.6	2.9	1.8	1.7	54.7	68.4	68.4	14.6	11.5	13.3
EE	22.1	24.0	20.2	7.0	12.0	11.3	56.6	55.2	56.7	14.3	8.8	11.8
SK*	23.9	23.7	18.2	3.1	2.5	1.9	45.9	62.7	66.1	27.1	11.1	13.8
EL	24.2	20.0	14.1	1.7	3.6	2.1	58.0	64.8	66.3	16.1	11.7	17.4
IT	24.4	20.5	16.8	1.9	3.8	2.6	55.6	59.1	60.8	18.1	16.6	19.8
LT	18.5	17.3	12.9	4.0	9.4	6.8	61.4	64.4	67.8	16.0	8.9	12.5
PL	16.6	15.8	16.5	7.4	11.5	8.4	58.8	63.6	63.5	17.1	9.0	11.6
BG	18.3	22.5	17.2	1.3	3.8	2.9	50.0	56.3	57.3	30.4	17.4	22.6

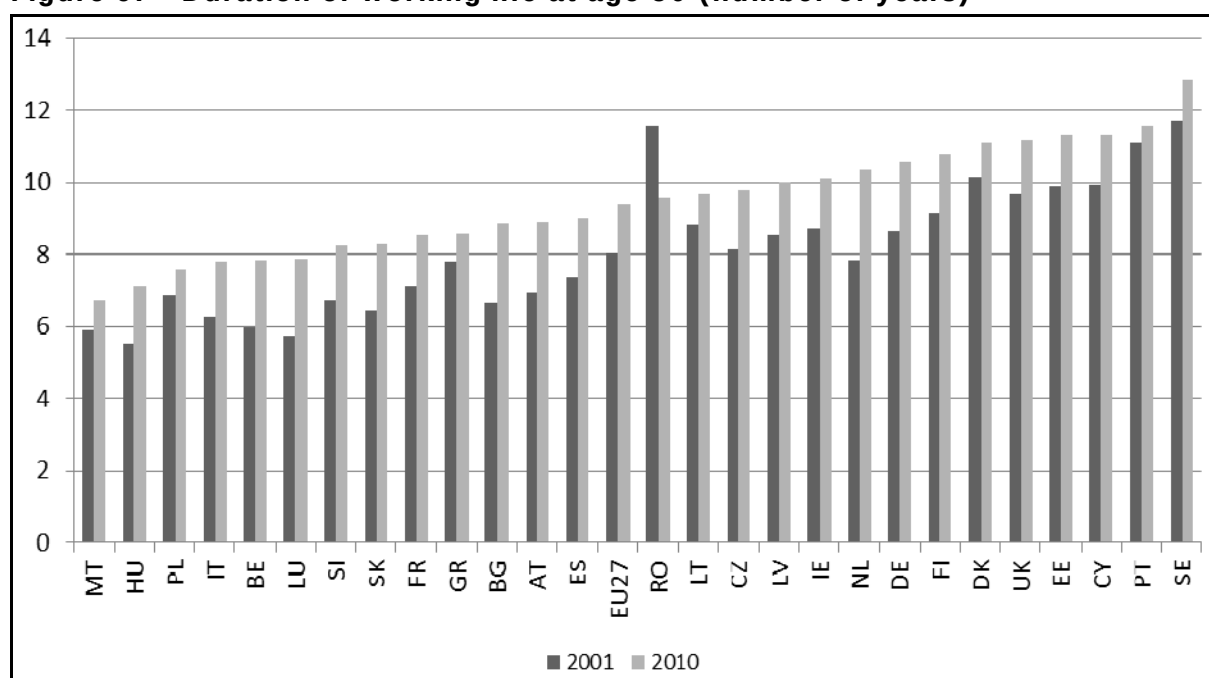
Note: * Given that 2001 data was not available for IE, CZ, LV and SK, data from 2002 was used instead.

Source: Eurostat

Furthermore, Table A7 shows that the EU-27 employment rate of **older workers (aged 55 to 64)** continuously increased over the past decade. Indeed, this increase occurred in all Member States during the 2001-2008 period, with one exception: in **Romania**, the employment rate of older workers fell from 50.5% in 2001 to merely 37% in 2004, yet restored to 43.1% in 2008. As indicated by Figure 8, employment rates of older workers rose by over 20 percentage points in **Latvia** and **Bulgaria**, and over 10 percentage points in **Slovakia**, **Germany**, **Lithuania**, **Estonia**, the **Netherlands**, **Austria**, **Finland** and **Czech Republic**. In most EU Member States, this increase continued despite the financial and economic crisis. However, in Estonia, Latvia, Lithuania and Bulgaria, part of this increase was negated in the 2008-2011 period, which was also the case for the **United Kingdom**, **Ireland**, **Spain**, **Greece** and **Slovenia**. In **Portugal**, the decrease in the 2008-2011 period outweighed the increase during 2001-2008, and the employment rate of older workers in Romania continued to fall. Besides Greece and Romania, less than 40% of the 55 to 64 year old population was employed in 7 other countries in 2011, namely **Luxembourg** (39.4%), **Belgium** (38.7%), **Italy** (37.9%), **Poland** (36.9%), **Hungary** (35.8%), **Malta** (31.7%) and **Slovenia** (31.2%). By contrast, employment rates for older workers were particularly high in **Sweden** (72.2%). Ten other EU Member States had an employment rate between 50% and 60% for older workers (see Table A7).

The continuous expansion in the employment rate of older workers is largely due to pension reforms increasing the statutory retirement age. Given that Eurostat no longer publishes the average exit age from the labour market due to quality problems, a new indicator has been developed: the duration of working life (DWL) measures the number of years that persons of a certain age is expected to be active in the labour market throughout their life. Figure 9 indicates that the number of working years older workers have ahead of them at age 50 generally increased between 2001 and 2010 in all EU Member States, positively affecting the employment rates of older workers. **Romania** represents an exception, where the number of working years older workers have ahead of them at age 50 declined by 2 years, from 11.6 years in 2001 to 9.6 in 2010. As with the employment rate of older workers, the duration of working live at age 50 is highest in **Sweden** and lowest in **Malta**.

Figure 9: Duration of working life at age 50 (number of years)



Source: Eurostat

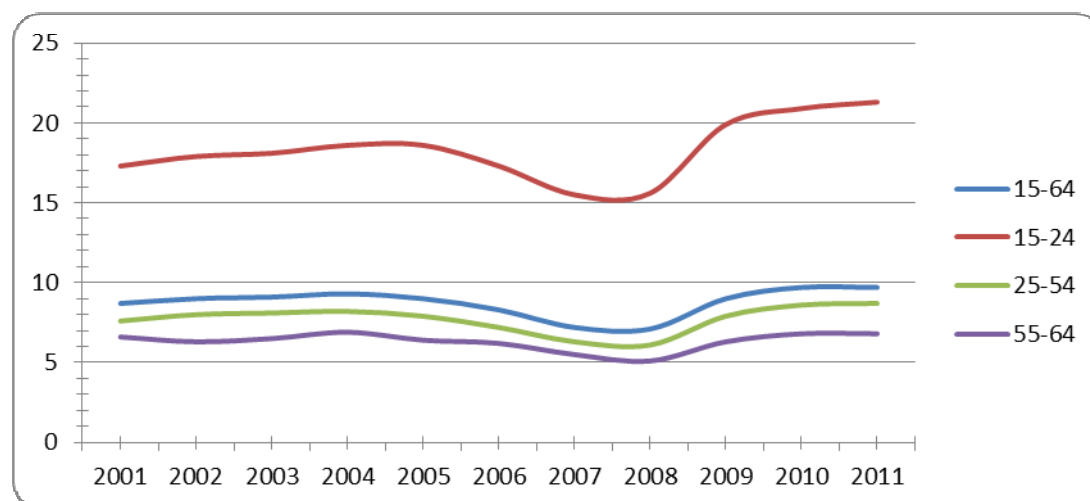
According to the 2012 Ageing Report of the European Commission, employment rates of 15-64 year old persons in the EU-27 area are projected to increase from 64.3% in 2011 to 69% by 2060. The report states that this projected increase will be largely accounted for by recent pension reforms encouraging longer working lives.

1.2.3 Unemployment rate

The unemployment rate represents the number of people unemployed as a percentage of the labour force. According to the guidelines of the International Labour Organisation, an unemployed person is defined by Eurostat as someone without work who is available to start work within the next two weeks and has actively sought employment at some time during the last four weeks. Figure 10 shows how the EU-27 unemployment rate evolved from 2001 to 2011 for persons of different ages.

While the overall unemployment rate for persons aged 15 to 64 fluctuated at around 9% of the total labour force until 2005, it declined to a low of 7.1% in 2008. However, it subsequently rose to 9.7% during the years of economic crisis; the highest rate recorded since 2000. The unemployment rate for persons aged 15 to 64 only continued to decline since 2005 in **Germany**, although unemployment rates remained below their 2001 level in **Bulgaria, Czech Republic, Italy, Finland, Poland, Malta, Slovakia** and **Lithuania** – despite the unemployment rate rising sharply from 5.9% in 2008 to 15.6% in 2011 in the case of Lithuania. Unemployment rates also increased substantially during years of crisis in **Greece** (from 7.8% in 2008 to 17.9% in 2011), **Spain** (from 11.4% in 2008 to 21.8% in 2011), **Ireland** (from 6.1% in 2008 to 14.7% in 2011) and **Latvia** (from 7.7% in 2008 to 15.6% in 2011). Conversely, unemployment rates rose steadily throughout the last decade in **Hungary, Portugal** and the **United Kingdom**, with Hungary and Portugal two of the ten countries with an unemployment rate above 10% of the total population. By contrast, the **Netherlands, Austria** and **Luxembourg** registered unemployment rates below 5%.

Figure 10: Evolution of EU-27 unemployment rate (%)



Source: Eurostat

In contrast to the employment rate, the time pattern of the unemployment rate has been similar for younger, prime-age and older workers throughout the last decade. However, fluctuations are most pronounced among younger persons, with the **youth unemployment rate** in the EU-27 around twice as high as the rate for the total population. Box 1 elaborates on the fact that youth unemployment rates are in general always higher compared to the general unemployment rate.

Box 1: Youth unemployment rate versus general unemployment rate

Following the Eurostat definition, the youth unemployment rate refers to “the percentage of the unemployed in the age group of 15 to 24 year old people compared to the total labour force (both employed and unemployed) in that age group”. However, many young people are not available for the labour market as they are studying full time. This explains why youth unemployment rates are generally higher than the general unemployment rate.

By means of correction, Eurostat calculates youth unemployment ratios: the share of unemployed for the whole population. They find that youth unemployment ratios in the EU are much lower than youth unemployment rates. Nevertheless, they have also risen since 2008 due to the effects of the recent crisis on the labour market.

High youth unemployment rates do reflect the difficulties faced by young people in finding jobs. Section 2.1 of this report gives an overview of various factors that may explain why it is difficult for younger unemployed to make the transition into employment. These factors entail less human and social capital meaning less knowledge on the job market, a more limited network as well as less experience and skills, which young people are able to offer. Additionally, in specific cases, social protection can form a barrier for insiders and outsiders making hiring young workers potentially too costly to employers because of lay-off restriction, severance pay, etc. Therefore, employers will choose to employ experienced workers to reduce their risk, making it difficult for younger people to enter the labour market.

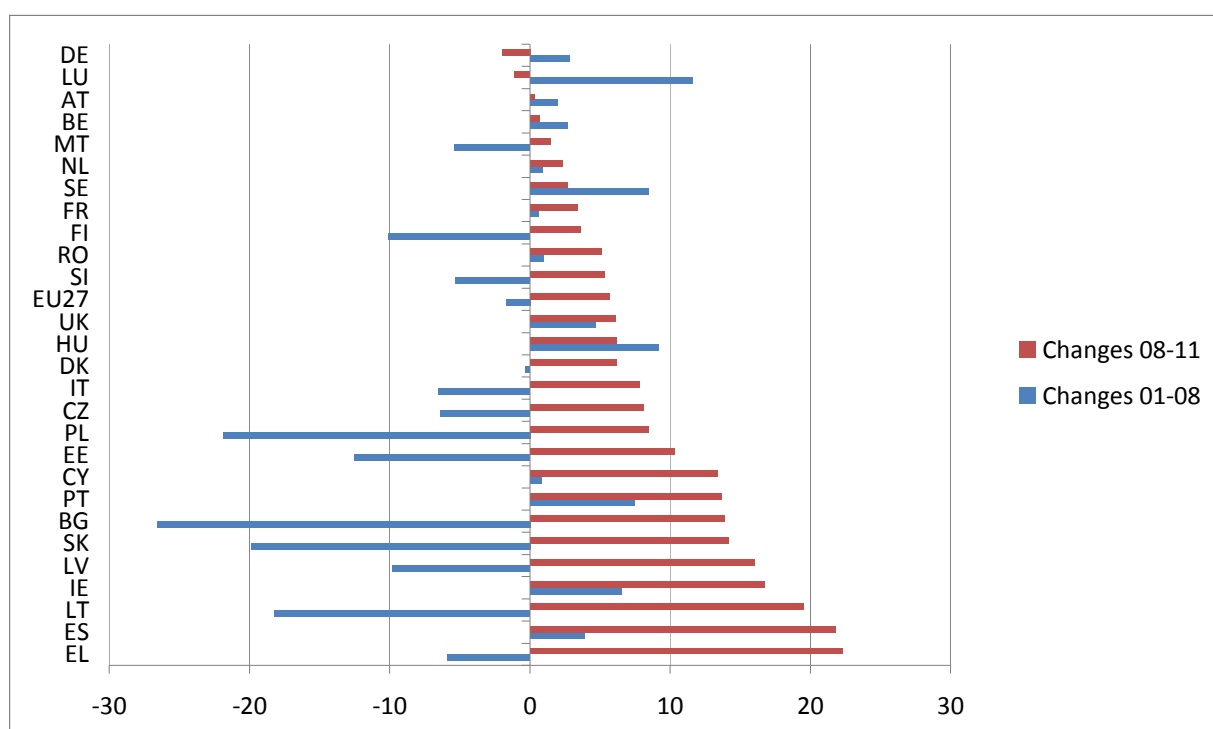
Especially during an economic downturn, youth unemployment will structurally be higher than the overall unemployment rate. This is due to several reasons. First, during an economic downturn, companies stop hiring. Young people (leaving the educational system, both secondary and higher education) are primarily affected by this. Second, when there are limited numbers of job openings available, companies will prefer older workers, as the younger workers lack experience. Third, if a downturn persists and companies need to lay off workers, this will mostly affect young workers first, as they have less valuable experience for the company and often induce lower severance payments.

Source: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics

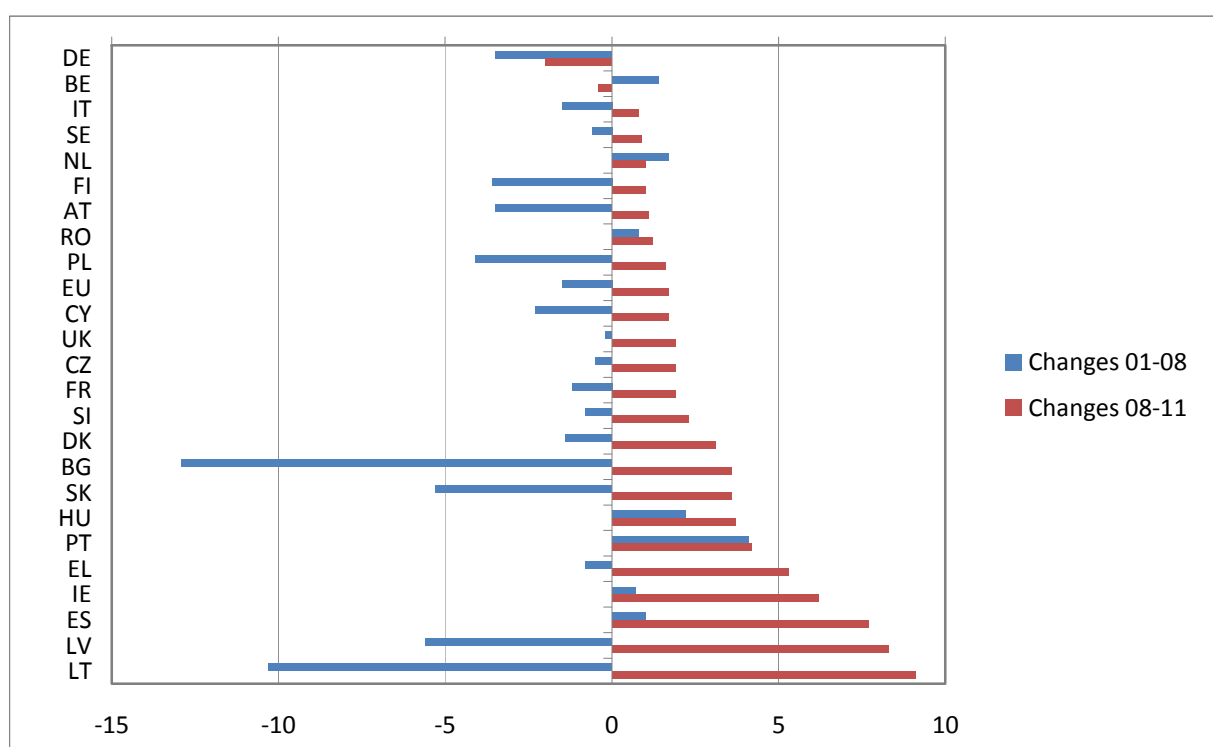
Five EU Member States recorded youth unemployment rates above 30% in 2011: **Spain** (46.4%), **Greece** (44.4%), **Slovakia** (33.2%), **Lithuania** (32.9%) and **Portugal** (30.1%), increasing considerably between 2008 and 2011. In Spain, Greece and Lithuania, youth unemployment rates increased by 20 percentage points during the years of economic crisis, while Slovakia and Portugal are among the EU Member States where youth unemployment rose sharply over the 2008-2011 period. On the other hand, **Luxembourg** and **Germany** managed to push back youth unemployment, from 17.9% and 10.6% in 2008 to 16.8% and 8.6%, respectively.

Furthermore, youth unemployment rates remained below their 2001 level in **Poland**, **Bulgaria**, **Finland**, **Slovakia**, **Malta** and **Estonia**, despite the effects of the recent crisis on the labour market. However, only the **Netherlands** (7.6%), **Austria** (8.3%) and **Germany** (8.6%) managed to maintain youth unemployment rates below 10% in 2011.

Despite high youth unemployment rates revealing the difficulties faced by young people in finding employment, this does not necessarily translate into a large group of unemployed 15 to 24 year olds, with many young people studying full-time and therefore not part of the labour force. While participation in formal and non-formal employment and training increased between 2001 and 2011, as indicated above, the rate of young people neither in education/training nor employment (NEET) substantially increased between 2008 and 2011 (see Table 1). Apart from **Luxembourg**, **Germany**, **Sweden** and **Austria**, all EU Member States recorded higher NEET rates in 2011 than 2008, with increases of more than 5 percentage points in **Bulgaria**, **Greece** and **Romania** during the 2008-2011 period. Given these evolutions, NEET-rates exceeded 15% in **Latvia** (15.7%), **Greece** and **Romania** (17.4%), **Ireland** (18.4%), **Spain** (18.5%) and **Italy** (19.8%) in 2011, and peaked in **Bulgaria** at 22.6%. Conversely, NEET rates were below 5% in the **Netherlands** (3.8%) and **Luxembourg** (4.7%).

Figure 11: Changes in unemployment rate of younger workers (15-24), 2001-2008 and 2008-2011

Source: Eurostat

Figure 12: Changes in unemployment rate of older workers (55-64), 2001-2008 and 2008-2011

Source: Eurostat (data was not available for Estonia, Luxembourg and Malta).

Table A11 (Appendix) indicates substantially lower *unemployment rates of older workers* than youth unemployment rates. In 2011, unemployment rates of persons aged 55 to 64 were highest in **Estonia, Spain, Latvia, Lithuania, Portugal** and **Slovakia**, exceeding 10% of the labour force. In contrast, the lowest rates were recorded in **Belgium, Italy, Cyprus**, the **Netherlands, Austria, Romania, Sweden** and the **United Kingdom**, where they did not exceed 5%.

Unemployment rates for persons aged 55 to 64 generally increased in times of economic crisis, having decreased in most EU Member States between 2001 and 2008 (see Figure 12). The unemployment rates of older persons rose continuously in **Portugal** and **Hungary** throughout the last decade, registering an increase of more than 5 percentage points between 2001 and 2011, as did **Spain** and **Ireland**, where the unemployment rate of older persons rose sharply throughout the 2008-2011 period (7.7 and 6.2 percentage points, respectively). Furthermore, **Greece, Lithuania** and **Latvia** experienced similar increases during those years of economic crisis. However, Table A12 still reveals that 9 EU Member States had lower unemployment rates in 2011 compared to 2001, although the unemployment rate only continuously decreased since 2004 in **Germany**.

1.3 Pressures of low employment levels of young and old on social security systems, especially pensions systems

Until now, we have discussed possible challenges for policy makers owing to demographic changes and the crisis-ridden rising unemployment rate particularly among young workers. Furthermore, pressure also results from structural labour market shortcomings such as low employment and high unemployment rates, which increases the risk of poverty for affected workers in the short run and also weakens the level of contributions for the social security system in the middle or long run. The financial sustainability of social security systems and especially the pension system is directly related to a high (full-time) employment rate (in connection with adequate wages) and low unemployment rate. By comparison, demographic shifts only have an indirect influence on the financial sustainability, with the growing share of population aged 65 and older creating pressure on the pension system if the number of pensioners increases in line with the projected future demographic shifts. Conversely, decreasing or low employment rates and/or increasing unemployment rates cause financial pressure; particularly on earnings-related social security systems and pay-as-you-go pension systems, even if the number of pensioners remains constant. Accordingly, unemployment and employment rates are the flagship site for the fiscal sustainability of the welfare states in Europe.

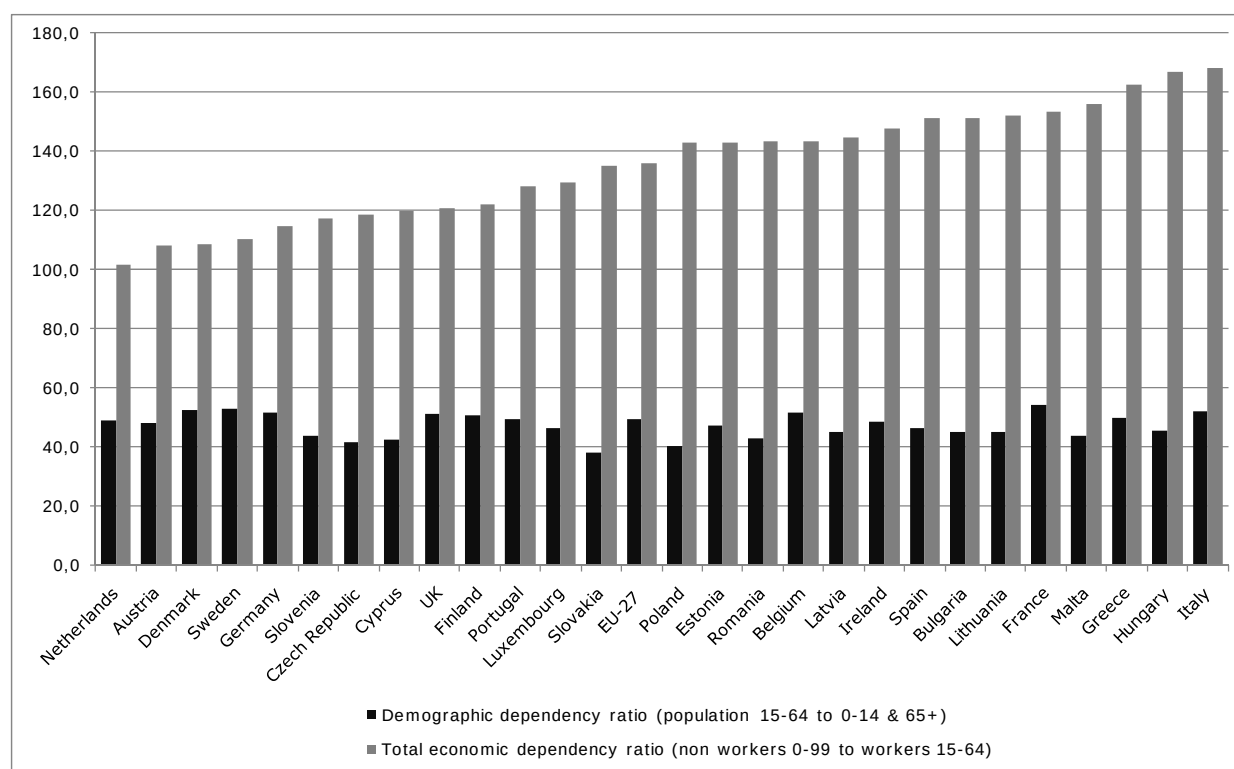
Demographic developments typically attracted greater attention than employment levels and wage structures in discussions and reform arguments. Supplementary to the demographic shifts discussed in section 1.1, we introduce three indicators based on labour market structure (Box 2), which emphasise (1) the importance of high employment rates and low unemployment rates for the financial sustainability of welfare states, as well as (2) the necessity of labour market policy for all age groups (not only for older workers) dealing with demographic shifts and the employment target of the EU-2020 strategy. Given that gainful employment represents the main income source for most working age inhabitants, a high level of employment (in connection with adequate wages) and low level of unemployment play a central role for the everyday life of workers and the promotion of individual and national well-being.

Box 2: Economic dependency ratio

The goal of the economic dependency ratio is to quantify the relation between employees and self-employed who pay social security contributions and transfer recipients. Whereas the demographic dependency ratio compares potential contributors to potential transfer recipients, the economic dependency ratio represents a more precise and qualitative indicator. The Ageing Report 2012 calculates two different forms of economic dependency ratio: (1) the effective economic old-age dependency ratio, marked by the inactive population aged 65 and older as a percentage of the employed population aged 15 to 64 years (**'effective old age dependency ratio'**); and the (2) total economic dependency ratio, represented by the inactive population aged 0-99 years and employed persons (**'total economic dependency ratio'**). This ratio between workers and non-workers also includes children, given that they do not pay taxes or social contributions and can rely to a certain extent on public transfers/services (education system, etc.). Furthermore, we define a third dependency ratio to more closely consider the labour force, comparing the inactive working age population to workers (**'inactive dependency ratio'**).

The 'total economic dependency ratio' (Box 2, inactive population aged 0-99 years to employed persons 15-64) is evidently higher than the demographic dependency ratio, which is often used as an argument for pension reforms in ageing societies (EPC, 2001, OECD, 2008, EC, 2010, WB 2012). On average, the demographic dependency ratio (working age population to children 0-14 and older inhabitants 65+) was around 49% for all Member States in 2010, meaning that for each working age person there are 0.5 persons outside the working age. This ratio varies between 54% in **France** and 40% in **Poland**, where the group of children and inhabitants aged 65+ are clearly below the EU-27 average and the size of working age people is beyond the EU-average, thus resulting in the lowest demographic dependency ratio in the EU.

In EU-27, the 'total economic dependency ratio' (non-working inhabitants 0-99 to active employed) is almost three times higher (136%) than the demographic dependency ratio (49%). The total economic dependency ratios fluctuate between 100% in the **Netherlands** and 168% in **Italy**. As a country with a high employment and low unemployment rate, the Netherlands has a lower total economic dependency ratio than countries with low employment and high unemployment rates. The total economic dependency ratio shows that each working person in the Netherlands statistically supports one non-working person (from babies to the elderly), whereas one working person in Italy supports 1.7 non-working inhabitants. The average in the Member States is 1.4 non-workers (children, adults and people in pension age 65+) per worker.

Figure 13: Demographic dependency ratio and total economic dependency ratio in comparison, 2010

Source: EUROSTAT, LFS, WIFO-calculations

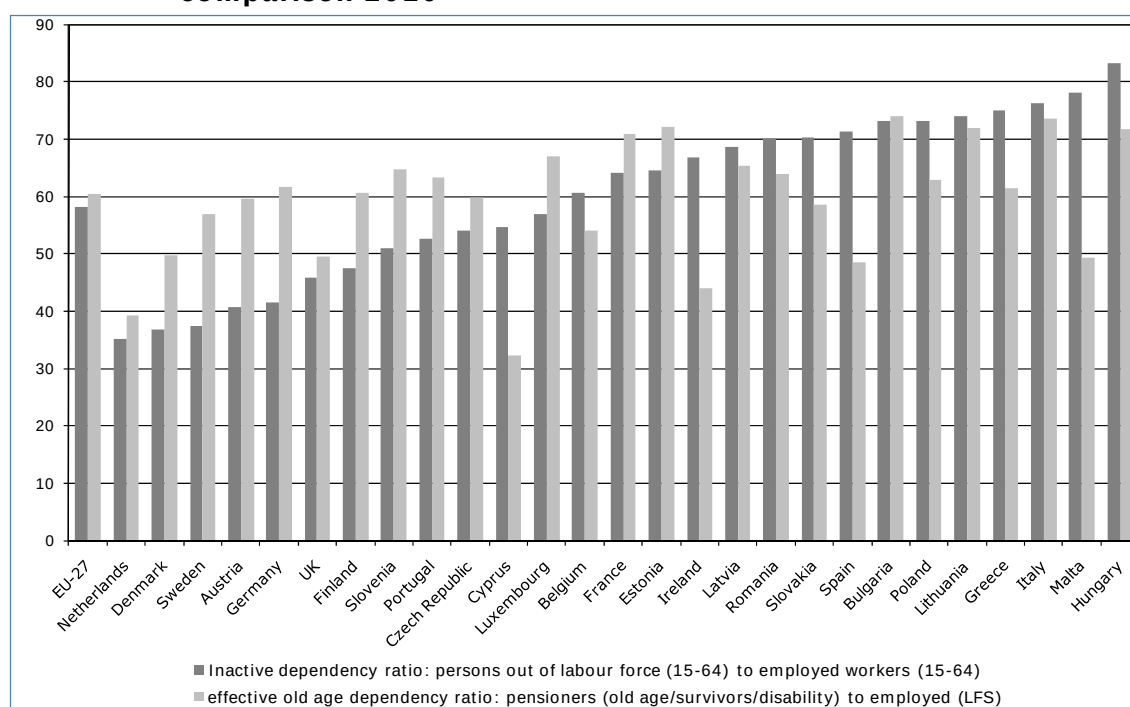
A specific indicator highlighting the importance of high labour market integration of working age people is the 'inactive dependency ratio' (Box 2). The relation of inactive persons of working age 15-64 to workers is high in countries with low employment rates, and vice versa. As shown in Figure 14, the average ratio in EU-27 is 58%, varying between 35% in the **Netherlands** and 83% in **Hungary**. In many countries, the 'inactive dependency ratio' is higher than the demographic dependency ratio. For example, while the demographic dependency in Hungary is below the EU-27 average, the inactive dependency ratio is the highest within the EU. Accordingly, policies based on the demographic structure do not grasp the labour market situation adequately.

A closer look at the effective old age dependency ratio (pensioners to employed, Box 2) in Figure 14 highlights that with an average ratio of 60%, this is slightly higher than the inactive dependency ratio of 58%, and varies between 32.3% in **Cyprus** and 73.9% in **Bulgaria**. The 'inactive dependency ratio' is higher than the 'effective old age dependency ratio' compared to the number employed in 13 EU countries¹, while the economic burden of inactive working age people within these 13 countries is higher than the 'burden' of pensioners. Pressure occurs in these countries not from projected demographic changes (increases in population aged 65 and more) but rather the weak employment rates. From this perspective, the welfare in these countries could be improved by increasing the labour force participation rates. In the 13 mentioned Member States with the highest inactive dependency ratio, the financial sustainability of social security systems could be improved through policies that increase the labour market integration of the working age population. Further pension reforms that - for example - increase the retirement age presumably

¹ Cyprus, Belgium, Ireland, Latvia, Romania, Slovakia, Spain, Poland, Lithuania, Greece, Italy, Malta, Hungary.

improve pension sustainability to a lesser extent than policies that increase employment rates and wages.

Figure 14: 'Inactive dependency ratio' and 'effective old age dependency ratio' in comparison 2010



Source: EUROSTAT, LFS, WIFO-calculations

There is an urgent need to increase the labour market integration of working age people, given that 22.8 million inhabitants were unemployed within the European Union in 2011, of which 23% were younger than 25 years and 18% older than 50 years. At 21.3%, the youth unemployment (15-24) rate was more than three times higher than the unemployment rate among 50-64 year olds (6.95%). In terms of young people, 9% aged 15-24 years are without employment and looking for a job, whereas 4% of the age group of 50-64 years are unemployed. The weak labour market situation in many Member States causes greater pressure on (policy) reforms than demographic changes; furthermore, demographic structures (longevity, etc.) cannot be directly changed as quickly as labour market structures through policy measures. Social security systems depend on labour market developments to a greater extent than demographic developments. As shown by the average EU-27 'inactive dependency ratio', the number of economic dependent persons of working age is almost as high as the relation of pensioners to workers.

Halving the unemployment rate would improve the total economic dependency ratio from 155% to 130%, which would lead to a "double dividend"; namely, more people in gainful employment and the increased sustainability of social security systems. However, the difficulties and uncertainties of long-term economic projections, especially in demographic, quantitative (un/employment rates) and qualitative (marginal jobs, marginal salary) labour market developments, need to be considered when drawing policy conclusions.

2. MEASURES TO INCREASE EMPLOYMENT OF YOUNGER AND OLDER WORKERS

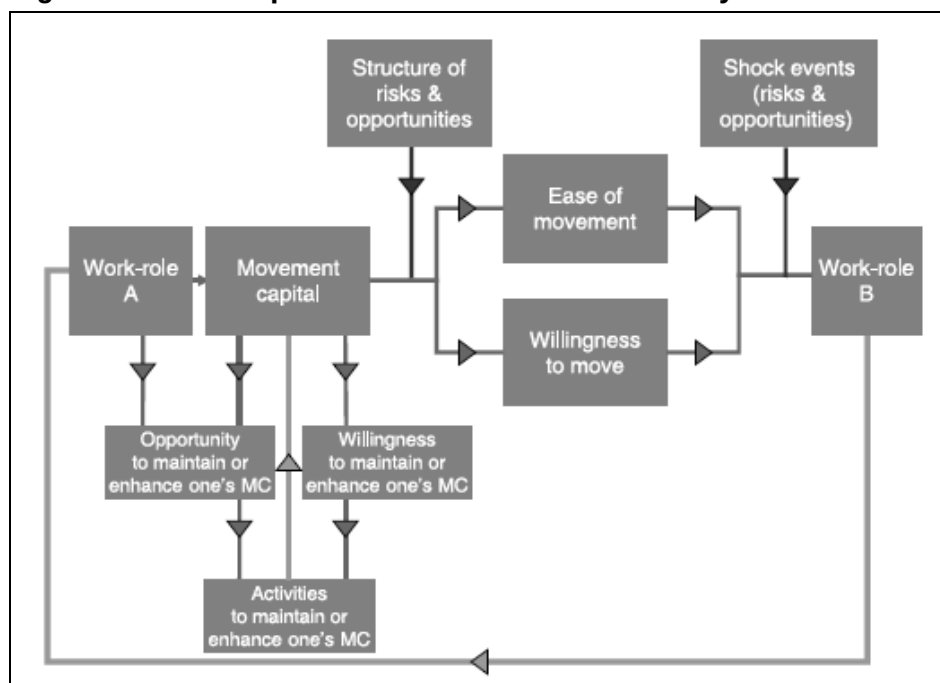
KEY FINDINGS

- Previous studies have stressed that individual differences are often more prominent between members of the same age group than across age groups. However, individual factors such as the lack of professional qualifications (education level or professional experience) are generally considered an important barrier for younger job seekers. While investment in education has proven the most beneficial in **Belgium, Ireland and France**, accumulated work experience has been far more influential in the Southern European countries and the **United Kingdom**. On the other hand, older workers tend to face the risk of skills obsolescence and physical decline.
- While many EU Member States as well as the EU level have placed increasing emphasis on policies to promote younger workers' access to employment, particularly via increasing labour market flexibility, training programmes and hiring incentives, not all such measures are particularly effective. However, research shows that temporary contracts represent a stepping-stone to a permanent contract rather than a dead-end for many younger workers.
- Increased statutory pension retirement age seems to be a necessary yet insufficient condition to increase the employment rates of older workers, given that increasing legal retirement age does not automatically increase labour market attachment of older workers. Reforms to stimulate the labour market environment for older workers require a holistic approach of institutional, legal and social changes on macroeconomic, firm related and individual levels.
- There are no effective policies targeting young and old workers simultaneously, with work sharing policies such as old-age part-time work schemes tending to encourage early retirement without helping younger workers. By contrast, universal policies improving the functioning of the labour market seem to be more appropriate. While active labour market policies can be targeted, age represents only one such criterion.
- More than ten years after its definition, the Lisbon target that half of population aged 55-64 should be active in the labour market has not been reached yet. Accordingly, this could imply that the measures towards the target have not been strong enough. Compared to the Stability and Growth Pact, there is a lack of instruments to foster employment targets, while a new social compact with binding instruments could reflect a step towards integrating labour markets.

2.1 Difficulties for younger and older workers

This section provides an overview of the various factors influencing younger and older workers' chances of finding employment, using the employability process model depicted in Figure 15 (Forrier and Sels, 2003; Forrier et al, 2009).

Figure 15: Conceptual model for career mobility



Source: Forrier et al. (2009)

Forrier and Sels (2003) define employability as the likelihood of obtaining or retaining a job. The model takes into account transitions in the labour market possibly being explained by the interplay between individual (agency) and contextual (structural) factors, not only mapping out such factors, but also showing how they may interact. We use this model as a guideline to discuss the potential difficulties and opportunities faced by younger and older workers in the labour market.

The ageing of the population creates a consensus that the employment rate of the workforce has to increase, particularly among younger and older workers. While the model can help to explain all possible transitions between labour market positions (work roles), we focus on two specific transitions: (1) the transition from unemployment to work; and (2) the transition from work to retirement. We discuss each component of the model separately. Accordingly, when discussing age-related matters, we take into account that individual differences are often more prominent between members of the same age group than across age groups (Warr, 1994).

The model's components are discussed in Box 3. Note that each transition results in a new labour market position, and the entire chain can be followed through again. The labour market position can influence the movement capital and consequently future chances and transitions in the labour market. For instance, as the unemployment spell lengthens, which appears to occur with increasing age (Hanisch, 1999; Hansson et al., 2001), skills may become obsolete. Consequently, the chances of finding a job have the propensity to decrease (Amundson, Firbank, Klein and Poehnell, 1991; De Witte, Vandoorne, Verlinden and De Cuyper, 2005; Gorter and Kalb, 1996). On the other hand, re-employment may increase the movement capital by creating opportunities to learn new skills.

Box 3: Components of the conceptual model

Movement capital is the central agency component in the model, referring to all individual characteristics and competencies influencing the chances of mobility in the labour market. It consists of multiple dimensions (cf. Fugate et al., 2004; McArdle et al., 2007). *Human capital* refers to the knowledge, skills and abilities that may influence individuals' career opportunities. It has been found to increase the chance of finding employment (Wanberg, Kammeyer-Mueller and Shi, 2001). *Social capital* refers to formal or informal networks that are relevant for people's careers (Eby and Buch, 1994; Fugate et al., 2004). *Self-awareness* concerns people's awareness of their strengths, weaknesses, goals and values. It facilitates people to identify career opportunities. *Adaptability* concerns individuals' willingness and ability to change their behaviours and thoughts in response to environmental demands (McArdle et al., 2007). Activities like career counselling, training and outplacement (a.o. Guest, 2000; Van Dam, 2004; Verbruggen, Sels and Forrier, 2007) can maintain or enhance people's movement capital.

Persons with a specific movement capital may have opportunities or run risks in the labour market, depending on the **structure of risks and opportunities** confronted at that time. This central contextual component of the model concerns the *demand for labour*, i.e. the number and kind of jobs available and the skills required. Additionally, *mechanisms determining the match between supply and demand within the labour market* play a role. *Due to labour market segmentation*, certain jobs and labour market positions offer more opportunities than others (Glebbeeck, 1993). For instance, unemployment turns out to 'scar' individuals in negatively affecting both employment prospects and reemployment wages (Arulampalam 2001). Employers can also select people based on individual or group characteristics. This is closely related to discrimination (Phelps, 1972), implying that employers will use individual characteristics such as race, gender and age in their hiring decisions whenever they cannot perfectly measure applicants' qualities (Berk, 1999). Given that *age norms* represent a common view of what people should do at a particular age (Greller and Simpson, 1999; Neugarten, Moore and Lowe, 1965), they may also stimulate or temper the demand for and supply of certain (types of) individuals within the labour market and so may institutional policies and incentives.

One first concept indicating that individual and context concurrently shape careers is '**ease of movement**'. Forrier et al. (2009) consider people's *perceived* ease of movement as the individual perception of the available alternatives in the labour market.

The **willingness to move** is also determined by the interplay between movement capital and the structure of risks and opportunities. It refers to people's readiness to make a transition from one position to another. Among other factors, this willingness to move is influenced by the attractiveness of the future labour market position versus the current labour market position and alternative labour market positions. **Shock events** are also highly relevant to understanding mobility in the labour market. Forrier et al. (2009: 750) define shock events as "very distinguishable events which lead an individual to make judgments about remaining with or leaving their current labour market position". Examples are receiving an unsolicited job offer or having a financial setback.

Several studies have considered **labour market trajectories** to assess people's employability in the labour market. They focus on the likelihood of obtaining a job, the quality of the job or the extent to which individual career aspirations are met.

2.1.1 Younger workers

The proposed conceptual model offers multiple factors that may stimulate or jeopardise younger workers' chances in the labour market. First, younger workers may lack the qualifications or experience to convince employers of their capacity to work. Furthermore, differences in educational level among younger persons have been found to imply differences in labour market prospects (Isengard, 2003), with OECD research indicating that low-skilled youth (i.e. without upper-secondary schooling) had an average unemployment rate 1.8 times that of tertiary graduates in the OECD area in 2009 (Scarpetta and Sonnet, 2012). Using the first two waves of the European Community Household Panels, Russell and O'Connell (2001) concluded that the type of human capital that younger individuals need to invest in to optimise their chances of finding employment varies between the studied countries. While investment in education has proven the most beneficial in Belgium, Ireland and France, accumulated work experience was far more influential in the Southern European countries and the UK.

Younger workers' network is also important. Contrary to older persons, younger adults usually seek instrumental contacts providing them with information and opportunities to benefit from (Carstensen, 1998; Kanfer and Ackerman, 2004). In particular, parental employment and higher social class may foster access to employment networks (Smyth, 2008).

Contextual factors have to be considered as well. Younger individuals may, for instance, experience more pressure to leave unemployment and find a job or continue education. If they prefer the security of remaining in education over the insecurity of unemployment and job searching, they may delay their entrance into the labour market. Additionally, the economic environment may affect younger workers' employment prospects. For instance, Gangl (2002) found that less qualified young workers are more vulnerable in times of economic downturn. While the demand for labour is limited in times of economic crisis, groups of typically underrepresented individuals in the labour market may have more chances to be hired in a situation of labour shortages (Loretto and White, 2006; Wilson, Parker and Kan, 2007).

As for the quality of transitions into employment, many youth jobs turn out to be temporary (OECD, 2012). Still, research shows that temporary contracts represent a stepping-stone to a permanent contract rather than a dead end for many younger workers (Cockx and Picchio, 2009). Furthermore, younger job seekers may accept a job for which they are overeducated to leave unemployment. Baert et al (2012) found that such underemployment is often a trap, as it tends to delay the transition to adequate work. Yet, the authors note that younger workers may prefer underemployment over unemployment, owing to its known financial and psychological costs (Verhaest and Omey, 2009).

2.1.2 Older workers

Studies have repeatedly indicated that ageing leads to physical decline, such as deteriorating health and strength (Ilmarinen, 2006; OECD, 2006). The impact of age on cognitive abilities is less straightforward, with a distinction made between 'fluid' and 'crystallised' intellectual abilities (Skirbekk, 2003). 'Fluid intellectual abilities' refer to cognitive capacities such as the way and speed of processing new information, which generally peak around the age of twenty (Schaie, 1996) and strongly reduce at older ages (Kanfer and Ackerman, 2004; Skirbekk, 2003). 'Crystallised intellectual abilities' have the tendency of increasing with age, and relate to the accumulation of knowledge and skills. Older unemployed might be more attractive for jobs that make use of crystallised intellectual abilities and rely less on fluid intellectual abilities and/or physical ability.

Increasing experience and job knowledge may outweigh declining mental abilities, yielding superior performance well into middle age (Kanfer and Ackerman, 2004; Warr, 1994).

Older workers are often confronted with age-related stereotypes, with them believed to be more expensive, less qualified or productive, less flexible, more resistant to workplace changes, less adaptable to new technologies, and more difficult to train. However, they are also often regarded as being more experienced, reliable, loyal, and capable of working more effectively and being more committed to quality (Loretto and White, 2006; Posthuma and Campion, 2009; Roscigno, Mong, Byron and Tester, 2007; Taylor and Walker, 1994, 2003; Wilson et al., 2007). For instance, Oswick and Rosenthal (2001) found that older workers were only selected for those jobs associated with positive stereotypes. However, after reviewing the literature on age-related stereotypes in the workplace, Posthuma and Campion (2009) concluded that it remains unclear which stereotypes are valid. Still, older workers are often more expensive owing to pension pay-outs and particularly seniority wages (OECD, 2006; Roscigno et al., 2007; Taylor and Walker, 2003).

Research shows that older individuals are less likely to find work in countries where wages rise more steeply with age (OECD, 2006). They also face considerable entry barriers in jobs with steep wage profiles and pension benefits (Hirsch, Macpherson and Hardy, 2000), and are less likely to be hired in jobs providing fringe benefits (Koeber and Wright, 2001; Scott, Berger and, Garen, 1995).

According to traditional career models (Super, 1957), older individuals typically search for status quo and finally withdrawal in their careers. Accordingly, they might have difficulties concerning the insecurity and changes generated by unemployment, and thus may prefer to leave the labour market rather than trying to achieve re-employment. Older individuals will decide to make the transition from unemployment to work, if they consider this an attractive step compared to remaining in unemployment or (early) retirement. Accordingly, financially attractive pathways into (early) retirement or high severance payments may keep older workers from remaining active. Furthermore, re-employment at older ages is often associated with declining wage and status (Greller and Simpson, 1999; Hansson et al., 2001; Johnson and Kawachi, 2007; Parrado, Caner and Wolff, 2007). It is important to note that age norms and resulting social pressure can also influence the readiness for re-employment, given that starting again at the bottom or having to retrain can be seen as inappropriate for workers of a certain age (Hansson et al., 1997).

Research dealing with the re-employment of older unemployed repeatedly concludes that age has a negative effect on the chance of finding a job (Addison and Portugal, 2004; Hanisch, 1999; Hirsch et al., 2000; Wanberg, Glomb, Song and Sorenson, 2005; Wilson et al., 2007). Consequently, older individuals may have to end their career more than once, making the transition from unemployment to retirement (Hanisch, 1999). Moreover, several authors agree that older individuals experience considerable wage losses in comparison with the previous job (Gregory and Jukes, 2001; Koeber and Wright, 2001; Polsky, 1999). They also tend to end up in temporary, part-time and/or lower level jobs (Greller and Simpson, 1999; Groot, 1990; Hanisch, 1999; Hirsch et al., 2000). Nonetheless, this does not necessarily lead to dissatisfied older workers, with Eichar, Norland, Brady and Fortinsky (1991) finding that intrinsic (e.g. autonomy and skill) rather than extrinsic indicators (e.g. pay) influence the satisfaction derived by older workers from their jobs. In this respect, they may perceive objectively worse jobs as subjectively better and more satisfying.

2.2 Overview of measures targeting the entry into the labour market of the youth

2.2.1 Launch of various policies to increase youth employment

While the previous chapter exhibited the various difficulties faced by young people with a view to entering the labour market, the following chapter provides an overview concerning the measures initiated by the Member States to tackle such problems. Accordingly, the section first addresses the policies introduced at the European level, before presenting policies attempting to combat youth unemployment are presented, which were launched by EU Member States, starting with the outbreak of the financial crisis in 2008. An overview on the specific measures taken by the Member States can be found in table A15 in the annex of the report.

Policies in place at the European level

EU Member States are primarily in charge of paving the way for young people to enter the labour market. However, the EU can support them by exerting influence in political decision-making. In this context, the European Commission launched the “Youth on the Move” programme, an EU flagship initiative that began in 2010 as part of the “Europe 2020” strategy. The programme shall promote policy measures at national and European level to enhance educational and training systems (European Commission, 2011b).

In particular, “Youth on the move” focuses on three key areas. *Firstly*, the initiative addresses the development of modern education and training systems as being crucial to deliver key competences. This contains the reduction of early school leaving to 10% by concentrating on prevention and targeting on those at risk of dropping-out of school the encouragement of vocational education and training (VET) and early workplace experience in the form of apprenticeship-type training and traineeships as well as the expansion of career and life-enhancing learning opportunities for non-formal and informal learning for the youth. *Secondly*, the initiative intends to promote higher education for the knowledge economy, supporting the development of transnational learning. To reach the goal of 40% attainment of higher education or equivalent, all Member States are supposed to modernise higher education. For example, this can be achieved by increasing the quality and transparency of its institutions and creating partnerships throughout the entire world. *Thirdly*, learning mobility to increase future employability is supported, also by promoting employment mobility across the European Union to ease young workers’ moving and working within the European Union. This might provide young workers with experiences and skills, as well as contribute to better matching labour supply with labour demand. Accordingly, the procedures in terms of the social security system and the general free movement of workers shall be simplified (European Commission, 2010).

In December 2011, the “Youth Opportunities Initiative” was launched as response to the growing youth unemployment since 2008, followed by the “employment package”, adopted in April 2012. The package specifies policies regarding the reduction of early school leavers and a modernisation of education, and also addresses skills that should be developed to meet the demands of the labour market, thus easing the transition from school to work. In May 2012, in its resolution on the Youth Opportunities Initiative,² the European Parliament stressed the importance that Member States should take measures at national level to safeguard that young people are either employed, in education or training within a period of four months of becoming unemployed or leaving formal education. Against this

² European Parliament Resolution on the Youth Opportunities Initiative (2012/2617(RSP)), 24.5.2012.

backdrop, the European Parliament insisted on embedding the Youth Guarantee scheme legally, in order to enable its enforcement (Council of the European Union, 2013).

Building upon existing Youth Guarantee approaches within some Member States, such as **Austria, Finland, the Netherlands and Sweden**, the establishment of a European-wide Youth Guarantee aims at supporting Member States with above average youth unemployment rates. The Youth Guarantee attempts to improve access to the labour market. This includes the establishment of partnerships and career guidance services at national, regional or local level to ensure that young people take informed decisions regarding their professional career and are aware of the fact that services are provided to them after leaving school. In addition to this, relevant labour market actors should create partnerships with employers to promote youth employment by offering first work experience and on-the-job-training (European Commission). The Youth Guarantee shall also help safeguard an involvement of youth organisations or representatives to take into account the specific needs of beneficiaries (European Commission, 2012e). According to the European Commission's proposal, 'the term "Youth Guarantee" refers here to the fact that young people [aged 15-24] receive a good-quality offer of employment, continued education, an apprenticeship or a traineeship. An offer of continued education could also encompass quality training programmes leading to a recognised vocational qualification' (Council of the European Union, 2013). Finally, at the EU's Council of Employment and Social Affairs Ministers on 28th February 2013, the Council adopted the proposed Youth Guarantee Recommendation (European Commission, 2013b).

In January 2011, the Commission approved "Tackling early school leaving: a key contribution to the Europe 2020 agenda". Thereafter, policies should particularly target children with immigration backgrounds. It also highlighted the importance of intervention schemes dealing with problems such as absenteeism and poor performances, as well as second-chance learning schemes. In 2010 the Commission adopted a communication on "A new impetus for European cooperation in vocational education and training to support the Europe 2020 strategy". That is, vocational education and training shall endow young people with skills relevant to evolving labour markets. For instance, those skills encompass abilities related to the use of information technology. In September 2012, the European Commission submitted a proposal for a 'Council recommendation on the validation of non-formal and informal learning', as part of the 'Youth on the move' initiative. On the one hand, the proposal stresses the importance of creating new learning opportunities. On the other hand, it is designed to achieve a significant impact on the functioning of the labour market through a European-wide validation mechanism (European Commission, 2012f).

Measures taken at the national level

The following section describes the policies introduced in the EU Member States to target young people's entry into the labour market during the last five years. First, policies regarding the general school education are taken into account, before considering training and employment-related policies as well as the role of activation policies related to amendments within the benefit systems.

Measure 1: School education/Preventing early school leaving

In the area of schooling, the most prominent means across the Member States relate to those preventing early school leaving. Early school leavers are those people aged 18-24 with a lower as secondary level education not participating in any further education or training. In countries such as **Spain, Malta and Portugal**, the rate of early school leavers exceeds 30%. To guarantee that young people learn basic skills, several countries have installed extra support classes, observing pupils' achievements much closer than

previously. For instance, in **Greece**, such kinds of classes exist throughout primary and secondary education in order to enhance pupils' performance. The 'Hope for suburbs' programme in **France** supports young people stemming from underprivileged areas, with 200 schools providing intense training for those delivering poor results. The 'Acting for youth' plan in the same country has extended compulsory education from 16 to 18 years, entailing the 'right to prepare for working life' in the sense of benefiting from training or taking up a job after leaving school.

In some countries, such as **Bulgaria** and **Romania**, early school leaving is linked with household poverty. In **Bulgaria**, school social assistance programmes are in place, providing breakfast, free textbooks and other benefits for children in primary grades. In **Estonia**, the 'Action plan for growth and jobs 2008-2011' focused on young people to continue their studies, including language teaching to non-nationals in pre-school education. **Estonia** and **Spain** concentrate on meeting the obligation of school attendance, while the 'New opportunities initiative' in **Portugal** attempts to increase the basic and secondary education rate (European Commission, 2011a). In addition, the government intended that the number of students (aged less than 18) enrolled in vocational and technological course should amount to 50% by 2010. According to an evaluation of the 'New opportunities initiative', in 2009/2010 around 43% of the students concerned were enrolled (Carneiro, R., 2011).

France, **Greece**, **Luxembourg** and **Austria** have also introduced so-called second-chance schools, placing emphasis on practical skills and work experience, whereas **Estonia**, **Spain** and **Finland** have introduced guidance measures for early school leavers. In **Finland**, early school leavers were assigned to personal advisors, providing advice and support in the form of a search team to find either employment or a way to further educate the early school leaver (European Commission, 2011a). In the **UK**, the 2008 Education and Skills Act provides that all young people will have to remain in education or training until the age of 18 by 2015. Accordingly, young people have to either participate in education or training at a school, college and home education, or carry out work-based learning such as an apprenticeship (Skill, 2009). Another approach to prevent early school-leaving is followed in the **Netherlands**, where the Ministry of Education, Culture and Science has established so-called regional covenants together with municipalities and schools. Financial support is offered by the Ministry in order to create education programmes and share information on good practices (Bekker, 2010).

Measure 2: Development of training systems

To better link the educational system with work experiences, a couple of Member States have initiated measures to close the gap between the educational system and the latter employment on the labour market. Several Member States have created vocational training programmes or expanded the number of vocational training places, including **Belgium**, **Spain**, **Latvia**, **Portugal** and **Finland** (European Commission, 2011a). In **Austria** and **Germany**, a 'dual' vocational training system has long been in place, combining work experience through on-the-job learning and classroom education at a vocational school. The system is supported by employers, trade unions and the government, particularly with regard to the legal framework and financial means. The system facilitates a relatively smooth transition from school to work (Biavaschi et al., 2012: 35).

In **Austria**, the Vocational Training Act (Berufsausbildungsgesetz) entails an apprenticeship guarantee (Ausbildungsgarantie) for all young people up to the age of 18 (European Commission, 2011a). The act was refined in 2008, providing a supra-company training programme until its completion for those who cannot find a company-based apprenticeship

(Arbeiterkammer, 2009). Accordingly, young people are trained until they have either found a company-based apprenticeship or completed the apprenticeship. In the meantime, the Public Employment Service Austria (Arbeitsmarktservice Österreich) supports those concerned by searching for a company-based apprenticeship. The programme offers more than 100 of those supra-company apprenticeship trainings. In the case of the successful transition from a supra-company to company-based training, the full credit of the already-completed training is guaranteed (Hohbein and Wieland, 2011).

In **Germany**, the “National Pact to Promote Training and Young Skilled Workers in Germany” has been in place since 2004, introduced to offer training opportunities to young people willing and able to hold an apprenticeship. The Training Pact was refined in 2007, to include joint efforts of social partners (Federal Ministry of Labour and Social Affairs, 2010).

Measure 3: Employment protection

While high levels of employment protection decrease labour demand, employment protection cushions the negative effects of an economic slump on the labour market. On the other hand, low levels of employment protection lead to generally higher labour demand yet relatively high unemployment rates during an economic downturn. Young people are predominantly hired under low protection contracts (Boeri, 2011). Nevertheless, the Spanish example shows that high employment losses can occur despite high employment protection (Balakrishnan and Berger, 2009).

One reason for the high rate of unemployment across **Spain** is the employment protection legislation for employees, with a permanent contract including high firing costs covered by collective bargaining agreements. On the other hand, employees or workers under fixed-term jobs exist, among which youths are overrepresented, and they can be dismissed relatively easily. Consequently, the Spanish labour market exhibits a strong dual structure in the form of an insider-outsider division.

The Spanish reform of the labour market carried out in 2010 and 2011 contained changes regarding individual dismissals. Today dismissals for economic reasons, triggered by current and expected losses or reductions in revenues, are considered a cause of fair dismissal. In this context, the advance notice was shortened from 30 to 15 days. Moreover, the Spanish government decided to create a new permanent contract including an express dismissal procedure with a maximum severance pay of 33 days' wages and no advance notice. For employees and workers with temporary contracts, severance pay was increased from 8 to 12 days' wages (Bentolila et al., 2012).

In **Italy**, uncertainty and costs related to dismissals were previously responsible for employers relying on temporary contracts (IMF, 2012: 15-16). Therefore, the labour market reforms, approved by the Italian Parliament in June 2012, included individual dismissal rules and procedures. In order to reduce time and uncertainty related to individual dismissals, the discretionary area for judges in this respect was restricted. The “fast judicial track” intends to reduce indirect costs with regard to time and uncertainty owing to dismissal disputes (Fornero, 2012). The previous legislation included the possibility of every employee working in a business unit with more than 15 employees, or for an employer with more than 60 employees to claim their job back. In addition, the employee was entitled to receive all lost salary since their dismissal and the employer could be forced to rehire the employees through the labour court's decision. Since the reform came into force in July 2012, the employee can no longer claim their job back in case of a lay-off due to an economic reason. Meanwhile the employee may only be granted an indemnity fixed by the labour court (Lexology, 2012).

Measure 4: Active labour market policies (e.g. hiring subsidies)

Lacking labour demand resulting from insufficient growth represents another factor for increasing unemployment among the youth, prompting active labour market measures aiming at increasing the employers' demand for hiring young workers (ILO, 2010). Active labour market policies (ALMP) are usually understood as "bringing unemployed back to work by improving the functioning of the labour market in various ways. ALMP include programmes such as public employment services, labour market training and subsidised employment" (Boone and van Ours, 2004: 2). One of the most prominent measures used to combat (youth) unemployment during the recession of 2008/2009 was short-time work resulting from an economic downturn and shortfall of orders. This scheme allows employers to reduce the working hours during times of economic difficulties. Many Member States have carried out short-time working schemes or partial unemployment benefit scheme during the economic slump, and some have even expanded the coverage of existing schemes or eased procedures for their application. Moreover, new schemes have been implemented in some Member States, including **Poland**, the **Netherlands**, **Hungary**, the **Czech Republic**, and the **Slovak Republic** (Hijzen and Venn, 2011: 7).

Across a number of Member States, including the **Czech Republic**, **Lithuania** and **Slovenia**, there are no tailor made ALMPs for young people. However, several Member States such as **Austria**, **Belgium** or **Spain** have incentivised youth employment by hiring subsidies and reductions of the non-wage related costs. Such policies aim at stimulating additional demand from the employers' perspective, in order to create new jobs for the youth (European Commission, 2011a). Measures such as wage and (labour market) training subsidies are taken to decrease work-related costs and incentivise the recruitment of young workers, and are typically provided by the government to support companies hiring or training an unemployed young employee or worker. Subsidies are sometimes paid directly to the employee or worker, with employment agencies or offices typically responsible for providing the funds. Public works programmes, which contain mostly direct employment opportunities through public activities, can also be mentioned in this context. Nonetheless, as stated by Kluve (2006), no significant positive effect and even some negative outcomes regarding the post-programme employment have been found (ILO, 2010: 57-58).

In Austria, existing programmes to encourage young people to participate in training measures were expanded in 2009 through the programme 'Campaign for the future of young people', which addresses those aged between 19 and 24 in safeguarding that young unemployed obtain a job placement through skills training, employment subsidies and other projects (European Commission, 2011a). One such example of an active work programme followed in **Austria** is the "C'mon 14" and "C'mon 17" programmes, providing individual counselling for young people to enter the labour market. A so-called case manager assists the individual and helps to plan their next steps to access the labour market (European Youth Forum, 2012).

Meanwhile, some Member States have launched so-called youth guarantees, with **Finland** and **Sweden** creating schemes to avoid long periods of unemployment and inactivity amongst young people. The programme itself is implemented by public employment services and begins with a personalised needs assessment and an employment plan. The latter can encompass a job or a study opportunity, either in an academic or vocational sense, as well as an alternative option (Eurofound, 2012a).

In the **UK**, two different youth guarantees were introduced during the crisis. First, the 'September guarantee' for those young people aged between 16 and 17 and second, the 'Young person's guarantee' for young unemployed. Concerning the 'September guarantee', local authorities are responsible for offering those concerned with an appropriate education

or training route, which might encompass apprenticeships, a foundation learning tier, general qualifications and diplomas. The 'Future Jobs Fund' targets all those young people unemployed for more than 10 months, and includes a work placement, community task force, and pre-employment training to pave the way to enter the labour market, as well as care for first careers or work-focused training (European Commission, 2011a).

Another measure introduced with the outbreak of the financial crisis, which is closely related to active labour market policies, is the **promotion of self-employment**. Furthermore, several Member States have also initiated programmes to support self-employment, often encompassing mortgages or other forms of financial funding to start an own business and gain entrepreneurial knowledge (European Commission, 2011a).

Those programmes can be found, inter alia, in **Spain, Ireland, Portugal, Greece, Sweden and Finland**, and aim at enhancing the entrepreneurial skills of young people through hands-on experience (CEDEFOP, 2011). According to the European network on youth employment, the Imprenditorialita Giovanile (IG) S.p.A in **Italy** and the Prince's Trust – Business (PTB) in the **United Kingdom** are considered valuable programmes in promoting youth entrepreneurship (European Network on youth employment, 2010: 147-148).

Beside relatively common approaches within the European Union, a wide range of specific ALMPs also exist across the Member States. All such programmes commonly target the entry of youth into the labour market. For instance, this includes a start-up bonus paid to young people in **Belgium** who begin with practical training or gain first work experience. Similarly, in **Bulgaria**, the programme 'Youth work experience' involves hiring subsidies for the coaching of those who have not found employment after their graduation. In the **Czech Republic**, language and IT courses are offered to young people. The same target group is also accounted for by the **German** 'Jobstarter connect' programme, which intends to improve the school-to-work transition. The programme aims to create additional apprenticeship training opportunities and support inexperienced firms. A more restrictive approach is followed in **Denmark**, where it is mandatory for young people to participate in ALMPs after a short period in open unemployment.

Other ALMPs across the European Union include the establishment of a local investment fund to support public works, or the reduction in social contributions for young people starting with their own business. In addition to the aforementioned ALMPs in **Spain**, the 'School workshop and craftstraining' programme exists for unemployed young under 25 years, including training followed by a work placement stage.

In **Luxembourg**, employer incentives exist to hire or train young people by receiving an allowance of 30% through the Employment Fund if certain conditions are met. In **Latvia**, a tax privilege entails that employers are partly exempted from social insurance contributions when offering first time job seekers a work placement. Alternative measures to help the youth enter the labour market involves the establishment of internships for young people up to 25 years, financially supported by the government in **Poland**. The same group is targeted by the 'Work experience for school leavers' programme in **Slovakia**, which attempts to endow young people with practical skills at specific employers.

Measure 5: Reforms of the benefit system due to activation policies

This section describes measures in some of the Member States in relation to social security benefits and activation policies. Within the youth employment framework, the modernisation of the social benefit systems is addressed as part of the 'Youth on the move' initiative. Hereafter, access to social benefits should be safeguarded when perceived as appropriate. In addition, it should be expanded in the case of insufficient coverage of income safety for the youth. At the same time, activation measures and conditionality should guarantee that those concerned are actively searching for workplaces or willing to participate either in education or training. Young people often face the same requirements regarding the entitlement of unemployment benefits as older employees. Accordingly, if a young person does not meet the criteria for the entitlement owing to a lacking overall working period, they are unable to claim unemployment benefits. However, in **Ireland** only slight differences existed between young and older persons concerning the eligibility of unemployment benefits. In May 2009, the 'Jobseeker allowance' targeting those aged between 18-24 years was reduced, with the exception of those making use of training and education programmes offered to them.

In **Belgium**, the so-called 'Start-up bonus' programme was installed in 2008, awarded to young people who begin with hands-on training or gain other work experience besides their obligatory education. In the **Netherlands**, the 'Investment in Youth Act' was introduced in 2009 to help young people to enter the labour market. At the same time, young people aged from 18 to 27 were no longer entitled to obtain social assistance. This was initiated to avoid a possible dependence of young people on wage replacement benefits. If those concerned find a workplace, they are paid a salary by the employer, whereas if they chose to attend further education, they obtain an income similar to social assistance (European Commission, 2011a).

Besides the most prominent measures identified above, it is notable that various forms of initiatives have been launched to tackle youth unemployment, including those designed to stimulate the national mobility of young people. Nonetheless, it is important to stress that only some of those measures specifically target young people, whereas most have a broader spectrum. For example, such measures can be found in **Belgium**, the **Czech Republic**, **Lithuania**, **Portugal**, **Slovakia** and **Finland**. Moreover, measures are in place to foster transnational mobility, including those in **Spain**, **Italy**, **Malta**, the **Netherlands**, **Portugal**, **Slovakia** and **Finland**. Another measure is the recognition of non-formal and informal learning, which targets young people who have gained certain knowledge and skills through work experience. A system for the recognition of non-formal and informal learning is already in place in Member States including **Estonia**, **Luxembourg**, the **Netherlands**, **Portugal**, **Romania** and **Slovakia**, while other Member States such as **Greece**, **Latvia**, **Lithuania**, **Hungary** and **Finland** are developing such a system. In the **Netherlands**, concrete national targets for the recognition process of informal learning of early school leavers even exist (European Commission, 2011a).

2.2.2 Evaluation results

Given the breadth of strategies available to fight youth unemployment, it is important to assess their expected performance in overcoming the supply- or demand sided restrictions that prevent a stable integration of youth into employment. While evaluation results of recently initiated programmes and policies are not yet available, past experiences with similar programmes and a review of the respective evaluations might provide some indication regarding what to expect. However, before summarising the findings of the previous evaluation literature in more detail, two notes of caution are warranted. First, owing to differences in the institutional framework of countries, differences in programme participation (e.g. the share of high or low skilled youth) and implementation (e.g. timing,

duration and intensity), the effectiveness of programmes might not be generalisable. Unfortunately, not all evaluations provide a detailed assessment of these respective programme details, and we outline them when available. Secondly, it has to be kept in mind that different economic conditions might change the effectiveness of programmes in general, e.g. measures stimulating labour demand might have a different impact under a high or low labour demand. For example, Forslund, Fredriksson, Vikström (2011) for Sweden, and Lechner, Wunsch (2009), for Germany, both found that longer-term training measures are more effective if labour demand is low, explained by the lower locking-in effects. However, for other policies the direction of the change is not clear, thus requiring further evidence.

Summarising the content of the proposed strategies, one can essentially categorise them into four groups. First, there are programmes intended to increase the educational attainment of youth, by either increasing the general schooling age, facilitating participation in higher education for high achieving youth, and extending the scope of vocational training, to increase participation of more practically-oriented youth. On the one hand, a higher educational attainment might be linked to (a signal of) higher productivity, thus increasing the attractiveness of youth to employers. On the other hand, it is believed that extended schooling options can delay the labour market entry for youth, which is beneficial in times of an economic downturn when youth have few chances to find employment. Previous experience concerning the increase in general schooling levels in the **Netherlands**, **Germany**, and **Sweden** shows that an expansion of compulsory schooling laws generally does not have an effect on the labour market outcomes of youth. Oosterbeck and Webbink (2007); Pischke and von Wachter (2008); Hall (2012) are able to exploit the discontinuous increase in schooling levels in the respective countries, and find no effect on wages or participation rates in higher education. Clearly, this is rather surprising given that either a positive effect via the increase in human capital, or a negative effect through the foregone work experience during this additional year of schooling would be expected. One explanation for this is that work experience and human capital are considered substitutes in the labour market, so if youth are able to acquire work experience when they are not in school, they should be similar off, as if they had stayed in school. Under adverse economic conditions, this might not hold, however. A differential effect of a prolongation of schooling by economic conditions still needs to be assessed in further research. A limitation to the increase in the general schooling age is shown in the study of Hall (2012), who finds that low achieving youth are more likely to drop out of school when faced with an additional year of general schooling. Therefore, an optimal policy design should accommodate the heterogeneous education aspirations of youth by offering tracks for such youth, or complementing these reforms with second-chance education options.

Secondly, and on a related note, another set of policies focused on the educational achievement of youth arrive in the form of Active Labour Market Programmes (ALMP) aimed at reducing the mismatch of the skill supply and demand, or providing additional schooling qualification for youth with low or no schooling levels. The programmes might be general in nature or provide a vocationally related education, and their duration may vary from several weeks, to several months. Evaluation results from the **UK** (Dorsett, 2006), **Denmark** (Jensen, Rosholm, and Svarer, 2003), **France** (Brodaty, Crepon, Fougère, 2002) and **Sweden** (Larsson, 2003) indicate that, irrespective of this variation, training measures are not very effective in helping youth into the labour market, yet might have some positive effects on the integration into further education. Only an evaluation study from **Germany** (Caliendo, Künn, Schmidl, 2011) shows positive effects of programme participation on the future employment probability. While the overall negative findings might be related to programme content being insufficiently aligned to labour market needs, one solution for its improvement might be to increase the learning content in the firm, as

this naturally fosters the contact to employers and ensures that the skills training is related to the labour market needs. The German study investigates the performance of longer-term internships in firms that are aimed at integrating youth into the dual apprenticeships, finding that the programme is successful in doing so. Further evidence would be needed to observe whether similar training programmes could be used to increase employment probabilities of participants.

Third, there are policies aiming to improve the search efficiency of youth, helping them to integrate into the labour market by providing advice on further training and employment options available. While there is a tendency to provide individually adjusted guidance, evaluation results only exist for standardised search assistance and monitoring, yet all of them provide fairly positive results. By the shortness of the programme, they are not expected to remove any structural deficiencies of youth; however, a positive effect can be attributed via facilitating further participation in other ALMP or the education system, which subsequently improves labour market outcomes. While a study from the UK (Blundell, Meghir, Costa Dias and van Reenen, 2004) finds both a positive effect from the intense job search counselling and the further participation in ALMP, an evaluation of a **Portuguese** (Centeno, Centeno and Novo, 2009) monitoring programme shows no direct improvement of employment probabilities, yet an increase in the transition to further education options.

Finally, there are measures that aim to overcome demand-side restrictions by providing financial incentives for employers to hire unemployed youth. The rationale behind these measures is youth are less able to signal their abilities and are on average less productive than older workers, owing to their low work experience, and therefore the initial investment associated to the hiring of a youth is to be borne by the government. The duration of the subsidy may vary from some months to several years, with some countries combining the hiring subsidy with the obligation to provide some on-the-job training. Evaluations of these types of measures are generally very positive, indicating that youth are able to enter further unsubsidised and stable employment after having participated in these programmes (see Brodaty, Crépon and Fougère (2002) for **France**, Dorsett (2006) for the **UK**, Larsson (2003) for **Sweden**, Cockx, Robin, Goebel (2006) for **Belgium** and Caliendo, Künn, Schmidl (2011) for **Germany**). In the majority of countries, the integration of youth is found to be rather stable, although separate evaluations of the training component do not exist. However, these positive effects might hide the overall negative social effects, as hiring subsidies to some youth might crowd out the demand for unsubsidised youth. Unfortunately, no evidence is yet available on the general equilibrium effects of such measures.

As previously mentioned, the implementation details of programmes are vital in ensuring their success, and generally have to be adapted case by case to ensure a relevant link to the labour market. However, generalizable results exist for some programme parameters, for instance the timing. In particular, it is found that a small lag between entry into employment and entry into activation schemes is more beneficial than activating youth immediately after unemployment entry. While it is clear that long spells of unemployment, (i.e., longer than 6 or 12 months) should be avoided, an instant engagement into ALMP is also inefficient, as it is associated with very large locking-in effects. Rather than being able to search for employment, youth have to participate in programmes and are thus considered “locked” in the programme. In general, short programmes with low intensity should be offered first and aim to complement their own search efforts, and longer programme participation should only be considered if this fails. In addition, it has been shown that the threat effect of a programme (i.e. the threat of having to enter a programme after a given point in time) is sometimes stronger than the content of a programme itself. Clearly, this ability to react to this threat would be much reduced if youth were placed into programmes immediately.

2.3 Overview of measures to prevent the early exit of the labour market of the older workers

2.3.1 Policies in place at the European level

At the European level, the promotion of employment of older workers has been a target for over a decade. The Lisbon strategy defined active ageing as main goal to reach full potential of labour supply to sustain economic growth and improved wealth within Europe (European Commission, 2004). In March 2001, the European Council defined that half of the population aged 55-64 should become active on the labour market until 2010. One year later, the Council in Barcelona formulated a complementary target: to increase effective average retirement age by five years by 2010 (European Commission, 2003). As shown in Table A7, in 2001 five Member States reached the Lisbon target: **Sweden, Denmark, UK, Portugal and Romania** reported employment rates of older workers at 50% or more. By 2011, eleven out of 27 Member States had met the targeted employment rate (**Sweden, Germany, Denmark, Estonia, Finland, UK, Netherlands, Cyprus, Latvia, Lithuania and Ireland**), while in the pre-crisis-year of 2008, twelve Member States were able to meet the Lisbon-target.

The EU-2020 strategy target is to increase the overall employment rate of working age population 20-64 to 75% by 2020. Between 2010 and 2011, the gap to this 2020 target increased in eleven Member States³, remained unchanged in two⁴ and decreased only in fourteen States⁵ (European Commission, 2013a). The employment rate 2011 in EU-27 was 68.6%, 6.4 percentage points under the target, translating into 16.7 million jobs missing to reach the target in 2020. An average annual growth of 0.9 percentages is needed to meet 75 percent in 2020, with a variation in the Member States between 0 and 2.1 percentage annual employment growth (Figure 16).

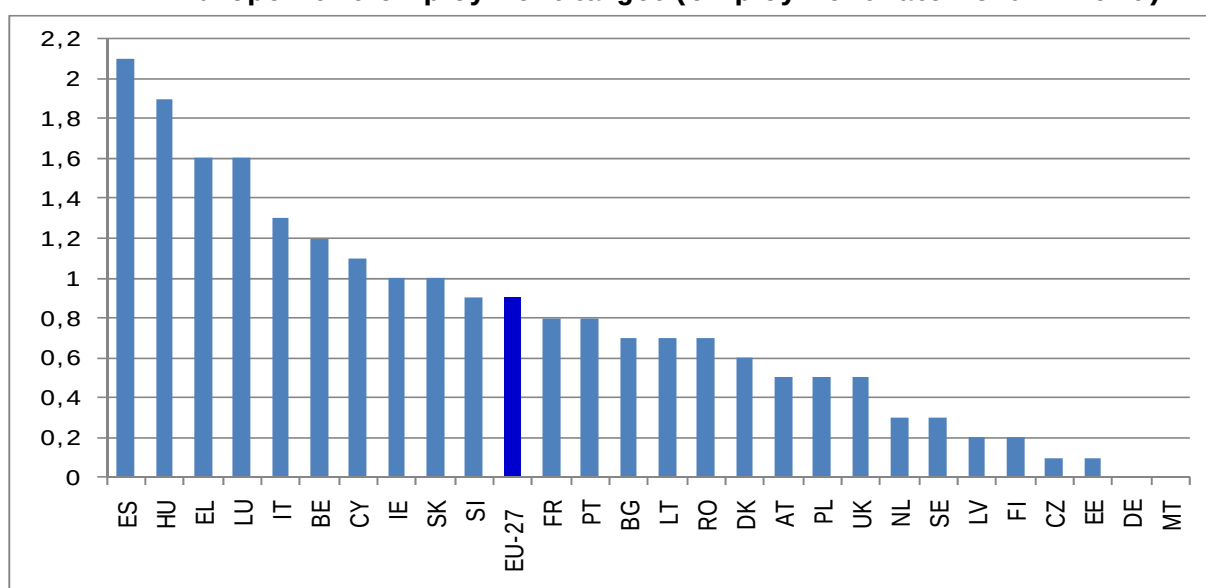
While the Europe 2020 employment strategy does not contain defined employment targets for older workers, the goal of a further increasing retirement age is documented in many documents and country specific recommendations of the European Commission (e.g. European Commission, 2010b; 2011c, 2012a, 2013).

We have no picture (missing data) of the extent to which the Barcelona-target is met by the Member States. Nevertheless, an increase in retirement age remains a major goal of the European Commission, as well as among the Member States. Only if average retirement age is increasing in line with the increasing life expectancy at the age of 65- ceteris paribus- pension finance remains constant ceteris paribus.

³ Belgium, Bulgaria, Denmark, Ireland, Greece, Spain, Cyprus, Luxembourg, Portugal, Romania, Slovenia;

⁴ France, United Kingdom;

⁵ Czech Republic, Germany, Estonia, Italy, Latvia, Lithuania, Hungary, Malta, Netherlands, Austria, Portugal, Slovakia, Finland, Sweden;

Figure 16: Employment average annual growth needed 2011-2020 to meet the Europe 2020 employment target (employment rate 75% in 2020)

Source: Eurostat, EU-LFS ; European Commission 2013a, table 5, p. 46.

In the past decade, there was an impressive increase in employment rates of workers 55 to 64 years old in most Member States (Figure 8). In EU-27, the average employment rate increased by 9.9 percentage points between 2001 and 2011, with the maximum enlargement in **Germany** (+22.2 percentage points). Meanwhile, **Romania** and **Portugal** were the only countries with a decreasing labour market integration of older workers. The employment dynamic was a combination of demographic shifts, pension reforms, structural labour market changes and economic recession.

Data from the European Labour Force Survey shows the reasons for leaving the last job or business. For people in the age group 55-64 who had a job within the last five years, retirement is the main reason. In terms of a European average, 40% are quitting their job for normal retirement, still 21% for early retirement, 15% are sick or disabled, and 15% are dismissed or made redundant. Furthermore, 2.5% leave their job because of care responsibilities.

2.3.2 Theoretical framework

In contrast with youth employment, there are many more factors determining the employment of the elderly: Their eligibility to transfer payments (unemployment-, health-, invalidity- and pension insurances) should be higher and their individual employment career determines their current labour market position more than first time employees.

According to neoclassical economic models, the rational individual labour supply decision (and decision to quit employment for retirement) is determined by maximising individual income. Pension payments and high unemployment benefits constitute strong incentives (Gordon and Blinder, 1980). In option-value-models, rational individuals compare the present value of future pension payments with the value of a postponed retirement (Stock and Wiese 1990). According to the efficiency wage hypothesis, increasing wages over the life cycle (seniority wages) is considered an incentive for employers to dismiss employees (Lazear 1979).

In both models, financial incentives represent the main driving force for the individual labour supply, also for older workers. Indeed, many EU policy recommendations are built on such incentives: reduction of the replacement rate of pension payments and decreasing

benefit levels through increased deductions in case of early retirement should increase the age at which older workers leave the labour market. However, empirical findings do not confirm this mono causality for the labour supply decision of older workers, with both social security institutions as well as labour market settings and production structures of the economy determining the employment level of older workers.

Overall, the transition phases over the entire working life (from education to economic activity to retirement) have become erratic and increasingly longer (Phillipson 2009, Sackmann 2001), while policy measures to foster employment of older workers cover only parts of the multiple structures and reforms.

2.3.3 Institutional framework

Macroeconomic Framework

From a theoretical perspective, a high per capita income within a country could make early labour market exits affordable. In addition, the demand for leisure is increasing. Empirical findings show the impact of gross domestic product per capita on voluntary early retirement, with an increasing GDP per capita leading to an increasing early retirement (Dorn, Sousa-Poza, 2007). High GDP per capita through prospering labour markets could also be accompanied with life-long employment careers. These careers foster early retirement, particularly in conservative-corporatist welfare regimes where pension entitlements are based on 40-45 employment years.

In addition, the unemployment level determines retirement exits in various ways. In most Member States, the unemployment rate of older workers is below those of younger workers (Table A9, Table A11), while the absolute numbers do not differ as much as the unemployment rates (Table A10, Table A12): the unemployment rate of younger workers in the European Union is 21.3%, whereas the rate of older workers is 6.8%, therefore in absolute numbers, 5.26 million young versus 2.15 million old are unemployed. From a supply-side perspective, high unemployment can discourage older workers who try to retire early (Steiber and Zaccharia 2009). Dorn and Sousa-Poza (2005) show that in years with rising unemployment, involuntary retirement also increases.

Pension generosity

The level of pension payments and the generosity of pathways to retirement (early retirement schemes) form part of pension generosity, representing pull factors for labour market exits. These factors are strong in conservative-corporatist and residual welfare regimes of Southern Europe, which provide relative generous pathways to retirement in combination with seniority wages where employers favour early labour market exits (Ebbinghaus, 2006). Older workers have a higher employment rate in social-democratic and liberal welfare regimes, where the lack of early retirement schemes in liberal welfare countries and the relative low levels of the public pension schemes keep older workers in employment (Steiber and Zaccharia 2009). In social-democratic countries, there are more measures of active labour market policy to keep older workers in the labour market. The 'pull factors' are also minimised for the employers, because they have experience-rating elements in part of the social insurance, which increases the cost of dismissal. According to Dorn and Sousa-Poza (2007), generous pension systems with early retirement schemes increase both voluntary and involuntary exits.

Labour market flexibility

Theoretical effects of labour market flexibility on aggregate employment level and different age-groups are ambiguous (e.g. Bassanini and Duval, 2006). Employment protection legislation (EPL) increases the firing costs for employers especially for those workers who enjoy a stronger protection. Older workers have a stronger EPL compared to younger workers because they usually have longer working experience. There is a strong interaction between temporary employment and EPL of regular employment. Deregulation of temporary employment lowers the firing cost for firms and leads to an increase in temporary employment. Kahn (2010) shows that there is no increase in the employment level, due to a substitution of permanent jobs with temporary jobs. On the other hand, Nunziata and Staffolani (2007) find empirical evidence that deregulated fixed-term contracts also lead to an increase in the employment level of both forms of employment contracts. Booth, Francesioni and Frank (2002) show that labour market segmentation is increasing in countries where ELP is high.

Another form of labour market flexibility is wage flexibility: Some countries (especially the US) favour wage-flexibility (low wages), while others favour labour contract flexibility. Member States with large wages inequalities of high and low skilled have lower inequalities in job security, such as the **UK** and **Ireland** (Maurin and Postel-Vinay, 2005). The results are valid for male workers, while women generally have higher labour supply elasticity throughout their life-course in comparison.

Wage-setting institutions

Within the Member States, there are collective wage setting mechanisms and mainly firm-specific bargaining mechanisms. From a neoclassical approach, collective wage setting and strong unions lead to high wage levels. Employers can consider this wage level too high for less productive workers (young and old), and consequently the high wage floor is connected with increasing non-employment (OECD 2006). Low wage inequalities among branches and workers due to strong unions can be incentives for employers to invest in the qualifications of their employees to increase the individual and firm-specific productivity (Acemoglu and Pischke, 1999). The hump-shaped coordination effect means that there is a negative employment effect in case of low and very high wage coordinated bargaining power (Dieckhoff and Steiber, 2012).

The empirical findings of Dieckhoff and Steiber (2012) show clear different effects of Employment protection legislation (EPL) and collective bargaining coverage on the age groups. Based on individual data of 19 EU Member States between 1992 and 2007, they show no significant impact of EPL on the employment level of young age groups and positive effects on old age groups: if the protection level is increased by one unit, employment rate increased by 2.6 percentage points in the age group 50-55, and 1.3 percentage points in the age group 25-29, with no significant effects on unemployment rate in both groups.

Dieckhoff and Steiber (2012) find that high wage coordination has a positive impact on regular employment for older workers, the young age group neither benefits nor is adversely affected. In addition, Kahn (2000) shows a positive impact of collective bargaining on employment and relative wages for women as well as for low-skilled male workers.

2.3.4 Measures taken at the national level

Measures fostering the employment of older workers should take two different aspects into consideration: first, the measures in countries with a high employment rate of older workers; and second, measures in countries with a strong dynamic in the employment rate of older workers. Within the second perspective, the decline in employment rate and rise in unemployment rate due to the economic crisis in 2008 hamper a clear picture of successful country specific measures. Therefore, we concentrate on the literature and empirical evidence largely prior to 2008. The development of the employment rates of older workers and the transition to retirement since 2008 can be seen indicative of how successful the national states were in managing the economic crisis.

Reform of the Social security incentive structures

Reform 1: Pension insurance

Pension reforms have been on the agenda in all Member States during the past decade (overview in European Commission, 2008, box 2.1). First of all, early exit schemes were closed in the majority of countries, leading to increasing average age of exit from the labour market. In five countries⁶, the average exit age is still below 60 (in 2010), whereas twelve countries have a retirement age of 62 years or above⁷.

An increase in the statutory retirement age causes different reactions among persons and firms, with the extent to which such a reform increases the employment rate depending on many factors. Hakola and Määtänen (2007) calculated the impact of the pension reform 2005 in **Finland** on the average labour market exit age. In the reform, there was a restriction in access to early retirement options and an increase in retirement age of two years (also an increase in pension accrual rate and actuarial adjustment factors), which led to an increase of the average labour market exit age by 8.5 months.

The increase of the pension age for early exits in **Austria** by 2.2 years between 2000 and 2006 leads to a decrease in retirement of 25 percentage points among women of the relevant age cohorts and 19 percentage points among men. Employment increased by 10/7 percentage points among women/men, although the unemployment rate also significantly increased (+11/10 percentage points among women/men) (Staubli and Zweimüller, 2011). However, for the outsiders, the unemployed older, the reform leads to a decrease in employment probabilities.

Empirical findings for the **Netherlands** suggest that 11% of all people entering the disability pensions constitute a form of hidden unemployment (1994 – 2003) (Koenig, van Vuuren, 2010). To stop this dynamic, new measures among employers and employees have been established. To reduce labour lay-offs, a firm's firing costs of older workers were increased through increased pension contributions in the case of lay-offs. The employer's contributions are experience rated. That is, the higher the amount of workers who exit from the labour market and enter disability pensions, the higher the employers contributions are. The introduced system of experience rating in the health and disability insurance reduced the inflows in disability.

Finland's disability system also has an experience rating: the disability benefits or part of them have to be paid (according to size of the firm, etc.) by the employer. A reduction of

⁶ Lithuania, Hungary, Poland, Slovenia, Slovakia

⁷ Denmark, Germany, Estonia, Ireland, Spain, Cyprus, Latvia, Netherlands, Portugal, Romania, Sweden, UK

early retirement followed the introduction of the experience rating system (Hakola and Uusitalo, 2005).

In **Germany**, public pension reforms led to an increase of average labour exit age among women from 61.6 to 61.9 and among men 62.1 to 62.6 years within 2006 to 2009 (European Employment Observatory 2012). The reason for this is the introduction of the means-tested 'unemployment benefit II' in combination with the shortened entitlement period that paved the way for a higher job-search intensity as well as the broader acceptance of fixed-term contracts and agency work.

While **Estonia** has growing employment rates among older women, caused by the increased retirement age, the early retirement scheme introduced in 2000 has led to an increase in early retirement. In 2009/10, a quarter of new pension entrants were early retirement pensions, yet fostered by the increased unemployment after the crisis.

In **France**, the past reforms increased the employment rate of older workers and persons beyond the retirement age up to 13%. Meanwhile, the flexible retirement scheme in Finland increased the retirement age from 58.6 to 60.5 years, explaining the increasing employment rate of older workers.

Reform 2: Unemployment insurance

Unemployment benefit improves the job matches as employers and employees have a certain period to find the most suitable employee/job, and moreover macroeconomic efficiency can be enhanced. Employers can also use the insurance to reduce the labour costs in case of short term contraction of demand (hire-and-fire). Labour turnover varies among the Member States. To reduce short term labour turnover, many countries introduced a specific unemployment contribution rate for employers. If firms have a lay off beyond the average of the industry, the contribution rate to the unemployment insurance increases. **Sweden**, the **Netherlands** and **Finland** have such models of experience rating, while in **Denmark**, **Norway** and **France**, firms have to pay a couple of days of the unemployment benefit to their former employees.

In **Germany**, firms have to bare the unemployment benefits for dismissed employees older than 56 years who were employed for ten years and more within the firm.

In **France**, firms have to take over unemployment payment for their dismissed employees older than 50 years ("Delalande-tax"). After a reform where the tax can be compensated through the employment of older worker, the Delalande-tax has had a positive impact on the labour market outcomes of older workers, with Behaghel et al. (2008) showing that older unemployed have a better chance of getting a job than younger unemployed.

Between 1996 and 2009 in **Austria**, there was a bonus-malus-system to protect dismissal of workers older than 50 years: if work-contracts with a duration longer than ten years were terminated and workers age were 50 years and more, the firm had to pay an extra premium to the unemployment insurance. This premium-pay leads to a significant decrease in the dismissal of older workers (Schober et al. 2011).

Reform 3: Health/disability insurance

There is an indirect relationship between the employment level of older workers and health insurance. Health insurance can support employability of workers and workplace health promotion (WHP) through various incentives. For example, work organisation fosters an appropriate balance between individual level of skills, job demands and job control, work time, etc., and becomes particularly important with the increasing age of employees.

Disability pensions and health insurance are closely related: A stricter health screening reduced disability pension in the US (Gruber, Kubik, 1997). An experiment in the **Netherlands** shows that in regions with stricter screening, the disability rate declined (De Jong et al. 2011). Moreover, the compulsory rehabilitation plan has also had a positive impact on employment of older workers, reducing the disability inflow. Furthermore, Autor and Duggan (2003) calculated a significant screening effect on high-qualified employees but no effects on low qualified employees. In **Sweden**, there is just a small effect of stricter health screening on disability entrants and no effect on the employment level of older workers (Karlström et al., 2008). Johansson et al. (2012) find reduced entry rates between 1986 and 2008 in the context of screening stringency of the disability insurance in Sweden.

The stricter health access criteria for disability pension in **Austria** decreased the disability entrances by ten percentage points, with 45% of the affected persons remaining employed, while 46% became unemployed and 9% received sickness benefits through health insurance (Staubli, 2011).

Experience rating models that link firm/industry specific behaviour to social security systems are most common within the worker compensation insurance. In **Denmark** and **Finland**, employers have to pay a premium if they produce above-average work injuries, while in **Bulgaria, Germany, France, Italy, Lithuania, Portugal, Romania, Spain** and the **Czech Republic**, firms have to pay risk based worker compensation contribution rates. In Italy, the maximum contribution rate is 13% of the firm specific wage sum.

Incentives of the tax system

European tax systems in general and income and payroll tax systems in particular are not age-specific, given that the income tax rate relates to the level of income and not the age of the taxpayer. While there is extensive empirical literature on the relationship between taxes and the individual labour supply decisions,⁸ there are few empirical findings of tax impacts on the labour supply decision of older workers. The age group that is in transition between employment and retirement is usually excluded from labour supply incentives. The labour income of workers includes decisions of qualification, income level of the industry, hours worked, age, gender, etc., with tax incentives corresponding to the elasticity of the mentioned components. Empirical findings show that working aged women are more responsive to taxes and wages than men.

For **US employees**, Alpert and Powell (2012) find significant effects of payroll taxes on labour exit and pension entries of older workers (55 to 74 year old): the higher the tax burden of older men, the sooner they will quit employment for retirement. The authors suggest that a tax decrease for older workers by one percentage points would decrease labour market exits by 4%.

Age specific deductions of contributions in the social security systems try to reduce labour costs of older workers to promote their labour market attachment. In **Finland**, the employer pension contribution rate decreased by 1.2 percentages to 16.1%, and vice versa increased the contribution rate for the older employee by 1.2 percentage points to 5.8% of pensionable income.

In **Austria**, there is also an evident reduction in social security contributions: for workers older than 60 years, firms do not pay contributions to the unemployment insurance (6% of pensionable income), to the work accident insurance (1.4%), insolvency safeguarding fund (“Insolvenzentgeltsicherung”) (0.55%), and contributions to the family-fund

⁸ E.g., Auten et al. 2008; Saez et al. 2012.

("Familienlastenausgleichsfonds") (4.5% of the assessment basis). Up to 2012, the social security contribution rate for employees older than 60 years decreased by 12.45 percentage points. There are no evaluations of the impact of the deduction on employment levels of older workers, and by 2013 the contribution deduction is going to be less generous.

Labour market reforms

Between 2000 and 2011, the total employment rate increased by 2.2 percentage points and the rate of older workers by 10.6 percentage points. The increase in employment rates of older workers in the Member States did not occur due to an overall employment growth. In **Ireland, Denmark, the UK and Hungary**, there was a decrease in overall employment rate between 2000 and 2011, yet an increase in the employment rate of workers age 55-64 (Figure 17). In the case of Hungary, the employment rate of older workers increased by 14 percentage points whereas the overall employment rate remained constant during the past eleven years. The highest growth rates among older workers were reported in **Germany** (+22.5 percentage points), **Bulgaria** (+21.8 percentage points, but a below average level), **Slovakia** (+19.9 percentage points, but also a below average level) and the **Netherlands** (+18.2).

Figure 17: Increase in total employment rate and employment rate 55-64 between 2000-2011



Source: Eurostat, EU-LFS

The country specific increase cannot be explained by a single measure. Social security and labour market structures are relevant, as well as reforms in the mentioned systems, and policy programmes in response to the economic crisis. The following measures are relevant for a better integration of older workers in active employment. The extent to which they contribute to increased participation and an improvement of the labour market chances for older workers can only be selectively answered.

In the **Netherlands**, there is a new bonus system in place since the beginning of 2013: to encourage work up to the retirement age, there is a bonus between 61 and 65 between 2,100 and 2,235 Euros per year for the employee, and for employers of 1,750 Euros. Employers also receive a mobility bonus (3,500 per year) for hiring an employee older than 55 years, while for persons over 50 who were previously on benefits, the employer receives a double mobility bonus (European Employment Observatory 2012).

Active ageing represents a further set of measures to foster employment integration of older workers. In a long-term approach, the measures should include workers at the various stages of the working career. While many such reformatory efforts are underway, evaluation results of successful measures are presently missing. While in the **Netherlands** and **Finland**, active ageing is not addressed on specific age groups but rather work life challenges in general, other countries have established programmers for defined age groups, while **Estonia**, **Slovakia** and **Ireland** have not yet adopted a comprehensive approach to active ageing (European Employment Observatory 2012). The 'Solidarity between Generations Programme' in **Poland** (2008) targets unemployed and workers aged 50+ with vocational activation through training, whereas **Spain** has developed the "Global Strategy for the Employment of Older Workers 2012-2014", enhancing internal flexibility.

The labour market integration of older workers is influenced by multiple factors in the macroeconomic, institutional and microeconomic area. Despite significant differences in the sphere of influence across Member States, the employment rate of older workers increased in 25 of the 27 Member States in the past decade, in a development that must be continued to reach the EU-2020 target.

2.4 Measures promoting employment of both groups

As identified in section 2.1, the specific problems of young and old workers within the labour market relate to the lack or obsolescence of relevant skills and insufficient work experience. To counter this, active labour market policies are in place in all EU Member States, along with labour market reforms to raise employment levels. In this context, it makes sense to distinguish between *targeted* and *universal* policies, with targeted policies addressing specific socio-economic groups such as youths and older workers and universal policies aiming to generally stimulate employment growth and job creation, thereby benefiting a broad range of potential target groups.

2.4.1 Targeted measures

The evidence collected in sections 2.2 and 2.3 (as well as the material gathered in the subsequent sections) shows that there are very few targeted schemes trying to simultaneously promote the employment of young and old workers. Most targeted measures focus on training and hiring incentives to employers, such as specific skill adjustment programs or hiring incentives. Nonetheless, diverse measures may be used to reach the same goal: while some of these measures were designed to encourage the retention of older workers, others focus on improving the labour market access and early career mobility of young people.

One such measure involves the introduction or expansion of tax and social security incentives for employers and/or employees to hire and retain younger and older workers. For instance, in **Spain**, employers' social security contributions are reduced by 50% when older employees aged 60 or older are hired, increasing gradually by 10% until reaching 100% when the employee turns 65. Although this incentive only initially applied to older workers, during the crisis, alternative versions have been implemented targeting younger age groups to combat youth unemployment (Eurofound, 2012b). Similar financial

incentives targeting both younger and older workers at risk can be found in other countries such as **Belgium** ("win-win premium", comprising reduced social security contributions for the employer as well as an employment premium for the employee).

Specific programmes aiming to establish a labour market "bridge" between older and younger workers rarely exist. However, one particularly notable policy approach in this respect is old-age part-time work. In some countries, this was designed to promote a gradual exit from work to retirement, thereby prolonging the employment career whilst also facilitating the integration of younger people into work.

In an ideal-type, old-age part-time work programme employers received a subsidy if they: (a) established a phase-out programme for older workers and topped up their pension contributions during the part-time work period; and (b) hired a young unemployed person as a replacement worker. One prominent example is the system that was place in **Germany** until 2009 (Altersteilzeit). However, old-age part-time work neither helped to retain older workers, as it was hardly used for progressive retirement but rather for premature exit from work, nor was there any positive effect on the employment of younger workers (see the evaluation study by Wanger 2009). Indeed, at best it was neutral regarding its effects on younger workers while effectively lowering the employment rate of older workers. This is also confirmed by the similar case of **Austria** (Graf et. al 2011). Furthermore, the costs for subsidised early retirement had to be borne by employers and employees via social security contributions. In turn, this might have actually reduced overall demand for labour, therefore with detrimental effects on younger people. Accordingly, removing older workers from the labour market can harm the employment prospects of younger people.

Another arguably more promising measure that may establish a bridge between younger and older workers regards knowledge management. As the workforce ages, the importance placed on intergenerational knowledge transfer increases, for instance, through measures concerning succession planning or the recording of the often tacit knowledge accumulated by older workers during their career. Such initiatives can be found in **Hungary** (the MOL Group), **Sweden** (Kiruna Regional Administration) and **France** (France 3, Lionet Décor). While older workers transmit their experiential knowledge to younger workers, their younger colleagues share their skills in other areas, including information technology. Such an intergenerational approach may motivate both age groups, as they gain access to each other's expertise and have the opportunity to share their experiences (Cedefop, 2008).

2.4.2 Universal measures

More universal policy approaches are fundamentally different as they aim at more jobs and better labour market access for all working-age people. Such general policies to promote high employment and facilitate mobility on the labour market for all groups are beneficial for all (Bassanini and Duval 2006), and thus are also conducive to the better employment record of young and old workers. The most fundamental policy areas and initiatives in this area include:

- skill formation and updating via vocational education and training and continuous vocational training later in life;
- effective forms of active labour market policies and activation strategies that make the receipt of social benefits for working-age people conditional upon reintegration efforts;
- policies to reduce taxes on work and non-wage labour costs, particularly involving expenditure for 'passive' social benefits granted to working-age people without a reintegration perspective;

- reforming employment protection to enable entry into the labour market and facilitate mobility between jobs; while the effects of reforms of employment protection legislation may generally be ambiguous, deregulatory reform on the labour market to promote (re)entry into employment by creating flexible jobs can at least facilitate labour market access for those outside the labour market, to some extent.

These general employment-friendly policies can have particularly beneficial effects on demographic groups seeking access to the labour market at a young age or when re-entering the labour market after a phase of unemployment or inactivity. Therefore, it can be stated that universal policies can have a particular impact on certain groups.

Regarding active labour market policies, one can argue in a more generalised fashion that many active labour market policy schemes can be targeted flexibly to address the employment obstacles of target groups identifiable in the national context, with age representing just one parameter among others here. In particular, ALMPs can help to make jobseekers more attractive to potential employers by reducing labour costs in the initial phase of employment or by raising productivity via skills upgrading.

In principle, active labour market policies such as (i) publicly sponsored training, (ii) hiring incentives for employers, (iii) start-up support, (iv) in-work benefits topping up low wages and (v) activation policies establishing an effective conditionality between benefit receipt and participation in ALMP programmes or acceptance of job offers are available to address the whole working-age population. As shown in sections 2.2 and 2.3, there is some potential to deliver effective active labour market policies tailored to the needs and employment barriers of particular groups, such as the young and the old, so that the employment prospects of both groups are promoted.

To summarise, general policies are particularly relevant in terms of raising the employment levels of all, including young and old workers. Targeted policies are justified if particular barriers to employment exist, yet age is only one criteria amongst many in identifying specific target groups and designing policies accordingly. As can be seen from the experiences of EU Member States, it is less obvious to have policies addressing specifically young and old workers (but only them). Rather, if these groups are targeted, they are dealt with separately.

Finally, and as can be shown empirically, consistently both with respect to developments over time and in cross-country comparisons, there is no competition between the two groups in terms of opportunities to obtain jobs. Accordingly, there is also no economic or political trade-off between a good start into employment for young workers and the retention of older workers. This issue is analysed in further depth in the following section.

3. DO POLICY MAKERS REALLY FACE TWO COMPETING CHALLENGES?

KEY FINDINGS

- Employment rates for older and younger workers are positively related, tending to move together, rather than in opposite directions. Accordingly, the retention of older workers neither impedes the employment of young workers nor increases their unemployment (i.e. there is no empirical evidence for crowding out).
- In the short-run and during times of economic recession, the retention of older workers in the labour market may increase unemployment, yet not necessarily for the youth. In the long-run, the postponement of retirement will increase the size of the economy and consequently the total number of jobs, which will benefit all age groups.
- When older workers continue working until older ages, they do not tend to take jobs from young people, because young and old workers cannot readily substitute each other in most sectors of the economy, given their different experience levels and skill profiles.
- The youth has been harder hit by the economic crisis than older workers, with youth unemployment rates having increased twice as strongly as those of older workers between 2008 and 2011. However, youth unemployment sky-rocketed in those countries where unemployment for older workers also increased more strongly when compared to other countries.
- Countries where youth are especially vulnerable to cyclical variations include those featuring large construction sectors and having implemented two-tier reforms of employment protection (i.e. combining strong protection of regular employment with low legal barriers to the use of temporary contracts). Youth are strongly overrepresented in temporary employment, with negative implications for the conditions of employment and job quality.
- In countries that have successfully increased the activity rates among those aged 55-64 despite recessionary pressures, youth unemployment has tended to increase less than in other countries.
- The pension reforms that have increased average retirement ages since the mid-1990s do not seem to have negatively affected the employment prospects of young people. In fact, in most cases, the employment of both older workers and youngsters increased in the aftermath of reforms.
- Productivity does not necessarily decline with age, with workers' performance strongly depending on the work environment and adaptation of skills.
- Dynamic sectors such as ICT, 'green jobs' or personal services will contribute to job creation in European economies. Accordingly, to benefit from this, both younger and older workers have to be equipped with appropriate skills.
- Overall, there is little evidence for a close substitutability between young and elderly workers. Rather, empirical evidence from regional labour markets finds that early exit of elderly workers from the labour market tends to aggravate the labour market outcomes of young individuals.

3.1 Is there an impact of the retention of older workers on the entry of young workers into the labour market?

3.1.1 The lump of labour theory

The logic underlying the lump of labour theory (see Box 3) has provided a core rationale for the widespread introduction of early retirement programmes in many European countries in the 1970s and 1980s. Fostering the exit from the labour force at earlier ages was widely accepted as a measure to free jobs for the young and to reduce unemployment. Today, the challenge has reversed, with population ageing necessitating a stronger work involvement of the older population and the postponement of their retirement from the labour market. Based on the lump of labour theory, this has led to concerns that a greater paid work involvement of older persons may reduce the job opportunities for younger persons (as discussed in Gruber and Wise, 2010).

Box 3: The lump of labour theory

The 'lump of labour theory' refers to the view that the demand for labour in the economy is fixed and consequently that a limited and fixed amount of work (and number of full-time jobs) needs to be divided upon different population groups. It can be traced back to Mayhew's *London Labour and the London Poor* (1851), in which he argued that reducing the number of working hours (per job) would create more jobs and reduce unemployment. The introduction of the 35-hour week in France in 2000 represents an example of a policy based on this theory.

This type of argument tends to be perceived as a fallacy by economists (Schloss, 1891; Gruber and Wise, 2010, Kalwij et al., 2010, Munnell and Wu, 2012), because economies are not static and the number of (full-time) jobs is not fixed. In the long-run, as emphasised by de Koning et al. (2004), aggregate demand and in turn the total number of jobs in an economy will depend on the available supply of labour.

Fostering early retirement may reduce unemployment in the short-run ('freeing jobs for the young'). In the medium-term and longer run, however, it may lead to labour shortages, inflation pressure and depressed aggregate demand (de Koning et al., 2004; van Dalen and Henkens, 2002). Conversely, increasing the average age of labour market exit (through pension reforms) may increase the size of the labour force and boost unemployment. Yet, this will only be the case in the short-run. Moreover, unemployment may increase mainly for older workers (when they use unemployment as an alternative pathway to retirement, see e.g. Maes, 2011). For instance, Staubli and Zweimüller (2012) evaluate the impact of an Austrian pension reform that involved a gradual increase in the early retirement age from 55 to 58 for women and 60 to 62 for men during 2000-2010. Using register data on private sector workers, they find that this reform succeeded in delaying retirement, yet also increased unemployment among men of age 60-62 and women of age 55-58. Moreover, they find that for every 100 workers who postpone retirement, 60-70 move to some form of non-employment (with the majority drawing unemployment benefits).

Despite the weak theoretical and empirical support for the lump of labour theory (section 3.1.2 for review of research findings), it was never really put to rest, presumably owing to its considerable intuitive power. Indeed, enterprises of limited sizes may face a fairly fixed level of demand for their products or services, and therefore a stable demand for labour.

Therefore, it may be true that the retention of older workers in some firms will bar younger ones from entering. However, the conception of a 'boxed-in enterprise' (cf. Börsch-Supan, 2010) that employs a fixed number of persons is not applicable to entire economies. The

economy is not boxed-in; it does not demand a fixed lump of labour. If this were to be the case (i.e. if the number of jobs in the economy was fixed), the massive influx of women into the labour market in many European countries in recent decades would have led to a steep increase in male and/or youth unemployment. However, the European countries with the highest female participation in the labour market (e.g. Scandinavia) are clearly not those that feature the highest rates of unemployment. To the contrary, Southern Europe features both fairly low female participation rates and high unemployment.

The lump of labour argument frequently appears also in the immigration discourse in the form of the claim that immigrant workers would take jobs away from natives. However, empirical studies of the impact of immigration on the employment of natives⁹ do not suggest that immigration has harmed the labour market opportunities of natives or placed pressure on their wages. Immigrants do not crowd out natives' employment. To the contrary, some of the studies even suggest positive effects of immigration on native workers' employment and wages.

In summary, the lump of labour theory is widely perceived as flawed for several reasons. First, it assumes a fixed amount of work to be done, neglecting long-run labour market adjustments. Moreover, it is based on the assumption that older and younger workers (or male and female workers, immigrants and natives) are good substitutes. As outlined in further detail in section 3.1.3, the first assumption may be more realistic in the very short-run or during prolonged periods of economic stagnation. The second assumption regarding substitution is further discussed in section 3.1.6. In what follows, we review and summarise the empirical evidence from econometric studies on the issue of whether or not a greater number of older persons in the labour force closes job opportunities (in terms of obtaining a job) for the young (section 3.1.2). We also discuss potential effects of the retention of older workers on the quality of the jobs obtained by youth (3.1.4).

3.1.2 Review of existing evidence on the potential links between the postponement of retirement and the employment chances of youth

The edited volume by Gruber and Wise (2010) contains a set of studies that examine whether employment of older individuals crowds out youth employment. None of the 12 country studies¹⁰ finds evidence that would corroborate this view. The evidence suggests that increasing the labour force participation of older persons tends to be associated with greater – rather than reduced – youth employment opportunities. Higher employment among older persons is shown to be associated with greater youth employment and muted youth unemployment. Overall, from an aggregate perspective, better employment chances of older and younger persons tend to be related in a positive fashion. A similar pattern is shown by Kalwij and colleagues (2010), for a (pooled) set of 22 OECD countries, and by Munnell and Wu (2012) for the United States¹¹. Hence, the empirical evidence is clearly not in favour of the assumption of a fixed number of jobs (i.e. a lump of labour).

Why do we observe a positive relation between the employment chances of the old and the young? Important explanatory factors pertain to general labour market conditions that affect all age groups in similar ways (e.g. Munnell and Wu, 2012, Figure 18 for graphical

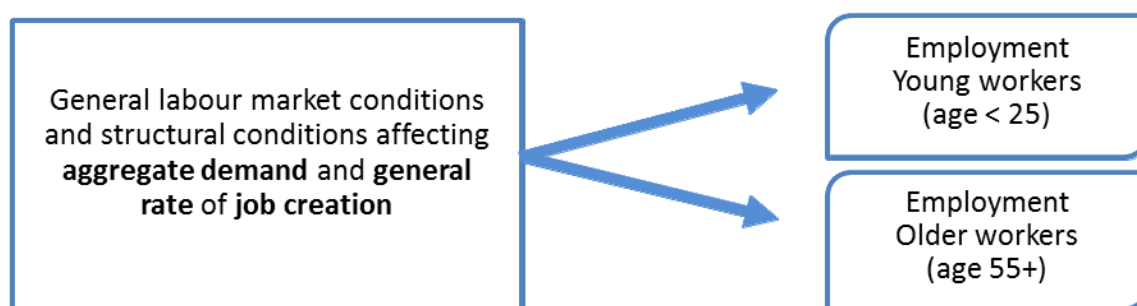
⁹ e.g. Greenwood and McDowell, 1986; Borjas, 2006; Card, 2001; 2005; D'Amuri et al., 2010; Manacorda et al., 2012; Ottaviano and Peri, 2012.

¹⁰ The countries are Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, the United Kingdom and the United States.

¹¹ The latter analysis (Munnell and Wu, 2012) looks at variations in age-graded employment and wage rates within and across the 50 states of America to test if increasing the employment of older persons reduces the job opportunities or wage rates of young persons. The results suggest that greater employment of older persons leads to better outcomes for the young — reduced unemployment, increased employment, and a higher wage. The patterns are consistent for both men and women and for groups with different levels of education.

illustration). When the economy is expanding, new jobs are created for both the young and the old. Another explanation links the overall demand for labour to the set-up of tax systems. Van Dalen and Henkens (2002), suggest that when early retirement is financed through payroll taxes, wage costs for all workers (irrespective of their age) increase, thereby reducing total labour demand. As a result, the consequent negative employment trends for the old and the young would be positively related.

Figure 18: External conditions and the employment of older and younger workers



The simultaneous influence of general labour market conditions on the labour market of older and younger population groups (see Figure 18) prompts methodological concerns regarding the estimation of causal effects of the labour market behaviour of one age group (e.g. the old) on the labour market behaviour of another age group (e.g. the young). To tackle this issue, most empirical work employs an instrumental variables (IV) approach (e.g. Munnell and Wu, 2012; Gruber and Wise, 2010). Once ‘simultaneity bias’ is taken into account, the observed positive relation between the employment chances of the old and young disappears, yet does not turn negative.

Most studies tend to find a zero effect of the employment of older workers on the employment of the young, and thus no evidence for any crowding out. Overall, there is no empirical evidence of a direct link between early retirement and youth employment or unemployment.

As illustrated in Figure 18, at the aggregate level of entire economies the employment of older and younger workers tends to be associated in positive fashion (and not in a negative one, as would be expected if crowding out played a central role). The reason is that general labour market and structural conditions affect all age groups in similar ways – either affecting their employment positively (rising aggregate demand) or negatively (falling aggregate demand with negative effect on general job creation). Evidence from econometric studies suggest that this positive relation between the employment of the old and young is largely due to the simultaneous impact of external factors. There is no direct effect of the employment of the old on the employment of the young. A stronger retention of older workers would thus not be assumed to negatively affect the chances of obtaining a job for youth. (This does not preclude the possibility that some of the measures that may be implemented with the aim of boosting the employment rates of older workers may have negative externalities, however).

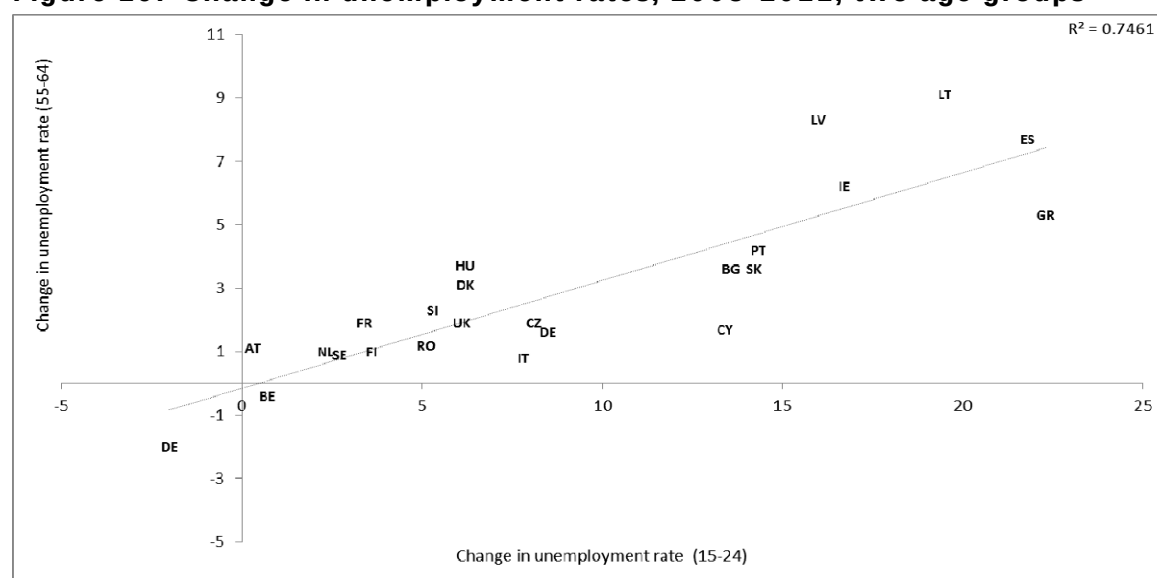
The specific ways in which economic and labour market conditions affect the old and the young are mediated by the institutional framework. The effects of general labour market conditions on the old and young tend to go in the same direction, yet their respective strengths may differ. For instance, the fall of employment in the wake of the economic crisis has tended to be stronger for youth than for mid-career and older workers, for reasons related to age-graded employment protection (EPL) and sectorial age composition (for more detailed discussion, see section 3.1.3). Nevertheless, those countries successful

in maintaining employment levels for older workers despite recessionary pressures have also tended to be more successful in maintaining employment levels for the youth.

3.1.3 Economic downturn and recovery

The economic crisis has hit European youth very hard, particularly in Southern Europe. The youth unemployment rate rose sharply in the EU-27, reaching an average of 23% in the third quarter of 2012 (as compared to around 15.6% in 2007). The latest figures released by Eurostat show that youth unemployment rates are highest in **Greece** (56.9%) and **Spain** (54.1%), and exceed 30% in **Ireland**, **Latvia**, **Slovakia**, **Italy**, and **Portugal**, while remaining below 10% in **Austria**, **Norway**, **Germany** and the **Netherlands**. Despite signs of economic recovery in some countries, the short-term prospects for youth unemployment remain bleak. Job creation is likely to lag behind economic recovery, with the result that the youth unemployment rate is likely to remain high over the coming years and the risk of experiencing long-term unemployment further increases. Already today, around a third of the young unemployed in the EU-27 have been jobless for more than a year (Eurostat). Youth have been harder hit by the economic crisis than older workers. The unemployment rate of youth (age 15-24) increased by 20 percentage points between 2008 and 2011 in **Spain**, **Greece** and **Lithuania**, while that of older workers (age 55-64) increased by less than 10 percentage points (underlying data taken from Tables A9 and A11). It is important to note, however, that youth unemployment sky-rocketed in those countries where unemployment for older workers also increased more strongly than in other countries (e.g. in **Spain** and the Baltic countries, see Figure 19 for a comparison of unemployment growth rates 2008-2011 in two age groups). The strong correlation of employment growth among youth and older workers (shown in Figure 19) does not support the notion that policies in support of longer working lives may have negative repercussions for young workers. Youth unemployment has grown most in those countries where general structural problems (affecting aggregate demand and job creation) hamper employment for all age groups.

Figure 19: Change in unemployment rates, 2008-2011, two age groups



Source: Eurostat

Unemployment for the young and the old has risen most in countries where the elasticity of unemployment to GDP contraction¹² has been comparatively high (e.g. in **Spain, Greece, Portugal, Ireland**, and the Baltic states.¹³ In the ESDE 2012, the European Commission (2012b: 20) concludes that unemployment growth in **Spain** and **Portugal** has been larger than expected from the GDP evolution. Structural unemployment has thus increased in these countries, while it has remained unchanged in **France** and the **Netherlands** and declined in **Germany**. Research on labour market responses to the crisis suggests that unemployment has tended to rise more strongly relative to GDP change in countries with the following characteristics: a lack of active labour market policies (ALMP) aimed at helping job-seekers to find and train for adequate jobs; a strong prevalence of fixed-term contracts; large construction and manufacturing sectors; and the experience of a household bubble (IMF, 2010; European Commission, 2012b; Tåhlin forthcoming). In countries with such characteristics, the general rate of unemployment has risen more strongly than in other countries with similar GDP falls yet different characteristics in these respects. In labour markets that have proven most vulnerable to economic crisis, rates of unemployment increased for all, not only youth.

Youth are especially vulnerable to cyclical variations in countries that have implemented two-tier reforms of employment protection, i.e. that continue offering strong protection from dismissal for workers on regular employment contracts (i.e. barriers to and high costs of dismissal) while making temporary work an accessible and attractive alternative (i.e. removing legal barriers to the use of such contracts). Younger workers are the ones who tend to be offered only temporary contracts, while their older counterparts are more likely to be in regular employment (Dieckhoff and Steiber, 2012). In 2011, more than 40% of young employees (age 15-24) in the EU were on temporary contracts. Their risk of being on temporary contracts was around three times higher than for those aged 15-64 (European Commission, 2012b).

This implies that young workers tend to be the first who are laid off in times of slack demand. The primary example of such an insider-outsider system is **Spain**, where temporary work is extremely widespread. Also in **Poland** and **Slovenia**, the share of youth workers on temporary contracts exceeds 60%. In fact, evidence suggests that two-tier reforms of employment protection have increased the responsiveness of employment and unemployment to output changes: “flexible employment contracts and particularly the widespread use of temporary contracts tend to amplify reactions in the labour market to variations in aggregate demand in both directions. Thus, reductions in employment during a contraction of output are likely to be more severe in countries with weaker employment protection legislation” (O’Higgins, 2012). To summarise, the available empirical evidence suggests that young people as well as prime-age and older workers were less likely to become discouraged or unemployed in more regulated labour markets (see also Aiginger et al., 2012), which are more successful in maintaining employment by abating separation rates in regular employment as well as the prevalence of temporary employment. Moreover, youth employment fell less in countries featuring high rates of participation in secondary and tertiary education (O’Higgins, 2012). Finally, another reason for why youth unemployment tends to be more responsive to the business cycle than unemployment for prime-aged workers is the higher concentration of youth in cyclically-sensitive industries such as construction (e.g. IMF, 2010; European Commission, 2012b).

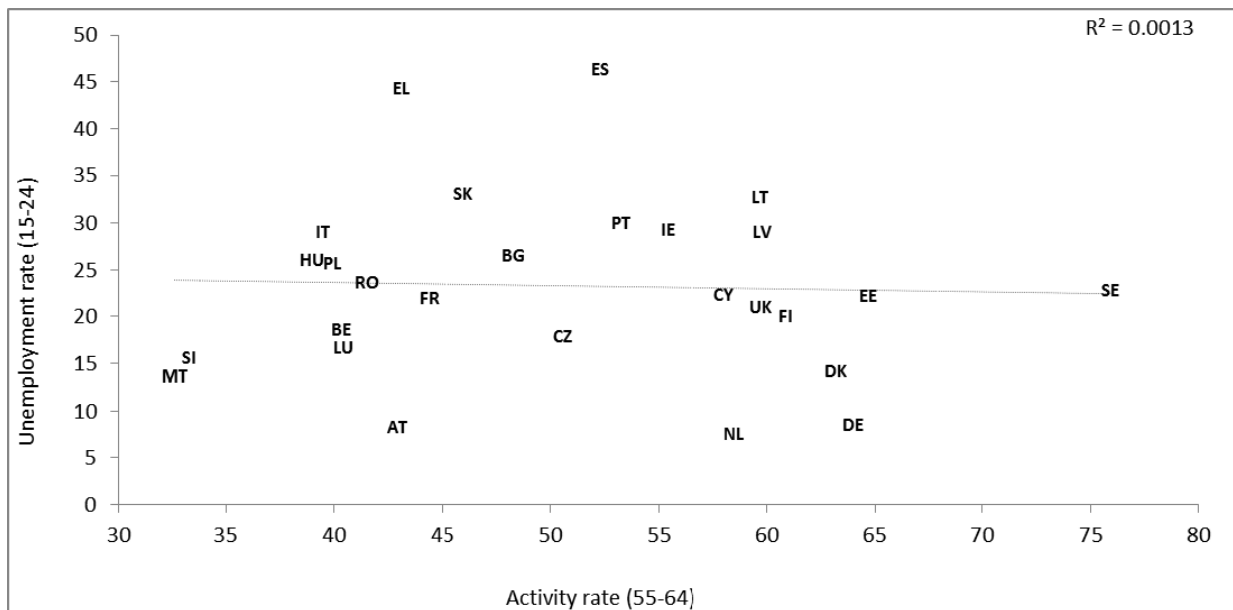
Yet again, it warrants mention that the countries where youth unemployment is particularly high (or where youth have been particularly hard hit by the economic crisis) are not those

¹² The labour market responsiveness to output fall tend to be summarised by *Okun’s coefficient*, which pertains to the ratio of the %-point increase in the unemployment rate to the %-fall in real GDP.

¹³ See OECD, 2010: chapter 1; IMF, 2010, ECB, 2012, European Commission, 2012b.

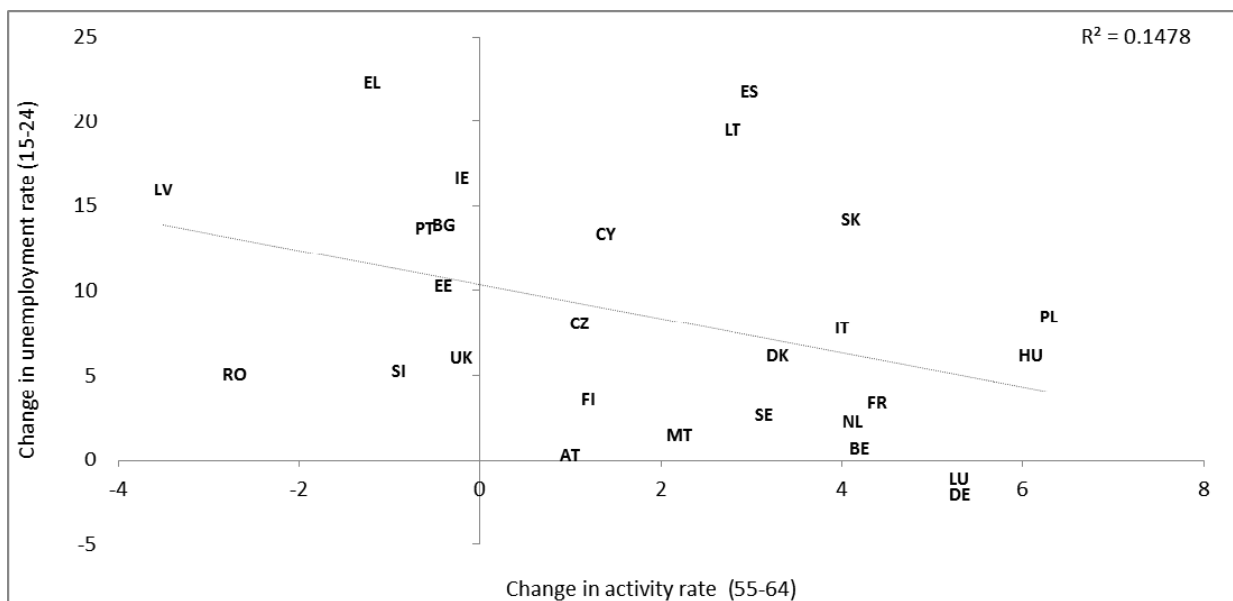
where older workers tend to work until comparatively high ages (or where older workers were least hit by the economic crisis). As shown in Figure 20, at country level, high activity rates for those aged 55-64 are not associated with high rates of youth unemployment. In fact, in some countries such as **Greece**, low activity rates for older persons are combined with high youth unemployment, while in other countries such as **Germany** relatively high activity rates for older persons are combined with low youth unemployment. Moreover, as shown in Figure 21 positive changes in the activity rates of older persons between 2008 and 2011 are not associated with rising rates of youth unemployment. To the contrary, a weak negative relation is observed, suggesting that in countries successfully having increased the activity rates among those aged 55-64 despite recessionary pressures, youth unemployment has tended to increase less than in other countries (or has even fallen, as in **Germany** and **Luxembourg**).

Figure 20: Activity rates age 55-64 and youth unemployment, 2011



Source: Eurostat

Figure 21: Changes in activity rates (55-64) and youth unemployment, 2008-2011



Source: Eurostat

An important indicator of how youth fared in the wake of the economic crisis is their *relative performance* compared to other age groups. For the purposes of this report, we present ratios comparing the unemployment rate of youth with that of older workers (age 55-64): In 2008, the youth/older workers unemployment ratio was 3.1 on average in the EU-27, with large differences across countries ranging from below 2 (**Germany** and the **Netherlands**) to more than 5 (**Italy**, **Romania**, **Greece**, and **Sweden**). Moreover, the ratio was higher than 3 (indicating that youth are at least three times more likely to be unemployed than older persons) in the majority of countries (see Table 2). Comparable data for 2008 and 2011 suggests that the youth disadvantage in terms of unemployment has remained fairly stable in the EU-27, with the youth/older unemployment ratio having remained at 3.1 (marginal increase by 0.07).

Yet again, there were vast differences between countries. While the relative situation of youth dramatically deteriorated in **Cyprus** (from 2.8 in 2008 to 4.6 in 2011) and got considerably worse in countries such as **Belgium**, **Bulgaria**, the **Czech Republic**, **Italy** and **Poland**, it actually improved in other countries such as **Austria**, **Denmark**, **France**, **Greece**, **Hungary**, **Ireland**, **Lithuania**, **Romania**, **Sweden**, and the **UK** (see values in Table 2 highlighted in green).

Table 2: Youth/older workers unemployment ratios, 2008-2011

Country	Youth/older persons unemployment ratio by year		Change in youth/older persons unemployment ratio
	2008	2011	2008 vs. 2011
Austria	3.8	2.6	-1.2
Belgium	4.1	4.7	0.6
Bulgaria	2.3	2.9	0.6
Cyprus	2.8	4.6	1.8
Czech Republic	2.5	3.1	0.6
Denmark	3.1	2.5	-0.6
Finland	3.1	3.1	0.1
France	4.0	3.4	-0.7
Germany	1.2	1.3	0.1
Greece	6.9	5.2	-1.7
Hungary	4.0	3.0	-1.0
Ireland	3.8	3.1	-0.8
Italy	6.9	7.5	0.6
Latvia	2.1	2.0	-0.1
Lithuania	3.0	2.4	-0.6
Netherlands	1.7	1.8	0.2
Poland	3.3	3.7	0.5
Portugal	2.5	2.8	0.3
Romania	7.4	6.4	-1.0
Slovakia	3.0	3.3	0.4
Slovenia	2.6	2.5	-0.1
Spain	3.4	3.1	-0.3
Sweden	5.3	4.9	-0.4
United Kingdom	4.8	4.2	-0.6
EU27	3.1	3.1	0.1

Source: Eurostat (underlying data from Tables A9 and A11; not available for Luxembourg, Malta and Estonia).

In conclusion, the situation of youth in terms of unemployment tends to be worse relative to older workers in all EU-countries, yet in contrast to common media portrayal, the situation of youth relative to older workers has only aggravated in the wake of the economic crisis in a limited set of EU countries, while improving in others¹⁴.

While there is no evidence for processes of crowding out of youth as a consequence of the greater retention of older workers in times of economic growth (see section 3.1.2), it has been argued that the relationship between the employment of the young and the old may become negative in times of recession, when job creation comes to a halt and job separation rates are high. This issue is examined by Munnell and Wu (2012). Their findings for the U.S. suggest that the relation between the employment of the old and young is also positive in times of labour market recession: “despite the fact that the labour market downturn that accompanied the Great Recession was the most severe experienced in the post-war era, the effects of elderly employment on other segments of the labour market do not differ from those during typical business cycles” (Munnell and Wu, 2012: 2).

3.1.4 The dual labour market and age-based inequality in job quality

While there may not be trade-offs between the employment rates of the young and the old, as mentioned above, labour market segmentation has led to a situation in which the young are barred from the primary labour market. The strict protection of regular employment is beneficial for *labour market insiders* (those with greater experience and seniority), as it lowers their risk of lay-off. For *labour market outsiders* (e.g. younger workers who do not yet have a stable foothold in the labour market), it may have detrimental repercussions in lowering their chances of obtaining regular employment (Dieckhoff and Steiber, 2012).

In segmented labour markets, youth tend to be strongly overrepresented in temporary employment, with negative implications for the conditions of employment and job quality. The Great Recession has aggravated the relative position of youth, since “in many countries practically all new employment opportunities arising since the recession began have been temporary (...) during the recession, the incidence of temporary employment amongst young workers has continued to rise, becoming the dominant form, in some countries almost the only form, of new employment contracts for young people” (O’Higgins, 2012).

Segmented labour markets produce a polarised workforce that is divided into a protected core and a disadvantaged periphery. The core workforce is well-paid and secure, while the peripheral workforce holds non-standard employment contracts and enjoys less favourable and secure employment conditions. Employees on temporary employment contracts face a high risk of low pay and job loss (Inanc, 2010) and are thus subject to severe economic insecurity, with negative implications for their well-being and health (Bohle et al., 2001; Gash et al., 2007).

Job insecurity is also associated with negative implications for the *quality of jobs* (Inanc, 2010), and it has been shown to be corrosive of work motivation and employment commitment (e.g. Sverke et al., 2002; Steiber, forthcoming). Gash and Inanc (forthcoming) find that, as a result of the Great Recession in Europe, full-time workers on temporary contracts have been “*disproportionately exposed to outright pay cuts as well as pay cuts tempered by a decrease in hours*”. To conclude, an overly strong protection of the employment of older workers (protection increases with seniority in most countries, as do wages in some sectors of the economy) has a strong potential for producing negative

¹⁴ Similar results are found for youth/adult ratios by O’Higgins (2012): “the position of young people improved vis-à-vis adults during the recession at least in terms of relative unemployment rates. [...] for young people in seven countries, comprised of New Member States (NMS), Italy and Portugal, the relative situation of young people worsened considerably [...]. In most countries, however, the relative position of young people, as measured by this ratio, improved and in some countries quite considerably.”

externalities for the youth. While there is no consistent evidence to suggest that an overly strong protection of older workers increases youth unemployment, it undermines the chances of obtaining good jobs for youth.

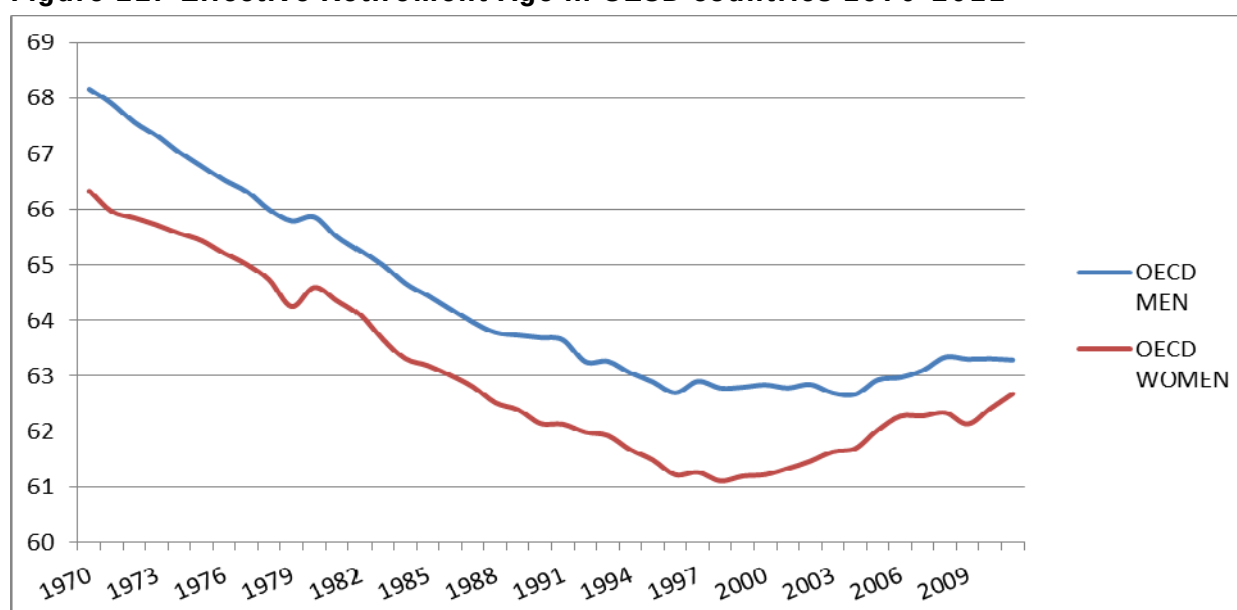
3.1.5 The potential impact of recent reforms of EU pension systems

In the last fifteen years, most OECD countries have reformed their pension system by restricting the use of early retirement in order to cope with an aging population and control the upward trend in pension spending, which has represented a sharp turn with respect to their previous retirement policy.

In fact, during the 1970s and 1980s, several pathways out of the labour market were provided to elderly workers, who were offered: (i) early retirement pensions if they were made redundant for economic reasons or were unemployed; (ii) disability pensions that were awarded according to labour market conditions; (iii) general early retirement provision; and (iv) special replacement pension, which specifically required the employment of a young worker in exchange for the retired worker (see table A13).

The retirement incentives introduced by these pension reforms provoked a drastic decline in the retirement age in the OECD countries, which dropped by around five years from 1970 to the mid-90s –from 68 to 63 years old respectively for males, and from 66 to 61 years old for females, as shown at figure 22. In several cases, the policy objective of substituting an elder worker with a young worker was clearly present in several reform measures. For instance, in **Belgium** in 1976, the employer was required to replace the (early) retired worker with a young individual who should remain employed for at least 1 year, and similarly in **France** in 1982, where a young or unemployed individual had to be hired for at least 2 years, or in the **UK** in 1977, where the employer had to replace the retiree with someone from the unemployment register. In **Finland** in 1979, the retiree had to be replaced by an unemployed person aged under 25. However, despite such policies, the reduction in the employment of the elderly workers did not have the effect of increasing the employment of the young individuals or decreasing their unemployment rate (see Gruber and Wise, 2010).

Figure 22: Effective Retirement Age in OECD countries 1970-2011



Source: OECD

A new wave of reforms have taken place since the early 1990s in an attempt to curb the increase in public pension spending. Among the many reform measures, a common policy was represented by the increase in the retirement age, achieved either through an increase in the statutory early or normal retirement age, or through sharp modification in the calculation benefits, which reduced the incentive of early retirement. A summary of the reform of the early retirement provisions implemented in the EU countries is reported at table A13. The effectiveness of these reforms in increasing the average retirement age can be appreciated in figure 22. In fact, around the mid-1990s, the trend of reduction in the retirement age stops. The age of retirement remains relatively constant for a few years, and subsequently begins an upward trend around 2004 for males, and already in the year 2000 for females.

The question arises, whether this change has increased the retirement age (of more than one year in less than a decade) and whether the contemporaneous rise in the employment rate of the elderly has reduced the job opportunities for the young workers?

To answer this question, we analyse the employment rate of the elderly (aged from 55 to 64 years old) and young (aged from 15 to 24 years old) individuals and the unemployment rate among the young, after the implementation of the reform policies that legislated or induced an increase in the retirement age. We use Eurostat labour market data for those European countries that have implemented an early retirement reform, as described at table A14. The dataset contains early retirement pension reforms implemented before and after the financial and economic crisis that began in 2007. As suggested by several authors (Jenkins et al. 2013), the economic crisis has had a differential impact on the labour market prospects of young and elderly workers, particularly in those countries characterised by a dual labour market (Bell and Blanchflower, 2013; Bentolila et al., 2011). Therefore, we will largely focus on the effects of the pension reforms that took place before the economic crisis.

In the vast majority of the European countries that implemented a pension reform in the last fifteen years (see table A14), the rise in the retirement age led to an increase in the employment rate of the elderly, yet had no impact on the employment of the young.

Figure 23 shows the labour market dynamics in EU countries. In what follows, we describe the dynamics in different countries. **Bulgaria** implemented a pension reform in 2003 to increase the statutory age for retirement for both men and women by 6 months. This policy measure did not modify the existing increasing trend in the employment rate of elderly and (to a lesser extent) of young, and the decreasing trend of the youth unemployment. As in many other countries, the 2008 economic crisis reverted all these positive trends. Similar findings apply to **Poland**, where the age of eligibility for early retirement was increased in 2004, from 50 to 55 for females and 55 to 60 for males. This reform did not alter the upward trend in both employment rates and the decreasing trend in the unemployment rate of the young. In 2008, the economic crisis worsened the labour market conditions of the young, but not those of the old. In the **Czech Republic**, new restrictions to early retirement were introduced in 2003 but these measures did not affect the labour market dynamics, which, together with an increasing trend of employment rate among the elderly, presented a decreasing youth employment rate and increasing youth unemployment rate.

Similar results apply to the large European countries. In **France**, the 2003 elimination of the progressive early retirement ('*préretraite progressive*') only induced a slight increase in the employment rate of the elderly and had little effect on the employment rate of the young.

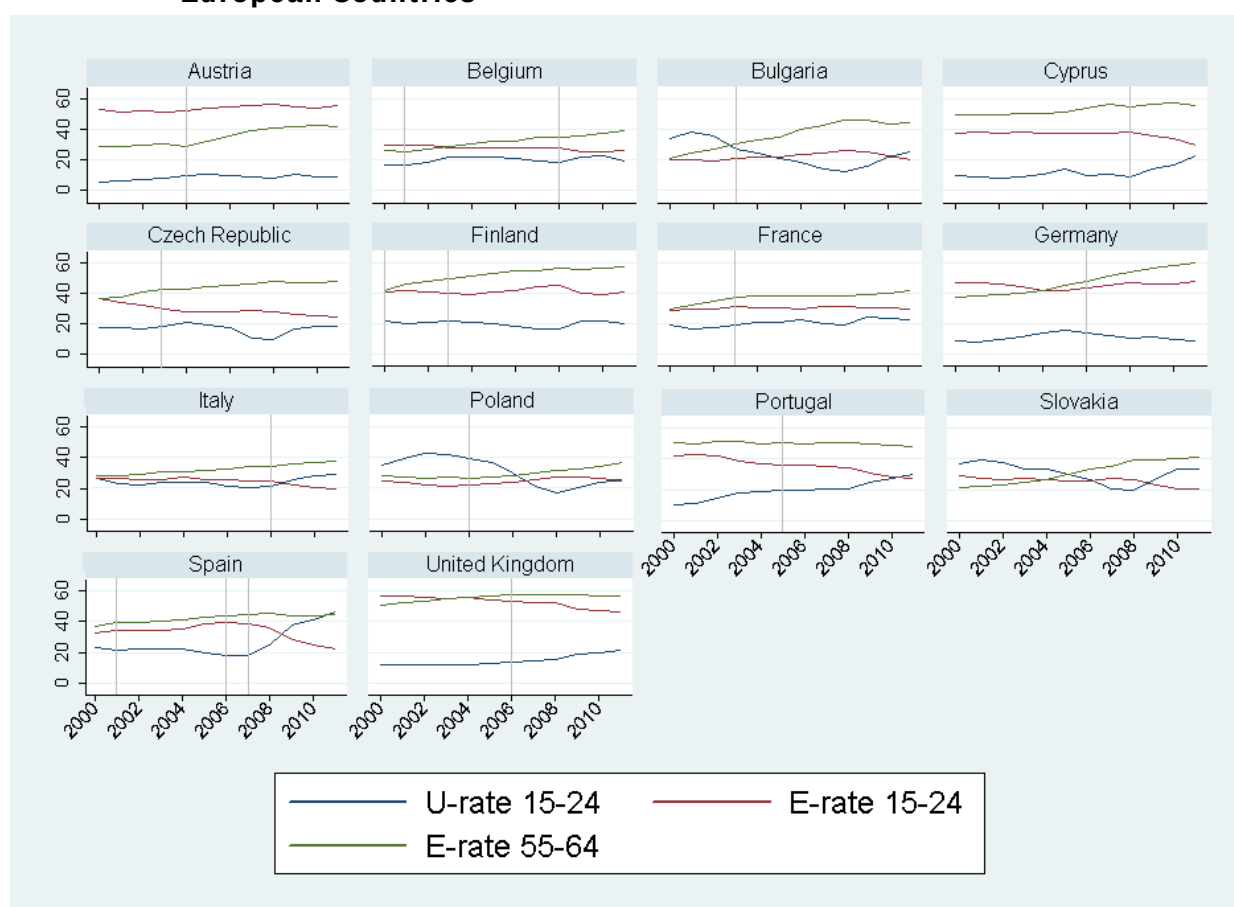
Germany implemented two reforms: in 1999, stricter eligibility conditions for early retirement were introduced, and in 2004, the minimum entry age for early retirement via

unemployment was increased from 60 to 63 years (to be implemented gradually between 2006 and 2008). The 1999 reform had almost no effect on both the employment rates of the young and of the elderly. Analogously, the 2004 reform did not modify the existing upward trend in both employment rates.

Pension reforms did not improve the labour market conditions in the **United Kingdom**, where retirement ages below 65 were largely outlawed in 2006. This reform did not appear to have any impact on the decreasing trend in the young employment rates, the increasing trend in the employment rate of the elderly, and the increasing trend in the unemployment rate of the young.

Furthermore, the pension reforms implemented in southern European countries showed little effect on the employment opportunities of the young. In fact, youth unemployment decreased substantially as a result of the “honeymoon effect” (Boeri and Garibaldi, 2006), associated with dual track reforms of employment protection. However, in these countries, the economic crisis that took place after 2007 had a disproportionate negative effect on the labour market outcome of the young. Thus, the effect of any reform of the retirement policy that was implemented after 2007 is confounded with the differential impact of the economic crisis on the job opportunities of the young.

Instead, the 2008 pension reform in **Italy** increased the retirement age from 57 to 58 years. This reform measure did not modify the existing upward trend in the employment rate of elderly, and the downward trend in the employment rate of the young. However, a large increase in the unemployment rate of the young followed, most likely owing to the negative effects of crisis on the labour market of the young. In 2005, **Portugal** suspended or abrogated some of the existing early retirement schemes. As shown in Figure 23, this reform did not alter the existing decreasing trend of the youth employment rates and the increasing trend in the youth unemployment rate, while the employment rate of the elderly remained flat. In 2008, the economic crisis largely worsened the labour market conditions of the young, yet not those of the elderly. In **Spain**, measures to discourage early retirement were repeatedly introduced – in 2001, 2006, and 2007. The 2001 reform did not modify the positive trend in both employment rates. Instead, following the 2006 and 2007 reforms, the employment of the elderly remained constant, although there was a large drop in the employment of the young and a rise in their unemployment rate. As previously suggested, the most likely explanation of these negative results is that the economic crisis worsened the labour market conditions of the young, yet not those of the elderly.

Figure 23: Trends in employment rates for young and elderly individuals in European Countries

Source: Eurostat.

In only two countries – **Belgium** and **Cyprus** – were the pension reforms that increased the employment of the elderly workers indeed accompanied by a reduction in the employment of the young. In **Belgium**, the 2001 reform introduced stricter eligibility conditions for early retirement. Consequently, there was a large increase in the employment rate of elderly, while a few years later the employment rate of the young dropped, and then remained constant. A subsequent reform in 2008, which further limited the eligibility criterion for early retirement, occurred during an increasing trend in the employment rate of the elderly, while the employment rate of the young dropped following the reform and the contemporaneous start of the economic crisis. In **Cyprus**, a reform occurred in 2008, which increased the retirement age for civil servants from 60 to 63 years. Consequently, a small increase in the employment rate of elderly, a drop in the employment rate of the young, and an increase in the unemployment rate of the young followed. These findings are consistent with the effects of the economic crisis, for the reforms implemented after 2007, however, in the last case, they may suggest the existence of a lump of labour in the public sector. We will return to this point in section 3.1.6.

However, interestingly, while the lump of labour theory would suggest that an increase in the retirement age, induced by the pension reforms, should reduce the job opportunities available to the young, the analysis of these pension reforms in two countries – **Austria** and **Finland** – suggest the opposite effect.

An increase in the employment of the elderly workers (aged 55-64) is accompanied by a contemporaneous increase in the employment of the young (aged 15-24). In **Austria**, a

pension reform in 2003 increased the minimum retirement age from 61.5 to 65 for males and from 56.5 to 60 for females. The reform measure resulted in a contemporaneous increase in the employment rate of elderly and young. The latter dropped only after the economic crisis in 2008. In **Finland**, several reforms were implemented during the past twenty years to increase the average retirement age. In 1993 and 1997, stricter eligibility conditions were introduced for early retirement. In 2000, the qualifying age for early old age pension was moved from 60 to 62, and in 2003, the minimum age for early retirement was increased from 58 to 60 years. Little change occurred in the labour market after the 1993 and the 2000 reforms. However, both the employment rate of the elderly and of the young began an increasing trend after the 1993 reform. Furthermore, the same effect took place following the 2003 reform.

Overall, there is no evidence that pension reforms increasing the retirement age have decreased employment perspective for young workers. However, in the public debate it is precisely these pension reforms that endure most of the blame for the rise of youth unemployment during the Great Recession. As stated by the OECD (2006), “the claim that fewer jobs for older workers result in more jobs for younger workers and vice versa, though unfounded, is proving especially stubborn.”

3.1.6 The imperfect substitutability between young and older workers

The theoretical foundation of the “lump of labour fallacy” rests on an almost perfect substitutability between young and elderly workers. According to this perspective, an old worker leaving the labour market makes room for a young worker who can perfectly substitute them in their previous task. However, several studies have questioned this notion of perfect substitutability between young and elderly workers on several grounds.

Aubert, Caroli, and Roger (2006) examined the effect of the introduction of new (IT) technologies and innovative workplace practices on the age structure of the workforce in French firms. These adjustments to new technologies and workplace practices may suggest the reasons and degree to which young and elderly workers are not perfect substitutes. Theoretically, unlike young workers, older workers – by being more skilled and experienced – may benefit potentially from technological and organisational innovations, which tend to be skill biased. On the other hand, innovation may hurt older workers by accelerating their skills obsolescence, with part of their competences becoming outdated (see Rosen 1975, and de Grip and van Loo, 2002), and by requiring more adaptability and flexibility. Aubert, Caroli, and Roger (2006) use firm-level data to find evidence of a lower wage-bill share for older workers in innovative firms, while the opposite holds for younger workers. This finding suggests a low degree of substitutability among workers of different ages, with new technologies increasing hiring opportunities significantly more for younger than for older workers. Moreover, this pattern also holds within occupational groups, thus suggesting lack of (or low) substitutability even among individuals of similar skills or educational levels.

Young and elderly workers also differ in their cognitive abilities, which partially determine their labour productivities in different specific tasks. Several authors (Horn and Cattell, 1967, and Salthouse, 1985) have distinguished between ‘fluid intelligence’, consisting of the basic mechanisms of information processing, and determining for instance the speed of execution of the different tasks, and ‘crystallised intelligence’, composed instead of the knowledge acquired through education and life experiences.

While the fluid intelligence declines as people become older (and the reduction may start as early as in the mid-30s), the crystallised intelligence tends to increase over the working life and is also maintained relatively stable at older ages. This evidence suggests that important cognitive differences exist between young and elderly workers that may prevent a high degree of labour substitutability between workers of different ages. Moreover, it is

interesting to notice that some recent studies (Mazzonna and Peracchi, 2012) have identified an increase in the rate of decline of cognitive abilities after retirement.

Ageing may affect productivity levels for various reasons. On the one hand, older workers are considered more reliable and to have better skills than average workers. On the other hand, older workers have higher health care costs and lower flexibility in accepting new assignments and may be less suitable for training (Barth, 1993). It is difficult to establish how age itself affects labour productivity, not only because productivity is highly individual and sector specific, but also owing to the interaction of age, cohort, and selection effects. Age alone is found to be a poor predictor of individual performance. There are wide variations between jobs and workers, yet older workers are generally considered to be more consistent, cautious, slow, and conscientious. Furthermore, older workers have fewer accidents and are less likely to quit, thus reducing hiring costs.

The age/productivity profile is not exogenous to labour market institutions. In the past, labour market institutions have been adjusted to facilitate early departure from the labour force. Individual productivity deteriorates if no investments are made to keep human capital up-to-date. Therefore, declining productivity for older workers may be a self-fulfilling prophecy. If a worker anticipates early retirement, that worker will be less eager to invest in training to prevent productivity from deteriorating. If an employer expects a worker to retire early, that employer too will not have an incentive to invest in maintaining productivity. Current generations of older workers may have anticipated that they could retire early, thereby reducing investment in human capital. If so, the concave relationship between age and productivity is caused by the existence of mandatory retirement and not the other way around.

According to Johnson (1993), most employers (and probably many employees) seem to believe in a rule of thumb that average labour productivity declines after some age between 40 and 50. This assumption is so common that few attempts have been made to gather supporting evidence; why bother to prove the obvious? Nevertheless, the variance in performance is commonly greater within age groups than between age groups. Most research is based on cross-sectional comparisons and not on longitudinal analysis. Warr (1998) presents an extended overview of a variety of studies on the relationship between age and productivity, including studies on a range of job behaviours in conjunction with financial indicators to determine the overall outcome of employing older staff, and laboratory experiments comparing the behaviour of people at different ages. According to Warr, there is no reason to think that older workers are less good at their jobs than younger workers: across jobs as a whole there is no significant difference between the job performance of older and younger workers.

Some evidence on the relationship between productivity and age is based on general data either from workers or firms. Avolio et al. (1990) find, based on a U.S. database containing individual information on personal characteristics, ability, jobs, and work performance, that the length of job experience is a better predictor of work performance than age, especially in jobs with high complexity. Hellerstein et al. (1999) use a U.S. matched worker-firm dataset to analyse the relationship between wages, productivity, and worker characteristics.

They find that for prime-age workers and older workers productivity and earnings rise at the same rate over the life cycle, and they conclude that their evidence is most consistent with models in which wages rise in accordance with productivity, such as the general human capital model. Using French matched worker-firm data and a similar setup of the analysis to that of Hellerstein et al. (1999), finds opposite results: namely that older workers are relatively overpaid. The age profile of wages has a concave pattern, while the age profile of productivity stops rising and even decreases after some experience level.

Ilmakunnas et al. (2005) use Finnish firm data with matched average worker characteristics to investigate the relationship between wages and productivity, finding that the wage/productivity gap increases with age, which they attribute to strong seniority effects in wage setting. Dygalo et al. (2005) use French matched worker-firm data to compare experience/earnings and experience/productivity profiles over employment spells, also finding that earnings increase over employment spells, even when productivity declines and attribute this to preferences of workers for rising earnings profiles and firms matching these preferences. However, Aubert (2003), who also uses French matched worker-firm data, does not find strong evidence of older workers being less productive than younger workers. Productivity is increasing and concave with age. In manufacturing, construction and trade the increase of productivity slows after age 40 and is close to zero after 50, yet does not decline. In services, there is also a slowdown of productivity after age 40, but even beyond this age productivity increases with age.

Dostie (2006) concludes, based on an analysis of Canadian linked worker-firm data, that both wage and productivity profiles are concave, but productivity diminishes faster than wages for workers aged 55 and over. The objective relationship between age and productivity may be difficult to establish, but employers may still have strong opinions about the productivity of older workers. Remery et al. (2003) report employers' opinions about aging issues in the Netherlands. They find that employers are less favourable-higher wage costs, lower productivity-about older workers the higher the share of older workers in the firm. About 40 percent of the employers indicated that they would not consider recruitment of older workers even if they suffered staff shortages.

A further problem interfering with the substitutability between young and older workers is indeed that non-employment is a one-way street out of the labour force for older workers. If they leave a long work relationship "to make room" for young workers, they may well not find alternative employment even if they are highly productive. Long-term unemployment among older workers is significantly higher than among prime-age and young workers. It is easier to extend on-going firm-worker relationships than to stimulate employers to hire older workers. Nevertheless, older workers face difficulties in keeping their jobs partly because of employers' negative perceptions about their capacities to adapt to technological and organisational changes and partly because their wage costs may rise more steeply than their productivity. Ill health and difficult working conditions, including long working hours, may also play a role. Perhaps even more importantly, older workers who lose their job find it extremely difficult to acquire a new job and may face large potential wage losses. On average across the OECD, the hiring rate of those over 50 is less than half the hiring rate for prime-age workers (25-49). This may relate to employers' reluctance to hire older workers, but also to weak search incentives and limited support from public employment services. Chan (1999 and 2001) studies the economic consequences of late-career job loss in the United States, finding large and lasting effects on wages, assets, employment expectations, and actual employment. He concludes that two years after a job loss at age 55 only 60 percent of men and 55 percent of women are employed, compared with employment rates of more than 80 percent among non-displaced men and women who were working at the age of 55.

They also find that even four years after job loss there is still a gap of around 20 percent in employment rates of displaced and non-displaced workers. The reasons for this difference are twofold: displaced workers return to a new job slowly, and exit rates from post-displacement jobs are higher than from other jobs. Daniel et al (2007) argue that there are two possible explanations for the widely observed phenomenon that many firms employ older workers, but few firms hire older workers. The first explanation is related to training issues, namely that older workers have more experience, firm-specific skills, and knowledge and are important in training functions within firms. If they are separated from

their firms, they lose this advantage and become relatively expensive as new hires. The second explanation concerns the relationship between productivity and wages. If back-loading of the compensation profile is used to motivate greater lifetime effort, this only holds if the worker remains in the firm. Newly hired older workers do not have an incentive to put in a lot of effort in their job, which also makes them relatively expensive. They also find that firms that use deferred compensation and internal labour markets are unlikely to hire older workers because steeply increasing wage tenure profiles discourage the use of older workers in production. Furthermore, they conclude that modest financial incentives may be insufficient to change the hiring practices of many employers, especially employers that use back-loading and require specific human capital. Nevertheless, Behaghel et al. (2004) find evidence that financial incentives influence hiring behaviour of French firms. When a firing tax was abolished for workers hired after the age of 50, the hiring of older workers increased.

In what follows we analyse whether there is substitutability between elderly and young workers in regional labour markets. In particular, we use EU Labour Force Survey data for 2009 to provide an additional empirical assessment of the degree of substitutability between elderly and young workers, analysing the correlation between the labour force exit rate of workers aged 55 to 64 years old and the unemployment rate for several groups of young individuals, aged from 21 to 30 years old. This analysis is conducted at a local labour market level for several EU countries including two non-EU countries¹⁵ (**Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Lithuania, Luxembourg, Latvia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden**, and the **UK**). The measure of the exit rate of the elderly workers and the unemployment rate of the young refers to the NUTS 2 unit – the basic region for the application of regional policy – as defined by Eurostat.

The lump of labour would require a negative correlation between the exit rate of the elderly from the labour market and the youth unemployment rate. In fact, according to this view, by leaving the labour market, the elderly would make room for the young, with the youth unemployment rate consequently falling. Figure A1 (see Appendix) Panel (a) suggests that no (statically significant) correlation indeed exists between the exit rate from the labour market of the elderly in 2009, measured in each NUTS 2 unit for all the EU countries and the youth unemployment rate, measured at the same regional level.

If we examine this correlation by gender, an interesting result emerges. The overall exit rate of the elderly, which measures the proportion of male and female elderly workers leaving the labour market, is uncorrelated to the youth unemployment rate among the females (see figure A1 Panel (d)). However, a positive correlation (statistically significant at the 10% level) emerges between the overall exit rate of the elderly and the male youth unemployment rate, as shown at figure A1 Panel (e), with this finding overturning the lump of labour view.

In the local (regional) labour market, in which the elderly retire early – and thus exit the labour market – the unemployment rate of the young males is high, whereas lower level of youth unemployment rate for males are associated with low exit rates among the elderly.

To further pursue the possibility of gender specific jobs, in which substitutability between young and elderly (male or female) workers occurs, we analyse the exit rate of the elderly and the unemployment rate of the young by gender. While no correlation emerges for females (see figure A1 Panel (b)), a strong positive correlation becomes apparent between the elderly male exit rate and young males' unemployment rate, as displayed in figure A1

¹⁵ Israel and Norway.

Panel (c). This finding, contradicting the lump of labour, supports the empirical evidence provided in other studies (see Gruber and Wise, 2010, and Van Dalen and Henkens, 2002). The explanation for this positive relationship proposed in this literature is that a large exit rate of the elderly workers, induced by early retirement, increases the cost of financing the pension system and consequently also the pension contribution (or labour tax) rate. The resulting increase in labour cost reduces the demand for workers, and thus also the employment rate, particularly among those individuals who are less attached to (and less protected in) the labour market, namely the young.

To further investigate the degree of substitutability between elderly and young workers, and thus to indirectly test the lump of labour, we use the 2009 EU Labour Force Survey data to construct the correlation between the labour force exit rate of elderly workers and the youth unemployment rate at the NUTS 2 level by education group. We particularly consider highly (third level education), medium (upper secondary education) and low (lower secondary education) educated individuals for both the elderly exit rate and the youth unemployment rates. Interestingly, no correlation exists for high and medium educated individuals (see figure A2 (Appendix)). However, among low educated individuals, a strong positive correlation emerges between the elderly male exit rate and the young males' unemployment rate. Again, this finding not only contradicts the lump of labour, but it also rather suggests the existence of an opposite effect: early retirement (among the low educated elderly workers) worsening the labour market conditions of the low educated young workers.

A final place to find evidence in favour of the lump of labour is among public sector workers. Unfortunately, the EU labour force survey does not allow a precise identification of the workers in the public sector, and we thus consider two classifications that contain mainly – yet not exclusively – public sector workers: clerks and professionals (ISCO-88, group 4 and 2). In particular, clerks are defined as office clerks and customer service clerks (ISCO-88, group 4), and professionals as science, health, teaching and legal professionals (ISCO-88, group 2). Figure A3 (Annex) shows the respective association between the exit rate from the labour market of clerks and professional elderly workers and the youth unemployment rate. As in the previous cases, no (statically significant) correlation emerges to support the existence of a lump of labour within the public sector.

Overall, little evidence of a close substitutability between young and elderly workers emerges from the empirical results. On the contrary, evidence from regional labour markets tend to suggest that early exit of elderly workers from the labour market may indeed worsen the labour market outcomes of young individuals, as in the case of male and low educated workers.

3.2 Do these two issues need to be treated independently by policymakers or should they better be linked?

From the empirical evidence reported in section 3.1, no lump of labour emerges. A greater number of older workers looking for jobs does not increase youth unemployment, particularly in the longer-term. Indeed, in the *short-run*, the retention of older workers may increase unemployment in some instances. However, this phenomenon does not seem to occur for the young individuals, yet rather for the elderly workers. Interestingly, no strong evidence emerges to support the existence of a lump of labour in the public sector either. This may represent positive news for the future of the public finances in many EU countries. Policy measures aimed at increasing the retirement age have mostly been adopted to curb the raising trend in public pension spending, which are partially due to the recent and persistent longevity gains. Thus, these findings should further encourage the introduction of these retirement reforms.

However, as argued at section 3.1.6, not all elderly workers are equally productive. In some, less fortunate cases, due to declining health conditions for instance, labour productivity may largely drop over the life cycle, and individuals may choose to retire early. To allow individuals to optimally self-select into continuing to work or into retirement, according for instance to their private information on their health status or labour productivity, pension systems should offer flexible retirement and actuarially fair (at the margin) pension benefit calculation. Reforms in several countries that introduced Notional Defined Contribution schemes, such as Italy, Sweden and Poland, may represent good examples to follow.

Another interesting finding on the lump of labour emerged from the studies at section 3.1. In fact, the positive correlation between the elderly and the youth employment rate to emerge in several countries after recent pension reforms, which increased the (effective) retirement age, suggests that a longer working life for older workers may ultimately benefit younger workers. The positive correlation between the employment rates of the individuals in these two age groups points to the need for these issues to be addressed by focusing on measures aimed at **job creation** more generally – in addition to measures aimed at improving the matching processes of available jobs to available workers (leading to matches of higher quality and a higher pace of matching).

A policy measure to achieve this goal, particularly in those (mostly Southern European) countries characterised by a dual labour market is to introduce a Single Contract. The dual market is largely a by-product of strict employment protection legislation (EPL) for open-ended contracts, and has important costs associated with it. Several studies found that in high EPL countries, workers are misallocated in less productive units, there is underinvestment in physical capital, which leads to low capital labour ratios, and labour turnover is reduced. The resulting dual labour market has additional negative consequences, particularly for the young and the elderly (50+ years old) workers. Access to stable jobs is reduced, with recurrent spells of temporary jobs and unemployment emerging. Workers under temporary contracts have limited access to credit, they are offered low training, and may suffer from a stigma effect from being caught in temporary jobs.

The introduction of a *Single Contract* to be offered to all (young and elderly) workers, which replaces all existing forms of employment contracts would help to reduce these negative labour market outcomes and may also increase the employment rate. Through this reform, governments could promote entrance into the permanent labour market in stages, introducing graded employment protection and thus avoiding the formation of a long-term

dual market. Job security provisions, in the form of mandated severance payments, could increase steadily as workers acquire tenure without large discontinuities.

Unlike providing different answers to the common goal of increasing the employment rate of the elderly and young individuals, the findings in section 3.1 suggest that a distinction is best made between short- and long-term policies. As suggested by OECD researchers (Scarpetta, 2012): “The short-term priority should be targeting youth most at risk of losing contact with the labour market and tackling the key underlining labour market problems that were affecting the transition from school to work for many young people even before the crisis.” Short term priorities include supporting youth most at risk of losing contact with the labour market, through job-search assistance and well-designed active labour market programmes. A longer-term priority is instead to create new jobs for all individuals. As summarised by de Koning and colleagues (2004: 4): ‘if we encourage more older people to work and labour supply increases, inflation will at first tend to fall, permitting a rise in aggregate demand and in the number of jobs. This is the direction in which Europe has to move if we are to support an ageing population from a reduced flow of births.’

3.3 Converting employment challenges into opportunities for new sectors

3.3.1 The need to identify employment opportunities

The economic crisis of 2008 has severely affected GDP and employment across the EU-27. There was a drop of 4% to 5% in GDP across the EU-27 in 2009 and a decrease in employment of around 2%. The prospects of economic growth for the coming years remain low. The OECD (2012) estimates that the recovery of 2010 and 2011 has done little to make up for the job loss incurred previously. According to the forecast of employment prospects made by Cedefop (2012a), the EU-27 would only reach the same level of employment as in 2008 by 2016. Yet interestingly the report notes that labour supply has not really diminished. With a large labour potential present, economic growth has a better possibility to be translated into additional employment. However, another economic downturn could push short-term unemployment rates even higher, especially for young people. Even so chapter show there is a large supply of unemployed in most Member States where short term employment might transform into structural unemployment, if no employment prospects are provided to the unemployed and particularly the low skilled.

It is therefore vital that the Member States of the EU try to identify and capitalise on those sectors with high growth and employment potential to support both economic growth and employment. To match the supply of labour to new demands, skill shortages must be taken into account. Mismatches in the labour market are already common in countries such as Spain and Sweden, despite the presence of a large group of unemployed persons (OECD 2012). Especially workers with highly specific qualifications such as life science and health-associate professionals and teaching-associate professionals are short to come by on the labour market. Shortages also occur in sales services and elementary occupations. Apart from supporting promising sectors, the necessary skills need to be identified, and where necessary, retraining programmes must be established to provide a supply of adequate workers.

3.3.2 Employment opportunities in developing sectors

The Cedefop forecast on future skills supply and demand in Europe (2012b) gives an estimation of the number of jobs that will be available by 2020 and what is to be expected in the different sectors. In the period from 2012 to 2020 they predict around 83 million job

opportunities, of which the grand majority, 75 million, will involve the replacement of positions when people retire, the other 8 million would be new jobs.

According to the forecast, most job opportunities will open up in services. Other sectors that have experienced ever diminishing employment such as manufacturing, crafts and agriculture, might still present job opportunities due to the need to replace retired workers. Yet this will not reverse or change the long-term shift from both the primary and secondary sector to the service sector. Utilities such as agriculture, fishery, mining and network industries will decline in favour of business and other services.

The forecast matched the potential of growth with the EU with the level of certainty of high employment growth. A number of sectors were identified as having a high potential of employment growth, but also high uncertainty. These include sectors such as the pharmaceutical industry, construction, automotive and health and social work. The uncertainty of high employment stems from their dependence on the business cycle and external factors, such as policy measures (environment legislation) or external shocks (a steep rise in oil prices). Other sectors with high employment potential and low uncertainty are communication, retail, banking and finance, computer services and ICT and professional and other business services. Up to 2020, we can expect them to grow, even with more unfavourable conditions. However, services including tourism, health care and IT are generally expected to provide most job growth in the years up to 2020. Depending on the government cutbacks and evolutions in public and private spending, this may happen only at a slower rate than in favourable circumstances (Cedefop 2012a).

The European vacancy report (European Commission, 2012c) is another source of identifying potential growth sectors. It monitors the demand in skills, sector demand, occupation demand, bottleneck occupations and skills requirements. Their latest results are based on data up to Q3 of 2011, with the vacancies pointing towards sectors with interesting employment potential, yet given that they reflect past situations, they are also much more vulnerable to cyclical factors and economic conditions and must be interpreted as such. For the EU-27 the results point towards a further decline of demand in construction, ICT, transport, industry and others for the period 2008-2011. Yet except for public administration expectations are that demand will rise again. In the third quarter of 2011, the highest number of job finders could be located in following occupations: shop salespersons, cleaners, waiters/bartenders and personal care workers in health services. From the presence of cleaners, personal care workers on second and fourth place, together with child-care on place 24, we can deduct that the more extensive sector of personal services that includes these professions remains a strong sector, maintaining recruitment during the crisis.

According to the report, the top-growth occupations within each of the major occupational groups, identified by the largest increase in the number of job-finders between 2007 and 2010, generally reflect sectoral developments. According to this definition, the sectors of health and social work, education and business services are potential growth sectors. Finally, we must also consider long-term on-going trends, especially those influenced by external certainties.

One of the most important is the green sector. Both the EU and the OECD have identified the greening of the economy as a challenge and opportunity to improve innovation and provide new opportunities of both sustaining as increasing employment. From this information, it is possible to distil some sectors that might prove promising in providing increased employment in Europe during the coming years to quicken the growth in employment, including ICT, health and household services and green economy.

ICT sector

The ICT sector can be divided into two subsectors: manufacturing and services. Data of Eurostat up to 2010 shows an increase in companies in the sector on services up to 78,000 in 2010, apart from manufacturing, which has stagnated. Analysis by the European Commission shows the ICT sector share of total business value added is 8.5 % and the ICT sector employment constitutes 3 % of total business sector employment in the EU. Moreover, employment among ICT practitioners grew by around 3% a year (European commission 2012c); employment has slowed, but the effect of the crisis, especially in a sector providing services to business, is to be expected. Yet there are constraints. Veugelers (2012) argues that Europe has far less ICT innovators, especially young firms, which might pose a constraint on the sectors development.

The Cedefop skill forecast (2012) however expects the need for ICT professionals to rise. The European Vacancy report (2012c) also identifies several ICT professions amongst the top bottleneck occupations in Europe. These are concentrated in a number of professional occupations. The bottlenecks are identified in a number of EU-countries for high skilled professionals such as IT consultants, IT support staff, software programmers, data processing technicians, IT project leaders etc. This shows the ICT sector is still in need of additional employment.

The green sector

The green sector is a rather large and heterogeneous sector, with the so-called green jobs not universally defined. The OECD (2010) defines them as jobs that contribute to protecting the environment and reducing the harmful effects human activity has on it (mitigation), or to helping to better cope with current climate change conditions (adaptation). As the sector is so varied, it can be classified into the so-called shades of green, depending on the greening of the employment process (OECD 2010). The European Renewable Energy Council argues that increasing the share of renewable energy in Europe to 20 per cent of consumption levels by 2020 will create the potential for over 2 million jobs (EREC 2008). This includes occupations in engineering, installers of solar panels, insulation workers, electrician, and sheet-metal workers, amongst other. The age profile of these occupations varies with installers, electricians and insular workers being younger than the more high skilled professions such as engineering (Cedefop, 2011 - Eurostat-LFS 2010).

Estimations made by Eurostat and the US department of Commerce have shown that employment potential through these sectors goes up to about 2% of employment. Yet estimations of job growth must be interpreted with caution (OECD 2010, Cedefop 2010). Depending on results rather than the creation of new jobs, the transition of old jobs is expected, demanding workers to acquire new skills and update their knowledge to be able to function in a changed green professional environment. The potential of employment growth also depends on the policy approach to the sector. Reducing the tax wedge, for example by revenue from a carbon tax, will provide similar results as studies on the impact of ICT, globalisation and environmental policies have shown (Martin, 2010).

In the OECD employment outlook (2012) it is again stressed that the sectoral composition of employment will alter, with fossil-fuel industries experiencing the steepest employment declines and renewable energy industries the sharpest increases. However, the resulting reallocation of employment is not as large as the reallocation that was experienced in recent decades and will only partially affect job demand, especially because many of the affected industries are highly localised and are often characterised by low skilled workers with a low labour mobility.

According to the OECD (2010), the workers in the affected sectors will be required to acquire specific skills to adapt products, services or operations owing to climate change adjustments, requirements or regulations (e.g. water purification and site remediation planning/engineering in mining, solar panels installation, wind turbines design, green management, carbon capture and storage techniques). The dynamics of this adjustment might require investment in training and skills development if the long-term sustainability of greener jobs is to be achieved.

However, for these programmes to be successful, people must be attracted to the sector. Research shows that the jobs in the green economy suffer from a negative image, especially with women and young people. Women are already less inclined to choose for science, technology, engineering and mathematics which are necessary qualifications for high end jobs in the sector, but the low-skilled jobs in the sector are considered not desirable (Cedefop, 2012c).

Sector of personal services

The sector of personal services is one of the sectors in Europe with potential of employment growth, especially with groups with more difficulties on the labour market such as women, older workers, the low-skilled and migrant groups. A part of the sector is made out of occupations that require qualified care workers such as care for the elderly, children and the disabled. Yet many services in the sector require little qualifications at the start such as household services that can be provided by low-skilled workers. In countries where the sector receives direct support from the government through various measures such as in France and Belgium, data shows that, besides combating undeclared labour, the sector attracts relatively older workers than the general labour market profile, especially women with low qualifications (ANSP 2010, Gerard et al 2012).

The European vacancy report (2012c) shows that in 2010 and 2011 the changes in 'personal care and related workers' and 'home-based personal care workers' have shown little change over the four years, with only modest increases. Thus, it is only a small increase in employment because of the significant employment number this occupational group already represents. The forecasts of Cedefop skills and supply report (2012) indicates that jobs in the sector of personal services, which together with the care and health sector forms the white sector, are expected to grow. 'Personal and protective services workers' form one of the top five occupations most likely to be in demand to 2020. Even with negative economic prospects, the ageing population and their longevity combined with a higher female labour market participation demands a growing number of services to provide assistance. Looking at the most posted vacancies with public employment services, personal care and related workers are listed in the fifth position, also indicating their potential. The European Commission has already started a public consultation to look into the potential of personal and household services as a mean for job growth in Europe (European Commission 2012d).

3.3.3 Requiring the necessary skills

The job opportunities identified by Cedefop (2012) will be focused on high-end jobs, requiring high skills, and the low end for low skilled workers as defined in the ISCO classification. Yet in general, employment will keep moving towards more skill-intensive jobs, while manual or routine jobs will decline with the demand for skills shifting as a result (Handel 2012). It is projected that over 80% of people will have at least medium qualifications. Combined with low employment growth the supply of high-qualified workers will probably overtake demand. This can cause over-qualification of the working population, at least for the short term. Yet shortages will persist if current trends continue. According

to employers this is linked to too few young people studying science, technology, engineering or mathematics. This must remain a focus of policy, both for formal education as retraining of both young and old workers.

These sectoral cases show a general need for training of the population for all age groups. Eurostat data on formal and non-formal education shows that 63.5% of participants of the age group 15 to 24 were in formal or non-formal education in 2011. In the age group of 45 to 54, this decreases to 7.1% and even further to 3.5% for the age group 55 to 74. In total for the age bracket of 15 to 64, 15.4% followed a formal or non-formal education in 2011. The data for the individual fields in which the education was followed is only available up to 2007. The data indicates that 13% of formal education and training in the EU-27 goes to health, welfare, 9.7% in science, mathematics and computing, and 3.7% in computer science. This shows there is room for policies improving the use of training for all age groups, but especially the elderly and with attention to the sectors of interest.

The training and up skilling of workers is not just something for younger workers. In principle, older workers can keep pace with technological innovations within existing firms and jobs, but they can also move into dynamic sectors and occupations. Posthuma and Campion (2009) indicate that there is a negative correlation between employee age and supervisor evaluations of employee job performance, especially with computer-related tasks and training performance. However, the research shows that when other personal factors such as experience and interest and job performance factors are taken into account the negative correlations are often no longer significant. This means that when all aspects of job performance are taken into account, older workers can be just as productive as younger workers can. The threat of skill obsolescence remains however, meaning the lack of up-to-date knowledge or skills necessary to maintain effective performance in a current or future work role. Skill obsolescence affects especially the unemployed and the older workers with the lack of organisational support for learning as a recurring feature. To prevent this continuous learning and training must be provided (Cedefop 2012d).

The green sector, the white sector and the ICT sector have a need of more formal education, targeted at specific skills such as engineering, healthcare and science. However, additional training will be needed to convert the unemployed or the current work force to these sectors. For the white sector including personal services on the job training can provide an answer. Both for the white sector and ICT sector the validation of earlier acquired skills can also provide a way to validate those with the necessary skills. Technology evolves fast, so it is difficult to deliver entrants to the labour market or redirected workers with all the new knowledge available, especially since training providers themselves need time to adapt. Therefore, the validation of non-formal education and informal education can help in addressing the skill gaps (McLaughlin et al., 2012).

For all sectors, but especially for the green sector there is a need of continuing vocational training. The International Labour Organisation (2011) sees a skill change as one of the main impacts of the environmental policy on the labour market. These can be new skills, but will also include traditional skills complemented by "green skills", most of which can be offered by on-the-job training programmes. Here generic skills also come to the fore.

The correct skills for the white, green and ICT sector can best be determined by regional bodies and industry, usually on a small scale and related to a specific occupation. Formal education and VET systems, sectoral bodies and trade unions can provide up skilling programmes for specific occupations. This is already the case for green skills (Cedefop 2010). This should also be extended to the unemployed by public employment services. To strengthen high skilled occupations in the green and ICT sector more than on the job training is needed as they are best delivered by educational and in-depth training programmes. Yet trainers themselves will need further training to update their own skills

and provide more efficient training. In some cases, new programmes need to be established. In many countries, green jobs are new and their qualification pathways not yet recognised (Cedefop 2012c).

In general, there is more need of partnerships between the various national labour market stakeholders. Training providers and social partners must identify the skill mismatches for each sector on a national level and offer better vocational training and counselling. To address unemployment it is essential to retrain and redirect the unemployed to the sectors and professions with most opportunities. Enterprises themselves must also play a role in planning and developing skills with new workers (Cedefop 2012b).

4. CASE STUDIES ON THE MEASURES TAKEN

KEY FINDINGS

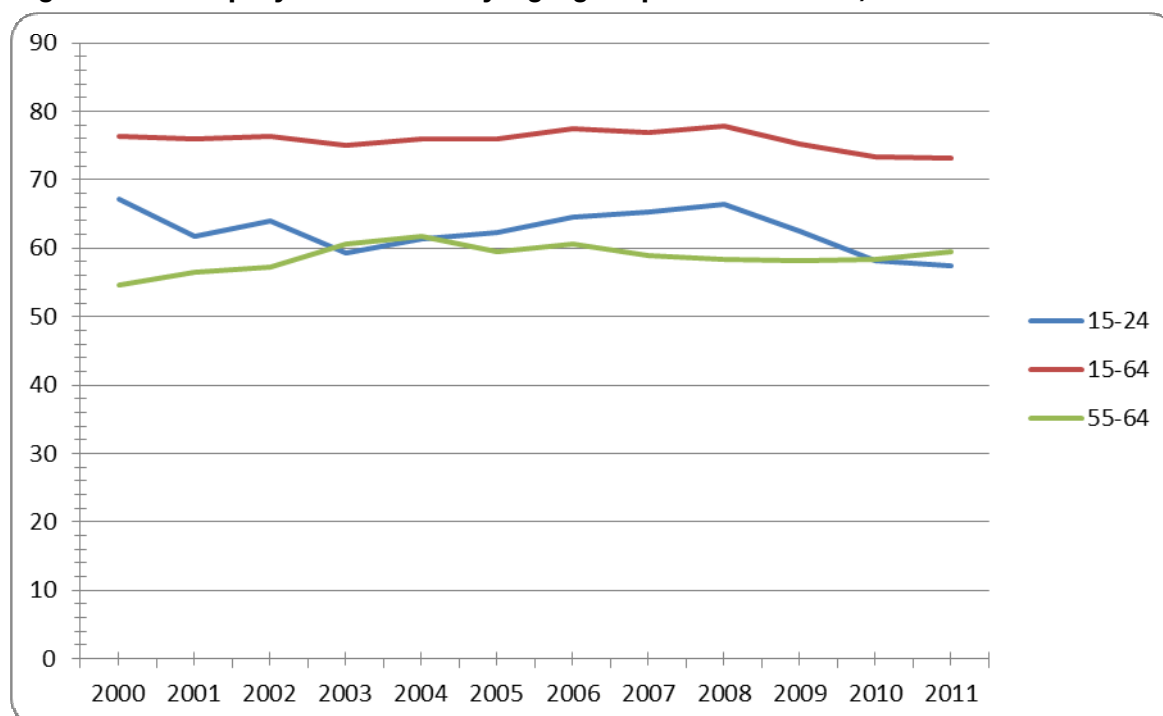
- Country case studies highlight the general importance of favourable labour market institutions for the overall employment performance, which is also important for young and old workers. Because of the interdependency and in most cases recent nature of the measures taken, it is difficult to assess the exact impact of the specific policies. Yet the employment rates in the cases indicate that the measures on activating older workers, mostly by reforming retirement systems, are generally more effective than those for younger workers.
- The labour market situation in each case varies, requiring different tools. Denmark has a high employment rate, but a rising youth unemployment rate. In contrast, Germany has rising employment rates for all groups. Belgium has a stable but low employment rate, with a rising youth unemployment rate and an increasing participation rate of elder workers. Italy has a similar profile as Belgium with rising youth unemployment and increasing employment of the elderly. Austria has a high employment rate with increasing participation of both young and older workers.
- Reforms in training systems, social benefit payments, employment protection regulation and active labour market policies play a prominent role. Pension reforms and restrictive benefits are directed to keep older workers in employment. Programmes such as mentoring, apprenticeships and job rotation for temporary workers are open to all workers but are more directed to young people increasing their skills and familiarity with the job market.
- By comparison, targeted active labour market policies are less important in explaining the employment levels of young and old workers. However, they can make a particular contribution to the employment prospects of both young and older people facing specific barriers to employment such as capping employer contributions for older workers in Belgium and Germany. Younger workers are often targeted through more intensive guidance and training policies or through hiring subsidies.
- Policies aiming to establish employment ‘bridges’ between young and older workers have not been of major importance, and where implemented, have proven to be rather ineffective. Italy has started a new programme targeting at transferring employment smoothly from older generations to younger by decreasing working hours. However, the programme cannot be evaluated yet.

4.1 Denmark

Compared to most other European countries, **Denmark** has a relatively low youth unemployment rate and relatively high employment rate among senior/elder workers as Figure 25 depicts. Moreover, both the labour market participation rates and average age of exit are relatively high. The national initiatives for facilitating the younger and senior workers on the labour market are covered by the Danish active labour market policy, which is the third leg in the Danish so-called flexicurity model. This tripartite-negotiated model, often pinpointed as the cause of the high Danish employment rate, combines a relatively low cost of laying off workers and high unemployment benefits (up to 90 % of a foregone

salary), with an active labour market policy. In particular, three law initiatives have been in place to safeguard the entry of younger workers into the labour market: the early retirement scheme; the reduction of the employment insurance period; and the tightening of access to disability retirement for younger people.

Figure 24: Employment rates by age groups in Denmark, 2000-2011



Source: European Labour Force Statistics.

The early retirement scheme (*efterløn*) was introduced in 1979 as a response to youth unemployment, offering early retirement to seniors and thus creating space for more jobs for the youth. In practice, the system grants an option for retirement from 60 years rather than the normal retirement age on 65 (now 67 or above). The result was a dramatic reduction of seniors over 60 in jobs, and the scheme proved very costly. It became a growing economic problem throughout the last decade, especially owing to a predicted shortage of labour resulting from the ageing population. Consequently, several politically controversial reforms were made, most recently in 2012, which gradually increase the early retirement age and will eventually bring the scheme to an end. The reform of the early retirement scheme was part of a comprehensive pension reform aiming at increasing the retirement age.

The unemployment insurance system (*dagpenge*) was reformed in 2010. One main component of the reform was a reduction of the maximum compensation period from 4 to 2 years, to enhance the individual's incentive to seek new employment and reduce public expenditures. However, some compensating measures were implemented in 2012 as a political response to a notable public debate. **The reform to reduce younger people's access to disability retirement** (*førtidspension*) was also introduced in 2012. Hitherto, younger people have been granted disability retirement if their ability to work was sufficiently reduced. However, this reform removes the access to benefits for people under 40 and introduces alternative labour market initiatives to train these "disabled" younger people for work designed to enhance their participation within the labour market.

The effects of the three aforementioned labour market reforms are expected to be significant. However, the consequences will first be observed in the coming years, including whether they succeed in getting younger people into work and keep older workers active.

As a follow-up to these reforms a series of initiatives were introduced in 2012, designed to alleviate the social effects of the reforms and to get more unemployed in work, particularly among young people.

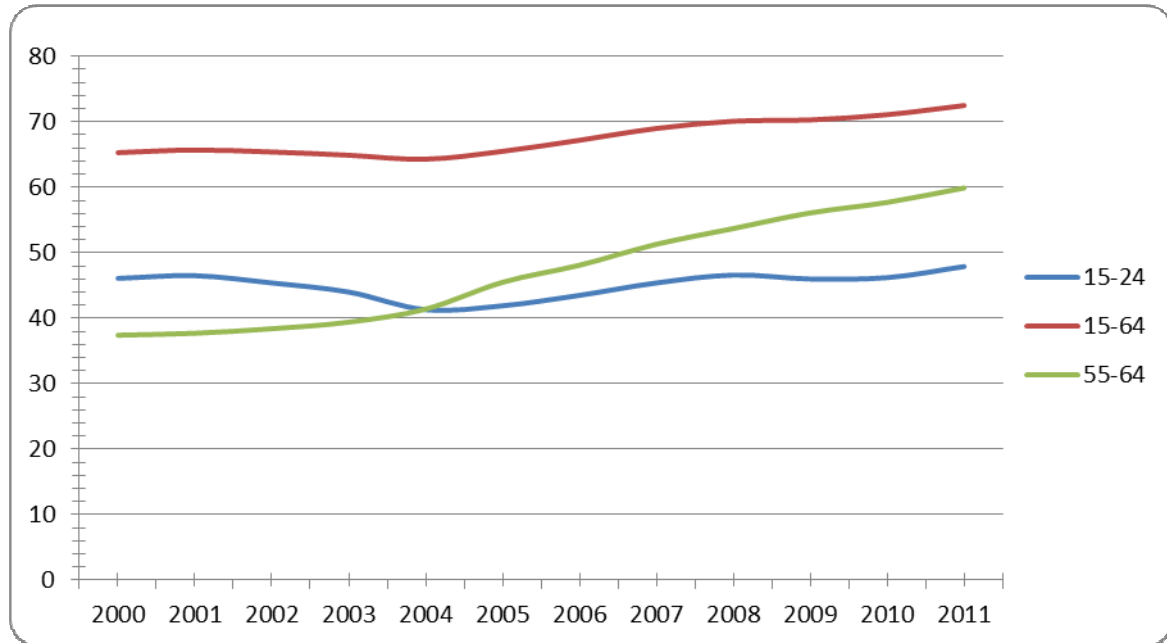
Examples of these are more educational rights for unskilled and skilled workers, which introduce a greater financial incentive to get people with obsolete skills to take six weeks of self-chosen training. Another example would be **job rotation**, which constitutes a subsidy system where a private or public employer sends an employee on training or hires a temporary worker and is partially reimbursed by the state. An increase in efforts for unemployed dyslexia and literacy weak workers might serve as a further example (like guidance on how to enrol in dyslexic courses and preparatory adult education, and how to utilise new IT self-service tools). A further initiative to tackle youth unemployment aims at ensuring more unemployed youth to participate in job rotation, more unemployed young people become skilled through an adult apprentice system, as well as a job and upgrading package for academically weak youth and on-the-job training for unemployed graduates.

The Danish active labour market policy includes other schemes focusing on employment for either older or younger workers: The **Icebreaker Scheme** (*isbryderordningen*) is a wage subsidy scheme for young graduates with disabilities. It aims to provide new graduates with disabilities who have not yet had the opportunity to work with the chance to gain work experience within their profession. In addition to that, **education degrees or apprenticeships** are provided as part of a rehabilitation process. The student or apprentice receive rehabilitee apprentice wages from the employer and are reimbursed in case the salary is less than rehabilitation benefits. **The flexible job scheme** (*flexjob*) aims to provide employers support to recruit and retain employees with reduced working ability to facilitate the citizens' attachment to the labour market as long as possible. The target is citizens who are unable to cope with an ordinary job due to illness yet are not eligible for disability retirement. Furthermore, before benefitting from the flexible job scheme, all other relevant possibilities must have been tried. The flexible job scheme was introduced in 1998 and included approximately 52,000 citizens in 2011, with the enrolment rate having increased by 20% within the last five years.

The mentor scheme (*mentorordningen*) aims to associate employees with the labour market or keep them in jobs. The subsidy provides guidance and training for work by associating a mentor, who may also help the individual with conditions outside the workplace that otherwise prevent the employee from continuing employment. Finally, the **light jobs scheme** (*Skånejob*) provides wage subsidies for hiring of disability retirees under age 65 seeking work. In 2011, over 5,600 people were enrolled in the scheme, which has increased by 21% over the last five years.

4.2 Germany

Germany has seen a significant increase in the overall employment level since mid-2005, and even during the most recent global economic crisis. Time series data from the European Labour Force Survey shows that this rise in the share of employed in the working age population was also driven by the huge gain in employment by older workers, with the employment level rising by more than 20 percentage points between the early 2000s and the most recent period. At the same time, the employment rate of young people stagnated around 45 percent, including apprentices. Evidently, the increase in the employment of older workers was not harmful to the employment prospects of younger people, but rather the overall strength of labour demand in an economy characterised by demographic ageing was beneficial to the mobilisation of different age groups (figure 25).

Figure 25: Employment rates by age groups in Germany, 2000-2011

Source: European Labour Force Statistics.

What is most striking in the German case is that particular targeted policies addressing both groups (based on age criteria) at the same time have not played a major role in promoting the employment level. Rather, the overall performance of the German labour market has increased over time owing to some flexibility-enhancing reforms and broad activation policies. The massive increase in the employment of older workers was also rendered by the phasing-out of early retirement incentives, both in the pension system and unemployment insurance regime. Among other elements, the maximum duration of unemployment insurance benefit receipt for older unemployed was cut from 32 to 24 months, and a subsidised old-age part-time scheme was phased out until the end of 2009. It had been used massively for early exit from the labour market without promoting better employment of young labour market entrants (Wanger 2009, Börsch-Supan/Schnabel 2010). Removing early retirement incentives has made a premature exit from the labour market much less attractive both to workers and firms, in comparison with the situation in the 1980s or 1990s. Moreover, the increasing employment level of older workers has also been driven by increasingly prominent skills shortages that employers are increasingly aware of. The reason for this is that employers anticipate the potential shortage of skilled workers on the German labour market. Consequently, employers tend to keep the skilled workforce instead of replacing it at an early stage. As a result, more experienced and thus elder workers are likely to remain part of the workforce for a longer period than decades ago.

Active labour market policies for older workers have not had a significant impact on their employment situation, despite policy innovations in the 2000s including:

- an “earnings insurance” topping up the wages of workers above 50, received upon re-entering the labour market if the new wage was lower than earnings before unemployment (currently being phased out);
- exemption from employer contributions to unemployment insurance when hiring unemployed over 50 (implemented from October 2005 until December 2007);
- targeted and more generous incentives for employers hiring older unemployed above the age of 50;

- subsidised out-of-job training for low-skilled workers above the age of 45, employed in small and medium-sized firms.

However, the contribution of these programmes was only marginal, and many ALMP programmes for older unemployed were only taken up on a relatively small scale and were modified or withdrawn over time (Eichhorst 2008). Furthermore, conditions for fixed-term contracts were relaxed when older unemployed are hired. In addition to the general option of hiring workers on a fixed-term basis for up to two years without a valid reason, it is possible to employ older unemployed persons (above 52) for up to five years. However, the rise in the employment of older workers is rather due to the prolonged employment of employees (who would have retired much earlier in the past) than the rehiring of older unemployed (see, e.g. Brüssig 2010, 2011).

Younger workers continue to benefit from demand for skilled labour market entrants and the dual vocational training system, which is still the dominant pathway from school to work in Germany and continues to ensure a relatively smooth transition from schooling to employment. In place for many years, the extensive vocational training system is the product of on-going cooperation between the government, individual employers, employers' associations as well as trade unions. By its combination of firm and occupation-specific learning content the system serves as important education, screening and signalling device to employers. Over time, stakeholders have been able to adapt and update vocational training curricula, but the system did not change fundamentally over the last decades. A major issue of the German school-to-work transition is that early school leavers and vulnerable groups of youths with weak school leaving certificates find it quite difficult to access the dominant vocational training system. This is particularly problematic as youth with low degrees do not have any other certifying training options available to them, and the lack of vocational degree is directly related to a high risk of persistent labour market instability.

Accordingly, the large part of active labour market policy schemes for young people focus on the integration of youth into one of the options of the vocational training system. The majority of measures are administered at the employment agencies (for youth entitled to unemployment benefits) or the agencies administering social assistance, so-called "Jobcenters" (for unemployed youth without benefit entitlement), with youth being assigned to a caseworker in charge of their reintegration into the labour market. Youth administered at these different institutions are generally affected by similar ALMP regulations, apart from youth without UB having to be activated faster (i.e. "immediately") after their registration, while the standard activation rules (activation after six months at the latest) apply for youth with UB entitlement. Two recent reforms of the federal ALMP scheme took place in 2009 and 2012, and also had important consequences for the youth specific programmes. Essentially, the different schemes available aim to tackle the youth integration problems at three different angles:

Provision of vocational and occupational guidance: While counselling and occupational guidance courses are regularly integrated within high school curricula, the employment agencies and Jobcenters also offer a comprehensive network of "occupational information centres", which provide information on the potential occupational routes, self-assessment tests, and demand-based individual counselling.

Furthermore, intensive occupational guidance courses (*vertiefende Berufsorientierung*) last up to four weeks; the reform in 2012 emphasised the extension of counselling for youth with special educational needs. Following a pilot project in 1,000 schools in Germany, the concept of an "occupational entry companion" (*Berufseinstiegsbegleitung*) was integrated into the standard set of programmes in 2012. Here, particularly disadvantaged youth receive continuous individual assistance after leaving school, with the aim of helping them

at the various steps of application to a vocational training programme or apprenticeship. The companionship ends after the successful enrolment into a training programme.

Improving the human capital of youth: Measures aimed at extending or improving the skills of youth who are unable to enter the vocational education system constitute the most important youth-specific programmes. This extensive transitory or “preparatory” training system (*Berufsvorbereitende Bildungsmaßnahmen*) aims at overcoming structural deficiencies in the skills of youth in terms of numeracy and literacy, offering school-based training, or organising company-based internships. In a similar manner, the so-called “Entry-qualification” (*Einstiegsqualifizierung*) finances long-term internships for disadvantaged youth, with the aim of these internships later being transformed into regular apprenticeships. Furthermore, since 2009, high school dropouts seeking an apprenticeship have a legal entitlement to participate in a course that prepares them for the acquisition of the high school degree. In addition, if youth have been able to find an apprenticeship they can subsequently receive funding for parallel training measures that might increase their chances of finishing the apprenticeship (*Ausbildungsbegleitende Hilfen*).

Financing: While several extensive programmes in the early 2000s incentivised the hiring or training of youth by offering wage or training subsidies to employers in areas of low labour demand, these measures have since been abolished. At present, the only training subsidy regularly available pertains to firms who are willing to train youth with special needs, whereby they may receive up to 60% of the salary that they have to pay during the apprenticeship.

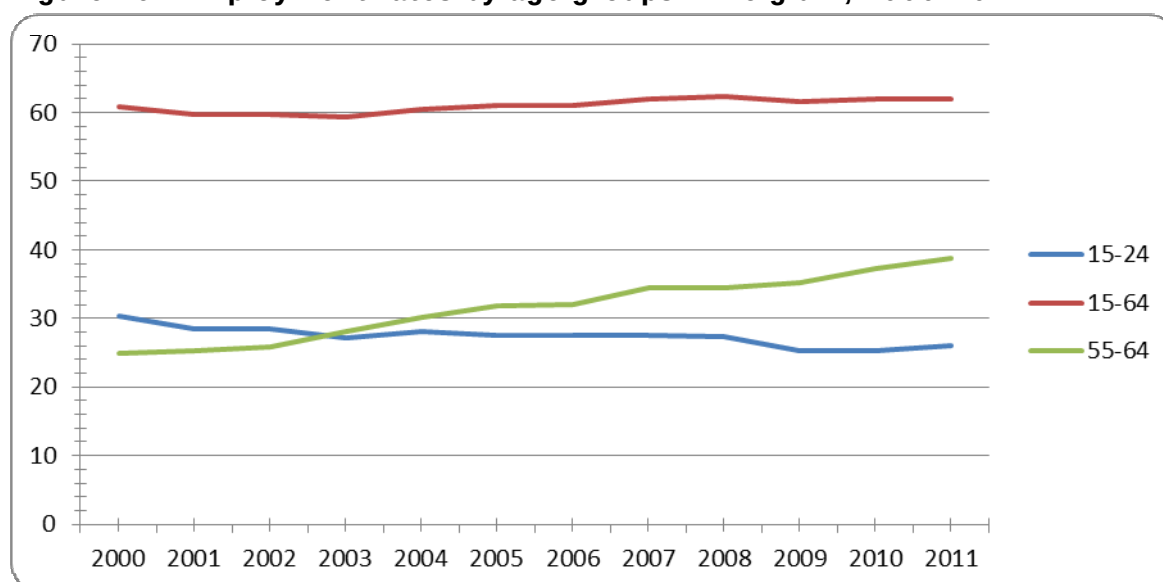
Unfortunately, there is relatively little known about the effectiveness of the abovementioned programmes, which should be subject to thorough evaluation. Empirical evidence on the effectiveness of the immediate targeting of youth on social assistance shows disappointingly small effects, and even negative effects in some cases. This is explained by youth being predominantly placed into ineffective measures such as public employment schemes, which kept them locked-in rather than searching for employment (Nivorozhkin and Wolff 2012). Evidence on the effectiveness of preparatory training measures is provided by Caliendo, Künn and Schmidl (2011), who find positive effects of the programmes on the probability to enter a vocational programme, yet do not find any effects on the long-run employment probabilities.

Increasing flexibility regarding employment (e.g. stepwise liberalisation of fixed-term contracts and temporary agency work) and more consistent activation policies have certainly contributed to lower unemployment and inactivity in Germany. However, many observers argue that job quality has deteriorated, with the German labour market having become more segmented between standard and non-standard jobs, while the low pay share has also increased. These issues are not particularly age-related, but are rather driven by skill levels and occupational change. However, labour market (re)entrants face a particularly high risk of being on a temporary contract, in agency work or a low pay job. Nonetheless, a vast majority of skilled younger workers still have good prospects of entering open-ended contracts, and many older workers have continued being employed on a permanent basis in order that overall job tenure in Germany is increasing.

4.3 Belgium

While the overall employment rate has remained rather stable since 2000, the Belgian labour market is characterised by opposite trends for younger and older workers as Figure 26 shows. In 2000, only one out of four 55 to 64 year olds was employed compared to two out of five in 2011. This rise of the employment rate among older workers is in sharp contrast with the decrease in employment rate among younger workers from 30.3% in 2000 to 26% in 2011.

Figure 26: Employment rates by age groups in Belgium, 2000-2011



Source: European Labour Force Statistics.

In **Belgium**, different institutional levels are responsible for education and labour market policy. Specifically, teaching-related matters are the domain of the Communities, while employment and vocational training-related matters – including job placement - are the domain of the Regions. Meanwhile, the federal authorities are responsible for employment legislation, collective labour agreements and social security benefits. It is important to bear this in mind when discussing the Belgian case for younger and older workers.

In 2005, the federal government recognised active ageing as a key political challenge, and following negotiations with the social partners, the government enacted the “Solidarity Pact between Generations”. This pact mainly comprises numerous policy measures aimed at stimulating older people to continue working or get back at work. Nonetheless, at the request of the unions, youth employment measures were also added, mainly involving the extension of the existing measures with greater emphasis on low-skilled young people.

Multiple measures promote active ageing in the Belgian labour market, with a first set of measures seeking to extend older workers' careers. The career break (time credit) scheme has been introduced to reduce the workload over a certain period in one's career. After recent reforms, application is possible after having worked for more than five years and at least two years with the current employer. To promote the system among older workers, they receive higher benefits when using it. Furthermore, workers aged 62 or older and those having worked for at least 44 years are entitled to a ‘pension bonus’, resulting in higher pension benefits. In terms of employers, they are encouraged to hire and retain older workers by means of financial stimuli, including a reduction in the social security contributions or a premium when hiring workers aged 50 or older.

A second set of measures aims at discouraging early exits. Many Belgium workers retire well before the legal retirement age, which is currently set at the age of 65. While the average age of retiring was 58.4 in 2001, it was 59.5 in 2010, illustrating that early retirement remains common in the Belgian labour market. From January 2013, the minimum age for early retirement will rise gradually by six months every year from 60 to 62 years in 2016. Individuals qualify for early retirement after having worked for at least 35 years (this will be increased to 40 years by 2015). Furthermore, the government seeks to reduce early retirement benefits. In this respect, eligibility for the so-called 'unemployment with an extra company benefit' (formerly 'bridge pension') has become stricter, and will only be available for dismissed workers aged 60 or older who have a career of at least 40 years. Moreover, workers have to be available for the labour market whilst unemployed and receiving an extra company benefit.

A third set of measures seeks to activate older unemployed and inactive individuals. For instance, dismissed Belgian employees aged 45 or older are legally entitled to an outplacement programme that must be followed to remain entitled to unemployment benefits. Furthermore, employers are legally bound to inform such workers of their right to participate in outplacement, and also have to bear the costs of the programme. Employees have to accept any outplacement programme offered by their employer, and, if no programme has been offered, they must claim one. Moreover, an in-work benefit for older workers has been introduced to increase the net income from work as well as the gap between income and unemployment benefits. More specifically, job seekers aged 50 or older that are unemployed against their will and spent at least 20 years in employment receive a lump-sum wage top-up when making the transition to employment, i.e. if they do not return to an employer they worked for in the 6 months preceding reemployment.

Additionally, measures have been taken to increase the systematic approach to monitor people's job search by regional employment agencies, sanctioning those with three subsequent negative evaluations. Until May 2009, only job seekers younger than 50 were followed up during their search. However, job search requirements have been gradually extended to age 58 by June 2012. Nonetheless, the close follow-up for older job seekers only starts after spending three months in unemployment.

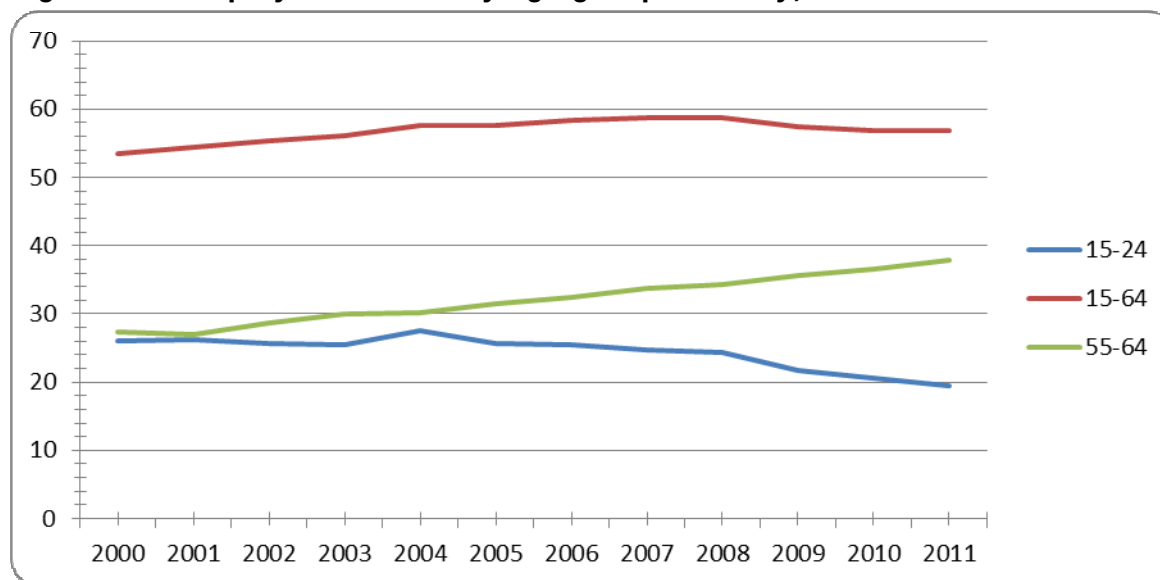
Low-skilled younger workers report very high unemployment rates in the Belgian labour market (European Commission, 2011a), and it appears that they are particularly exposed to unemployment in the current economic climate. Consequently, several policy measures target young people's *qualifications*. For instance, work experience programmes are central in the Belgian youth policy, as they allow bridging the gap between labour supply from school education and demand in the labour market. In the light of the Europe 2020 strategy, companies have been encouraged to increase work experience opportunities for young people and to concentrate some of their training efforts on low-skilled jobless youth. Moreover, grants have been introduced to cover part of the tutors' wages when providing young people access to work experience programmes in companies. One specific example in the Flemish region concerns the ESF project 'work@ateliers'. This initiative targets young people with an employable profile who have trouble in finding employment due to the economic and financial crisis, i.e. those younger than 25 years old that have been unemployed for at least one year. During workshops, they have to develop a group project to maintain or enhance their skills and increase their labour market orientation. These group projects alternate with work experience programmes of maximum three weeks, with entire track taking up to six months.

Additionally, subsidies have been introduced to encourage employers to hire young people. Particularly for low-skilled younger workers, employers are entitled to subsidies lowering both wage and non-labour costs. One such measure is the 'Win-win plan' targeting unskilled unemployed people under 26 years of age. It implies a tax reduction for the employer hiring the younger worker as well as an employment subsidy for the younger worker. A third type of measures seeks to activate younger unemployed individuals. For instance, school leavers face tough restrictions regarding unemployment benefits. They are confronted with an unpaid transition period between entering unemployment or leaving school and being entitled to the so-called "job introduction benefit", with recent reforms having extended this waiting period from 9 months to one year. When receiving this benefit, recipients are monitored to verify whether they make a substantial effort to find employment.

4.4 Italy

The overall employment rate in **Italy** first increased from 2000 to 2007 (+5.3%), before subsequently decreasing to 2011 (-1.8 %). The youth employment rate exhibits a negative trend over the whole period, albeit with greater negative variation in the post-crisis period. In line with other EU countries, the economic downturn has been particularly severe on the employment conditions of younger workers. Conversely, the evolution of the employment rate among older workers has constantly increased over the last decade, registering +6.5% between 2000 and 2007 and +4.1% between 2007 and 2011 (see figure 27). This dynamic reflects the progressive extension of the working life and the effects of the recent pension reforms in tightening the retirement requirements.

Figure 27: Employment rates by age groups in Italy, 2000-2011



Source: European Labour Force Statistics.

The crisis also modified the type of contracts used by employers, marked by a significant upward trend in the percentage of temporary or part-time contracts in the last five years. In 2011, 91.6% among workers aged 15-24 had a temporary employment, not out of free choice but rather because they could not find a permanent job (73.2% among old workers), while 70.0% worked part-time because they could not find a full time position (36.3% among old workers).

Moreover, old workers seem to have better working conditions on average than young workers, for instance in terms of working at night (1.3% vs. 2.2% in 2011) or from home (6% vs. 1.6% in 2011). However, the percentage of employees working extra hours is slightly higher among old workers (3.8%) than young workers (3.0%). The more favourable employment conditions of old workers also translates into higher wages: 14.6% of workers aged more than 54 years are in the lowest quintile of income distribution (vs. 45.8% among younger workers), while 32.6% of old workers are in the highest quintile (vs. 2.3% among young workers). While self-employment is more frequent among old than young workers (33.4% and 6.3% in 2011, respectively), the percentages of dependent employment and dependent-self-employment (“collaborazioni coordinate e continuative”) are higher among young workers (84.7% and 2.7%) than old workers (61.7% and 1.4%).

Labour market policies and legislation have a clear impact on the employment situations of young and old workers in Italy. In particular, stricter employment protection legislation (EPL) and greater public expenses in active labour market policies (ALMPs) are correlated with lower employment opportunities on average. However, EPL and ALMPs policies have opposite effects on the young and old segments of the active population. Indeed, more restrictive employment protection measures are associated with higher hiring costs for firms and thus lower employment opportunities for young workers. Furthermore, an increase in dismissing costs is correlated with lower probabilities of workers losing their jobs, and prompting higher employment rates among the older segment of the work force. By contrast, the young generation is advantaged by ALMPs, which primarily aim at the creation of new job opportunities for unemployed workers, while older workers do not benefit from an increase in the public expenses for measures such as direct job creation, training or start-up incentives. More restrictive employment protection measures are also associated with a higher prevalence of temporary employment, especially among the young generation. The protection of permanent workers against dismissal has not changed in Italy during the last decade, while the regulation on temporary forms of employment has been progressively relaxed. Indeed, this trend had the clear consequence of making temporary employment more convenient for firms that currently offer fixed-term rather than permanent contracts, especially to young workers with little working experience. This result should be interpreted by considering that ALMPs act in promoting the creation of temporary, rather than permanent, job positions. Indeed, firms can only be incentivised to hire based on permanent contracts if the relative convenience of temporary employment decreases.

The Italian labour market is currently characterised by a strong dualism between older and young workers in terms of contract type, social security and entry wages. While older workers are typically over-protected, young workers entirely lack protection and benefits when unemployed. Fixed-term contracts have a higher incidence among young workers, especially when entering the labour market, irrespective of educational levels.

The economic and debt crisis has exacerbated generational inequalities in the labour market in recent years. On the one hand, older workers are retained in the labour market through the recent reforms in the Italian pension system; however, on the other hand, youth unemployment rate has sharply increased since 2009, with the lack of employment opportunities for those entering the labour market having deteriorated job quality and employment conditions. Related consequences include the broad diffusion of temporary work and the mismatch between jobs and workers’ competences. Indeed, the increase in the educational level of new generations has the side effect of creating a labour force that is over-qualified relative to the available job positions.

In this context, there is a potentially high risk of generational conflicts between old workers – with overprotected contracts and labour market seniority, yet competences and skills that risk becoming obsolete – and young workers – more educated and qualified than previous generations, yet struggling to enter the labour market, and only with temporary positions without social security and few career perspectives available to them.

A relevant example of the serious trade-off faced by many Italian companies is represented by the conflictual situation of the Intesa San Paolo Bank in recent months. The 2012 reform of the pension system increased minimum requirements for retirement and interrupted the bank's previous plan to decrease its personnel in 2013 through the early retirement of older workers. The solution proposed by the bank was to not renovate the job position of young workers with apprenticeship contracts close to their term.

This led to strong opposition from workers and unions, inducing the bank to adopt a different solution based on the reduction of the working time for older workers and the postponement of the firm's objectives for 2013 to 2015. This case is only one such example of the potential tensions in the employment conditions of young and old workers, yet is highly representative of the national situation. Despite the sharp increase of its elderly population in the last decade, the promotion of active ageing policies and related employment policies is a relative new area of intervention in Italy. The large majority of interventions in favour of the employment and requalification of the older segments of the labour force has been implemented at the regional or provincial level within the context of ESF Regional Operational Programs.

It is possible to classify two broad categories of interventions: the first is focused on lifelong learning and training for older employed workers, and is often implemented in the form of incentives for firms offering training-on-the-job to their older employees; while the second category of measures is related to the activities promoted by "Centri per l'Impiego" (Public Employment Services), mainly in charge of mediating between the demand and offer of labour through training, counselling and placement.

While older workers in Italy usually represent a segment of the broader population targeted by active labour market policies, interventions specifically targeting them are becoming increasingly common, as exemplified by the ESF Regional Operational Program of Regione Umbria for 2007/2013, which funds training and employment specifically for older workers with 600,000 euro. This intervention, "LavorOver 45", is focused on workers aged 45 years or older, and is formed by two measures: the first promotes training and employment services for older workers, and the second provides economic incentives to firms that employ workers aged 45 years or older (7,500 euro for each hired worker over 45 years old).

Some innovative experiences can also be observed at the province level. For instance, in 2009 Milan province funded the project "Alte professionalità", offering counselling services to unemployed workers aged 40 years or older who were engaged in managerial positions in their previous employment. "Donne over 40: esperienza e professionalità", promoted by Biella province, reflects another innovative project, aiming at requalifying the competences of unemployed women older than 40 years old who risk to being double-disadvantaged on the labour market owing to their age and gender.

In what follows two examples of innovative interventions implemented in Italy in the last years are presented.

The first project implemented is the "**Generation Contract**", promoted by the Minister for Labour and Social Policies with the aim of enhancing youth employment. The project was introduced with a decree approved in October 2012, and on 11th December 2012, Regione Lombardia, Assolombarda and INPS signed an agreement to launch an experimental

version of the “generation contract” in the provinces of Milan, Lodi and Monza-Brianza. The intervention will last three years during this experimental phase. The project’s recipients are older (aged 55 or older) and younger workers, and the aim is to enhance youth employment and promote active ageing for older workers. Indeed, the project creates the possibility of a “generation contract”, based on the agreement between five parties: local governments (Regions or Provinces), the national social security authority (INPS), firms, older workers and younger workers.

Following this agreement, the reduction of working hours from full-time to part-time for a worker close to retirement is followed by the employment of a young worker with an apprenticeship or fixed-term contract, by which firms’ employment balance should be positive. This mechanism allows firms to renew their personnel without losing the competences and firm-specific expertise of the most experienced workers. Local governments play a key role in the context of this policy, and are in charge of compensating the reduced social security contributions paid by older workers, resulting from the shift from full-time to part-time work. An experimental version of the Ministerial Decree will be implemented in Lombardy for a period of three years from 2013, with the additional requirement that the reduction in hours should not exceed 50% of the previous working time of older workers. During this experimental phase, the “generation contract” program is expected to involve a total of 250 workers.

The second project is the AMVA, “Apprendistato e Mestieri a Vocazione Artigianale”, promoted by the Minister for Labour and Social Policies (Elsa Fornero), implemented by Italia Lavoro and partly funded by the resources from ESF PON during 2007-2013. Recipients are young unemployed workers (15-35 years), and the project aims to promote the generational turnover in the sector of handcraft and artistic professions. The project is articulated on two innovative measures. The first, “Botteghe di Mestiere”, incentivises the creation of apprenticeship positions for young workers (18-28 years) by providing handcraft firms (or self-employed workers) participating in the project with a monthly amount of 250 Euros per apprentice, and ensuring a financial contribution of 500 Euros per month to young workers employed within this intervention. This innovative form of learning on the job aims at transmitting the knowledge and competences related to the traditional productions that characterise “Made in Italy” to the young generation. The incentive for new generations rediscovering the potentialities of the handcraft sector can lead to extraordinary benefits, particularly considering the progressive desertion of young workers from the most traditional jobs representing one of the Italian economy’s few competitive advantages. The involvement of young workers in the handcraft sector can also represent an interesting opportunity for firms potentially benefitting from the specific competences of the younger colleagues (for instance, in terms of language and computer skills). This can be particularly beneficial for the smallest realities (small firms or self-employed workers), which are less likely to have access to the necessary resources for the integration of the most traditional skills with the new competences required in the modern economy.

The second measure within AMVA, “Impresa Continua”, sustains the generational turnover by facilitating and incentivising the transfer of firm ownership from entrepreneurs older than 55 years to young entrepreneurs (18-35 years). While this measure promotes entrepreneurial activities among the younger generations, it also creates the conditions for the transmission of competences and expertise from the previous generation to the youngest entrepreneurs.

The approach adopted by the AMVA project is innovative in the Italian context, where only few experiences of active labour market policies are focused on strengthening the intergenerational transfer of competences and skills. Indeed, two similar interventions have

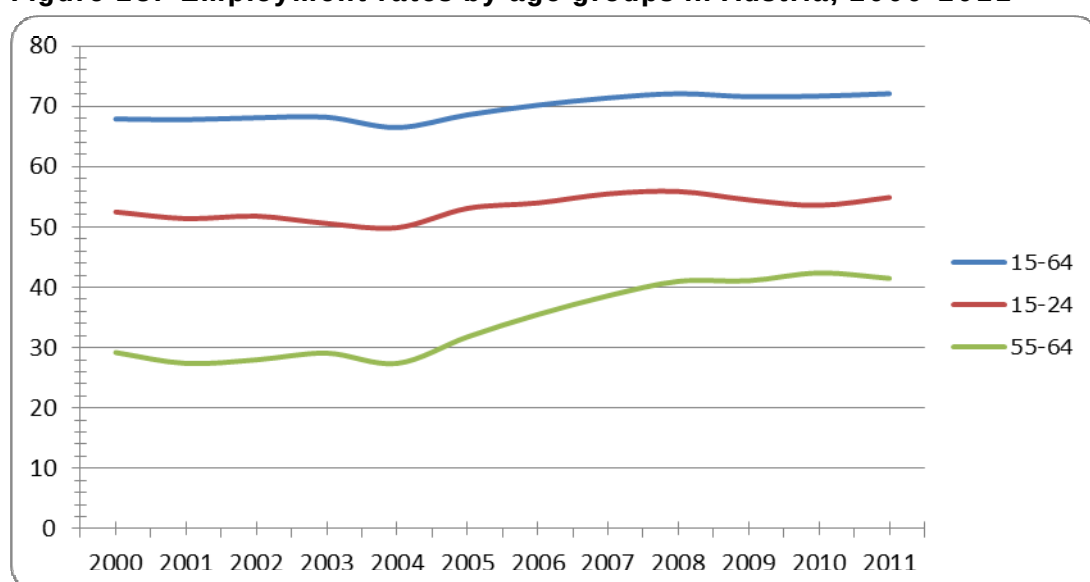
been promoted in Sardegna and Veneto. The measure supporting the mentoring and transfer of competences from older to younger workers, promoted by Regione Sardegna within the ESF Regional Operational Program 2007/2013, represents an example of an active labour market policy that considers older workers a resource for firms and the economy. Another active ageing policy aiming to facilitate the intergenerational transfer of competences is “Flessibilmente oltre”, implemented in Veneto in 2008 and focused on incentivizing coaching activities of older workers in favour of younger workers. Almost 10,000 firms took part in the project, promoted by Politecnico Calzaturiero, Veneto Unioncamere and Eurosportello with the aim of preserving strategic know-how and fostering generational turnover.

4.5 Austria

Youth unemployment rate in **Austria** is amongst the lowest in the European Union, ranking only behind the Netherlands. However, the employment rate of older workers is far below the European average, also with an above-average increase during the last decade. While the overall employment rate of 72.1% is clearly beyond the EU average of 64.3%, for those aged between 55 and 64 employment rates are considerably below the EU average (41.5% compared to 47.4%). Owing to their retirement (60), there is a low employment rate of women (32.9% compared to the EU average of 40.2%), more than 20 percentage points lower than in Germany (53%). Moreover, formal qualifications represent an important determinant of labour market participation, especially for older workers. For instance, the employment rate of older persons with a low formal education (ISCED level 0-2) in Austria is 30.4%, compared to an EU average of 35.3%.

Employment prospects for older unemployed workers decline during phases of economic downturns. Employment rates have steadily increased due to a wide range of past and on-going pensions reforms, while employment prospects for older workers increase with educational attainments. Furthermore, the trend of rising labour market participation is likely to further increase in the future.

Figure 28: Employment rates by age groups in Austria, 2000-2011



Source: European Labour Force Statistics.

Commencing in 1997, a series of pension reforms closed stepwise early retirement schemes, including: the abolishment of early retirement and unemployment due to the reduced ability to work; an increase of insurance years for early retirement pensions; an

increase in retirement age for early retirement due to long-term employment; and an increase in pension deductions for early retirement. Accordingly, such measures have clearly increased the labour market participation of older workers (Staubli, Zweimüller, 2011; Weber, Manoli, 2011). At present, the retirement age is 60 for women and 65 for men, while following a transition period up to 2014 there will only be one early retirement scheme remaining for men (*Korridorpension*), with a retirement age of 62.

Up to 2012, there have only been a few measures beyond the legal framework of pension entitlements with the target of increasing the labour market participation rate of older workers:

A reduction of employers' social security contributions (unemployment and accident) for employees aged 60 and older by 12.45 percentage points (currently being phased out), penalty payments for employers who dismiss employees older than 50 years working more than 10 years in the firm (phased out in 2009), and the old-worker-part time (*Altersteilzeit*) were implemented in 2000, with several reforms in the duration of full-time/part-time periods and employers subsidies. Despite the measure absorbing three-quarters of ALMP resources for older workers, empirical findings show a minor employment effect (Graf et al. 2011). The employment probability of workers aged 50-64 increased by 0.07 percentage points, while the unemployment rate decreased by 0.2 percentage points (Graf et al. 2011). The 2012 reform terminated the possibility of a full-time period followed by a non-working period.

Overall, these policies for the target group of older workers had no significant impact (with the exception of the penalty payment) on the employment rate of older workers in Austria, yet high dead-weight effects.

One new measure focusing on unemployed women of 45+ and men 50+ is the employment subsidies for firms (*Eingliederungsbeihilfe*), under which employers receive up to 66% of the gross wage for unemployed older workers for a period of up to two years. The wage subsidy is an effective instrument in enhancing the labour market opportunities of hard-to-place workers, boosting the economic inclusion of the target group with re-integration problems (Eppel, et al. 2011). However, it must be noted that the demand side of the economy has not been significantly considered until now. Accordingly, increasing the employment rates of older persons should also be envisaged from the employer's perspective, for instance by implementing more incentives for the employment of older workers.

Stricter health criteria for disability have led to a constant decrease of disability pensions from 2004 onwards. However, given that 38% of new male pensions (direct pensions) and 21% of new female pensions were disability pensions in 2011, there has been a structural reform of the pension scheme:

Persons below the age of 50 (born after 1964) can no longer apply for a disability pension (effective from 1st January 2014), although disabled persons without an improvement in their health are exempt. Furthermore, the disability pension is going to expire within the next 10 years.

Rather than disability pensions, there is a legal claim on health as well as occupational rehabilitation for the period of two years, during which the person receives rehabilitation benefit at 60% of the previous income.

In the case of occupational rehabilitation (retraining), there is a retraining benefit one quarter higher than unemployment benefit, although rehabilitation measures are compulsory for receiving such benefits. The public employment service in Austria is going to be a one-stop-shop for this group of employees, with employers also able to receive

advice on a voluntary basis to improve working conditions for the re-integration of sick/disabled employees (*fit2work-programm*).

High labour turnover and high seasonal unemployment are characteristic for the Austrian labour market (Mahringer, 2010, Eppel et al. 2012). However, the discussion to reduce this dynamic by introducing experience rating in the unemployment insurance has not been successful. As an outcome of the reform plans and a successor to the aforementioned penalty payment, there is a general payment for the firm relating to each termination of employment (110 Euros), regardless of the employee's age.

Austria has a strong **vocational orientation** of upper secondary education, particularly involving a large proportion of youth with an upper secondary vocational education, which leads to an early professional qualification and facilitates the transition from school to work. Upper secondary vocational education comprises upper secondary vocational schools (such as HTL, HAK) and apprenticeship education. Almost 60% of 25-64 year olds have an upper secondary qualification (18% below upper secondary, 19% tertiary education, i.e. 82% have at least upper secondary education), with over 90% having a vocational education (ISCED 3, 4). This partly explains why youth unemployment does not arise to the same extent as in the other Member States. Moreover, apprentices are counted amongst the employed whilst learning (dual education in schools and enterprises), thus explaining the relatively high activity rate of youth in Austria, and particularly amongst young men, who enter apprenticeship education to a larger extent than girls (around 53% of 15 year old boys and 31% of 15 year old girls in 2011).

Nonetheless, young people in Austria are also more sensitive to economic developments than other groups. During economic downturns, fewer new jobs become available, which in turn renders it more difficult for the young to enter the labour market or find new employment. In this respect, the “**training guarantee**” (*Ausbildungsgarantie*) helps to improve the educational level of youth – i.e. to achieve better educational outcomes and strengthen basic knowledge — and lowering the unemployment of low-skilled youth. This measure was founded in 2008 for those up to the age of 18 who do not have a place at an upper secondary school or cannot find a company-based apprenticeship to obtain an apprenticeship at training centres. Accordingly, youth can complete their vocational training at training centres or enter an apprenticeship training at a company, consequently receiving a formal vocational qualification. It is important to catch those young people at risk of dropping out of school in order to prevent a total drop out from the education system and open a way to upper secondary education. Indeed, this issue is addressed by the youth **coaching programme** (*Jugendcoaching*), which will be extended to the national level by 2013.

This measure should help to retain disadvantaged youth in the final year of compulsory education within the education system for as long as possible. Moreover, similar objectives are pursued by the **apprentice coaching programme** (*Lehrlingscoaching*), under which apprentices and the training companies receive assistance to prevent young people from dropping out of apprenticeship training. The *Berufsmatura*, i.e. apprenticeship **diploma plus certificate of secondary education**, is essential for fostering a transition from upper secondary education to higher education. Since autumn 2008, all Austrian apprentices have had the possibility to complete the *Berufsmatura exam* parallel to apprenticeship training.

5. CONCLUSION AND POLICY RECOMMENDATIONS

KEY FINDINGS

- The evidence collected shows that there is no competition on the labour market between young and older workers, thus implying that policy makers do not face a dilemma here. Structural or general policies to enhance the functioning of EU labour markets are most important and particularly vocational education and training policies, active labour market policies and smooth labour market regulation. While active labour market policies and activation strategies address the whole working-age population, they need to take into account individual barriers to employment, with age representing only one such parameter in this respect.
- While the responsibility for employment policies, both general and targeted, predominantly remains within EU Member States, EU level initiatives can provide added value, particularly by stimulating the exchange of experiences with policies, as well as through further policy innovation. For instance, with respect to training policies, this could be achieved by supporting otherwise underdeveloped or underfunded policies and facilitating mobility to overcome mismatch within the European labour market.

5.1 Concluding remarks: Young and old workers on the labour market

This study provides an overview of the employment situation of young and old workers in EU Member States, with a specific focus on: (i) the most recent developments during the crisis as well as medium-term demographic developments; (ii) policies implemented to promote the employment of both groups; (iii) evidence concerning the alleged tension between the employment prospects of young and older workers; and finally, (iv) offering policy recommendations.

First, regarding the recent and present situation of young and old workers in European labour markets, it is evident that young people have suffered most from the recent crisis in terms of rising unemployment and declining employment. This is especially the case for young people in countries where entry into employment and particularly into permanent jobs, was even difficult before the crisis. At the same time, the employment rates of older workers have been more resilient and less responsive to the crisis, owing to the withdrawal of early retirement incentives and a more stable employment position compared to younger labour market entrants.

Adopting a long-term perspective, most of the EU will face a significant demographic ageing over the coming decades, which will consequently place an additional burden on the welfare state, owing to an increasing old-age dependency. Therefore, it is important to achieve a high level of employment in EU Member States to contain the fiscal implications of this development. This particularly concerns the retention of older workers, as well as young people, who are currently in a particularly vulnerable situation in many EU Member States.

Failing to enter the labour market via proper vocational training and education and subsequent employment increases the risk of later being left behind, which is problematic from both an individual as well as an economic and political perspective, given that young people are in principle the most valuable resource in ageing societies.

Second, with respect to policies being implemented to further the labour market participation of young and old workers, it should be noted that particular barriers might exist for young and old workers. Policies such as hiring subsidies, extended training programmes, start-up support schemes and general activation programmes have been put into practice to combat the unemployment of working-age people, including younger and older workers. Regarding the former, many EU Member States have developed a set of targeted active labour market policies and flexibilised the labour market. However, not all such programmes are delivered in an effective way, and some preparatory or temporary training and employment schemes may simply postpone integration problems, as is the case for fixed-term contracts and other flexible forms of employment that often fail to provide a proper stepping-stone into more stable employment.

Concerning older workers, the withdrawal of early retirement programmes, less generous unemployment benefits and changes in public pension schemes have contributed the most to prolonging the working life. Moreover, training over the life cycle and other active labour market policies can also have a positive impact in this regard. Higher employment rates of older workers often stem from a longer employment of employed people, whereas re-entry into work may still be difficult for the older unemployed. Given fiscal tensions, it is most notable that incentives to retire early or move into long-term unemployment benefit have been cut, with EU Member States having generally not opted to further expand early retirement in the current situation, unlike in early economic crises.

Comparing the two groups, more significant problems are found regarding youth unemployment and their entry into the labour market in countries where the labour market is deeply segmented, where effective vocational education and training systems are lacking and the economy is in a particularly difficult situation due to the crisis.

The evidence shown in our study also highlights that structural, general policies are most relevant in promoting the employment of both younger and older workers, and are more prominent than targeted policies addressing either group. In fact, while targeted policies focus on either group, policies aiming to establish employment 'bridges' between young and older workers have not been of major importance, and where implemented, have proven to be rather ineffective. Most importantly, it can be clearly noted that the early retirement of older workers is neither beneficial nor necessary to promote young people's entry into the labour market. Indeed, a labour market arrangement that is sufficiently flexible and adaptable through well-designed vocational education and training, as well as continuous training policies, activation and active labour market policies, wage setting and labour market regulation and tax and benefit systems by setting the right incentives is the most conducive approach to achieving a high level of employment.

There is also strong evidence that there is no fixed amount of labour that has to be distributed among different age groups; moreover, despite a widespread belief in a 'lump of labour', this does not hold empirically. Apart from particular circumstances that may arise in certain (stagnant) firms or sectors with no labour mobility, there is no competition for jobs between young and old workers, given that there is only limited substitutability of the two age groups, owing to differences in sectors, occupations, experiences and skills.

There is no need for concern regarding negative side effects of the better employment retention of older workers. Rather, this is generally beneficial for overall labour market performance in easing the burden of ageing on the welfare state in order for young people to also benefit from the higher employment of older workers.

Accordingly, there is no trade-off from a policy perspective between the aim of higher employment of older workers and containing youth unemployment. Both goals can be reached simultaneously, and particularly if the labour market is dynamic, flexible and

adaptable to technological, sectoral and occupational change, where workers can move between jobs without encountering major risks.

Skill adaptation and mobility within the labour market are particularly important for job creation when technological innovations drive growth and bring about sectoral shifts and occupational change, which is especially relevant with regard to dynamic, technology-driven sectors, such as ICT or 'green jobs'. Again, initial vocational education and training as well as continuous training during the working life can help workers to adapt to change and keep pace with the changing environment.

Our country case studies confirm these comparative and general findings, pointing at some innovative and targeted policies for both, yet separate target groups, with training programmes featuring prominently. However, the overall employment performance is driven by the institutional framework and economic growth rather than particular active labour market policy schemes, with pension reforms, labour market regulation and vocational training schemes representing important explanatory factors in this respect. Nevertheless, some tensions may arise between young and old workers, particularly in countries with severe duality of youth and prime-age or older workers' labour markets, such as Italy, where the labour market is less dynamic and job creation has been particularly insufficient in recent years.

5.2 Policy recommendations

This study indicates that there is no political or economic trade-off between a good start into the working life for young people and a better retention of older workers in employment. Rather, well-designed policies can promote better employment opportunities for all by making working-age people employable and adaptable to a dynamically changing economy.

In a situation of rapid demographic ageing, productive use has to be made of all available human resources, given that they will be needed if EU Member States want to maintain and improve their economic perspectives. Therefore, policy makers need to avoid long-term unemployment, benefit dependency and social exclusion. This is particularly relevant for younger people, who bear a major burden of the economic and labour market consequences of the crisis. Here, appropriate policies and labour market reforms are high on the agenda to improve the labour market access of youth, offering them a realistic chance of promotion to stable, gainful and productive employment. Otherwise, they will remain in a vulnerable situation with long-term consequences over the subsequent life course. Most of these policies are currently designed and implemented at the national level, under the responsibility of national governments and social partners. Accordingly, the role of the European Parliament is constrained in terms of creating favourable conditions for employment. However, EU level policies and joint initiatives can naturally play an important role in raising awareness of policy priorities, stimulating policy innovation and policy transfer, as well as the exchange of experiences and promoting EU-wide mobility. Moreover, beyond the Commission's agenda, the Parliament can support the initiatives taken by the European Commission to enhance youth employment at the EU level.

Supporting the implementation of employment-friendly policies

As shown within our analysis, the most important policy priority is to enhance labour market performance by general employment policies to improve the employment prospects of both young and older workers. The empirical findings of this study clearly support the view that such general employment-oriented reforms are beneficial to both target groups, without any significant direct or indirect negative side effects between the two.

Hence, as has already been the case, the European Parliament could continue to ask the Member States to pay attention to designing and implementing structural employment-friendly policies that help to stimulate job creation and economic growth. This is particularly important in the current context of crisis. Furthermore, European policy makers could continue to refrain from policies aimed at reducing labour supply via easier access to passive benefit receipt or public employment schemes that do not pave the way to gainful regular employment. Our research indicates that early retirement needs to be phased out, as has been achieved over the past decade, given that the sustainability of pension systems and demand for skilled labour in ageing societies will have to lead to a longer rather than shorter working life in the short- and medium-run.

Accordingly, appropriate incentives in unemployment benefit and pension systems should be set in order to prevent an early, irreversible and prolonged exit from work. Therefore, the European Parliament could remind Member States that employment-friendly policies should be implemented and enforced, which could correspond with a political discussion on structural reforms of the benefit systems. Ensuring that benefit systems become more active systems will be necessary yet also particularly challenging in the current economic context.

Promoting tailor-made activation policies for the youth

Activation policies introduced over the past decade and expanded to cover ever-larger groups of the working-age population remain valid policies, helping to reduce benefit dependency and bring more people into the labour market with a realistic chance of moving into gainful and productive employment. Accordingly, these activation policies should be applied to the whole working-age population in a universal manner, in order to minimise the risk of benefit dependency. While it is necessary to safeguard the living standard for those who become unemployed, a further goal of benefit systems should be to ensure that people remain in the labour force. Against this background, it is important to turn benefits into re-employment payments in order to avoid the benefit systems leading to social exclusion, becoming a trap that permanently excludes people's participation in the labour market.

The activation of young people constitutes a very constructive political option, with tailor-made integration services of utmost importance, given that successful insertion into employment can only work if public employment agencies take the particular individual factors into account, including health problems, motivational or psychological problems, skill deficits and others. Here, activating the young certainly requires further measures such as activation policies addressing older workers and unemployed. Therefore, the European Parliament could encourage Member States to investigate the extent to which their social benefits system may create barriers and disincentives to the participation of both young and old workers in the labour market, e.g. by granting access to benefits without requiring job search or participation in training measures.

Accordingly, such barriers and disincentives must be prevented by focusing on measures that create access to the labour market by easing the transition from education to work. These barriers can include seniority wages or high severance payments. A comprehensive review of existing benefits systems and an investigation of possible distortions of the benefits system on the labour market can contribute to a general enhancement of the employment rate. In this context, and building upon earlier steps, the European Parliament could ask the European Commission to develop guidelines or practical information on the promotion of tailor-made activation policies for the youth. In addition to this, the European Parliament could further monitor the delivery of the European-wide implementation of the 'Youth Guarantee'.

Facilitating regional and cross-border mobility

Policy makers should also facilitate the mobility of working-age people, including both younger and older workers, to best available jobs. This implies facilitating both sectoral and occupational mobility as well as regional and cross-border mobility, which is an important lever in reducing mismatch within the labour market and making productive use of increasingly scarce human resources. Initiatives taken at European level complementary to national policies can promote occupational, regional and cross-national mobility. Accordingly, while mobility-friendly labour markets with appropriate training and skill adjustment infrastructure represent one element, policies to ease labour market mismatch by encouraging regional and trans-border mobility are equally important. In a situation of high youth unemployment, opportunities available in neighbour countries represent an important option to avoid unemployment and make productive use of acquired skills. Nonetheless, advancing cross-border mobility represents a challenging task, and major progress is only possible with sufficient support from all stakeholders. Strengthening the mobility at the European level constitutes a step in the right direction. Therefore, the European Parliament could help to further integrate the European Single Market and pave the way to enhance cross-border mobility. This could start by supporting initiatives as Erasmus for all in the context of the flagship initiative of 'Youth on the move' to reduce language, cultural and psychological barriers to living and working across Europe. The recognition of skills should further be strengthened by supporting the Bologna process and the further application of the European Qualifications Framework. The mobility of workers can be enhanced by overcoming the administrative barriers for individuals to transfer social rights such as care, unemployment, pensions between Member States without creating distortions within countries. Accordingly, the European Parliament can raise awareness through supranational institutions, such as the European Job Mobility Portal (EURES), helping to disseminate information on jobs throughout the European Union. In addition, the European Parliament could stress the importance of a better recognition of qualifications to better tackle a possible shortage of skilled workers across the European Union.

Reforming employment protection legislation

Apart from mobility support and skills adjustment, it is also necessary to address regulatory issues in this context. As shown from recent evidence in EU Member States, unbalanced employment protection legislation creates barriers to mobility, thus leaving younger people in a vulnerable situation characterised by temporary employment spells, and discouraging the job-to-job or occupational mobility of prime-aged or older workers due to strong dismissal protection. Here, reforms of labour market regulation should facilitate transitions between jobs and firms, reducing barriers to labour market entry and to transitions between different forms employment forms.

This issue challenges the duality between strict dismissal protection for permanent workers and highly flexible temporary contracts or self-employment, which is characteristic for many EU Member States. The European Parliament could insist on avoiding labour market segmentation emphasising policy priorities such as appropriate initial and continuous training policies, particularly vocational training and education as well as lifelong learning, in addition to other policies to ease labour market segmentation, which is particularly detrimental to young people's labour market careers.

Initial vocational education and training as well as continuous skill updating and retraining

The importance of initial vocational education and training as well as continuous skill updating and retraining during the working life cannot be overstated. Acquiring and adjusting job-related skills is essential in a dynamically changing economy, where future job creation also depends on speedy technological innovation and adjustment.

While this is relevant for all, it is particularly the case for young people, where initial training and early work experience help to establish a solid employment record, as well as for older workers, whose productivity and employability would be at risk if skills become obsolete owing to a neglect of continuous training.

Given the very difficult situation of many young people in EU Member States affected heavily by the economic crisis, it is essential to stress that young people are most relevant for the future productivity and competitiveness of individual EU Member States and the EU as a whole. This resource should not be wasted, especially in the context of the current crisis. Given that young people benefit most from proper vocational education and training and early work experience, general policies should be initiated to establish a strong learning component combined with work experience, such as the models found in countries with dual vocational training systems, which can be adjusted to national, sectoral or occupational requirements and preconditions. Furthermore, tertiary graduates could often benefit from some elements of duality within their educational curriculum.

Finally, given that productivity does not automatically decline with age and can be maintained or improved with appropriate policies, there is a strong potential for labour force productivity and adaptability to be gained from continuous job-related training over the life cycle. The European Parliament can help to disseminate information about initial vocational education, stressing the need for continuous skill updating and retraining. The European Parliament, as co-legislator for the EU budget, could try to ensure that sufficient funds are assigned to measures related to the implementation or expansion of initial vocational education and training as well as to initiatives to develop programmes in the area of skill updating and retraining across EU Member States.

Innovation and policy transfer by monitoring policies and performance

The European Parliament could support innovation and policy transfer through monitoring Member States' policies and performance, thereby stimulating the exchange of experiences. In its capacity of co-legislator for the EU budget, the European Parliament could try to provide for resources to develop and experiment with innovative measures that complement, build upon or modify existing national programmes. These EU funds could also target the reinforcement of active labour market policies or training programmes, particularly in EU Member States where such policies are less developed or underfunded due to current austerity policies.

Active labour market programmes and activation policies to further the inclusion of young people in education, training or employment are particularly important within the current situation. However, such programmes should not be used as 'waiting loops' simply postponing unemployment. In this context, the European Parliament could stimulate the exchange of experiences and policy innovation to ensure the maximisation of the effectiveness of these programmes. The same is true for innovative approaches towards continuous job-related training, and indeed in both areas, the involvement of stakeholders, social partners and different levels of government is important.

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ANNEX

Table A 1: Activity rate of younger workers (15-24)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	-2.90	-1.60	47.2	47.4	47.0	47.1	45.3	45.3	44.2	44.3	43.7	43.0	42.7
Netherlands	-0.40	-4.40	73.6	73.9	73.6	72.0	71.0	70.8	72.7	73.2	72.8	69.0	68.8
Denmark	5.00	-5.10	67.2	68.8	65.9	66.4	68.1	69.9	70.6	72.2	70.9	67.5	67.1
Austria	6.10	-0.90	54.7	55.7	54.7	56.1	59.2	59.4	60.8	60.8	60.5	58.8	59.9
United Kingdom	-0.20	-2.90	61.9	62.3	61.1	61.5	62.3	62.5	61.7	61.7	59.7	59.2	58.8
Sweden	0.40	-0.20	52.4	50.5	50.6	48.5	50.2	51.3	52.2	52.8	51.0	51.7	52.6
Germany	1.80	0.30	50.4	50.0	49.5	47.5	49.6	50.4	51.5	52.2	51.8	51.3	52.5
Malta	-12.10	-0.40	64.3	60.3	60.0	55.3	54.4	52.6	53.1	52.2	51.4	51.5	51.8
Finland	-9.40	-3.00	62.9	62.3	61.4	59.8	50.7	51.8	53.4	53.5	50.4	49.4	50.5
Spain	5.30	-6.80	42.4	43.2	44.0	44.7	47.7	48.2	47.8	47.7	45.1	42.7	40.9
Estonia	5.80	-0.80	35.6	30.7	36.2	36.4	34.6	35.9	38.3	41.4	39.9	38.3	40.6
Ireland	2.60	-12.60	49.9	48.7	49.4	48.9	53.3	55.0	55.4	52.5	47.3	42.3	39.9
Portugal	-4.90	-2.80	46.5	47.1	45.0	43.1	43.0	42.7	41.9	41.6	39.2	36.7	38.8
Latvia	5.30	-4.50	37.6	38.8	39.6	36.8	37.7	40.8	43.0	42.9	41.7	40.4	38.4
France	2.60	-0.10	35.8	36.9	37.0	36.7	38.0	38.1	38.4	38.4	39.6	39.1	38.3
Cyprus	-0.70	-3.90	42.4	39.7	41.2	40.9	42.6	41.5	41.7	41.7	41.1	40.6	37.8
Slovenia	6.90	-5.50	36.0	36.6	33.8	39.3	40.5	40.6	41.8	42.9	40.9	39.9	37.4
Poland	-6.70	0.50	39.8	37.7	36.2	35.1	35.7	34.2	33.0	33.1	33.8	34.5	33.6
Belgium	-0.20	-1.40	33.6	33.8	33.5	34.0	35.0	34.7	33.9	33.4	32.4	32.5	32.0
Romania	-9.20	0.70	39.6	37.4	33.9	36.1	31.2	30.6	30.5	30.4	30.9	31.2	31.1
Slovakia	-12.90	-2.20	45.3	42.8	40.7	39.1	36.6	35.3	34.6	32.4	31.4	31.1	30.2
Czech Republic	-10.00	-1.00	41.1	38.3	35.8	34.6	34.0	33.5	31.9	31.1	31.8	30.9	30.1
Lithuania	-2.20	-1.40	33.0	31.7	32.2	26.2	25.1	26.3	27.4	30.8	30.3	29.6	29.4
Greece	-6.30	-1.00	36.5	36.3	35.2	37.3	33.7	32.4	31.1	30.2	30.9	30.3	29.2
Bulgaria	-4.60	-2.70	34.7	31.8	29.2	29.5	27.9	28.9	28.9	30.1	29.5	28.9	27.4
Italy	-5.40	-3.50	36.3	35.3	34.6	36.6	33.8	32.5	30.9	30.9	29.1	28.4	27.4
Luxembourg	-5.50	-4.10	34.5	34.7	30.4	28.0	28.8	27.8	26.5	29.0	32.3	24.7	24.9
Hungary	-9.10	-0.30	34.1	32.3	30.6	27.3	27.1	26.8	25.6	25.0	24.6	24.9	24.7

Source: Eurostat

Table A 2: Active population of younger workers (15-24; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU 27	-833.4	-1898.7	27.439	27.189	26.784	26.577	26.980	26.895	26.726	26.605	25.922	25.165	24.707
Germany	417.3	-162.7	4.481	4.500	4.488	4.387	4.801	4.843	4.920	4.898	4.780	4.640	4.735
United Kingdom	558.7	-248.7	4.261	4.370	4.392	4.509	4.667	4.774	4.785	4.820	4.679	4.622	4.571
France	278,0	-29.9	2.598	2.708	2.762	2.746	2.879	2.879	2.888	2.876	2.954	2.912	2.846
Spain	3.4	-494,0	2.405	2.409	2.410	2.393	2.495	2.474	2.434	2.408	2.223	2.048	1.914
Italy	-486.4	-220.1	2.364	2.256	2.218	2.207	2.044	1.966	1.872	1.877	1.769	1.723	1.657
Poland	-594.5	-136.5	2.381	2.260	2.193	2.109	2.101	1.989	1.858	1.787	1.759	1.747	1.650
Netherlands	59.3	-61,0	1.385	1.398	1.413	1.392	1.377	1.380	1.429	1.444	1.447	1.385	1.383
Romania	-436,0	-67,0	1.389	1.297	1.130	1.201	1.039	994	976	953	949	925	886
Sweden	99,0	18.7	538	525	535	525	557	585	614	637	628	644	656
Austria	108,0	-12.7	496	508	513	529	582	587	602	604	600	582	591
Denmark	61.7	3.9	396	394	383	388	404	428	432	458	467	455	462
Portugal	-160.4	-63.7	668	661	613	575	564	544	518	508	466	427	444
Belgium	15.8	-10.5	418	422	419	427	443	442	435	434	424	428	423
Czech Republic	-187.1	-41.6	605	550	498	475	462	452	428	418	424	400	377
Finland	-60.3	-17.8	401	396	389	376	321	328	341	341	322	317	323
Greece	-173.3	-29,0	520	499	467	477	414	392	365	347	346	334	318
Hungary	-177,0	-11.6	484	446	409	354	344	336	319	307	299	298	295
Bulgaria	-71.2	-56.8	372	350	311	313	292	299	294	301	286	270	244
Slovakia	-133.8	-40.9	404	385	368	347	320	303	294	271	256	247	230
Ireland	6.9	-118.2	318	313	318	313	341	350	351	325	276	232	207
Lithuania	1.9	-26.9	163	158	164	136	132	139	146	165	160	150	138
Latvia	23.5	-32.6	128	134	139	131	135	147	154	152	142	132	119
Slovenia	6.2	-22.2	103	104	96	109	108	106	107	109	101	96	87
Estonia	14,0	-11.2	69	61	73	74	71	75	79	83	77	71	72
Cyprus	2.3	-4,0	37	34	36	36	40	39	39	39	38	38	35
Malta	-8,0	-0.6	38	36	36	33	33	31	31	30	30	30	30
Luxembourg	-1.5	-0.9	17	17	15	14	15	15	14	16	18	14	15

Source: Eurostat

Table A3: Activity rate of older workers (55-64)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	7.10	2.80	41,0	42.4	44.4	45.4	45.6	46.5	47.2	48.1	49.1	49.7	50.9
Sweden	3.50	3.10	69.3	71.3	71.8	72.6	72.6	72.8	72.8	72.8	73.9	74.5	75.9
Estonia	11.80	-0.40	53.3	55.6	56.5	54.1	59,0	61,0	62.2	65.1	66.7	64.2	64.7
Germany	15.90	5.30	42.8	43.2	45.1	47.5	52.1	54.9	57.2	58.7	61,0	62.5	64,0
Denmark	1,00	3.30	58.9	60.1	63.1	65.5	62.8	63.2	61,0	59.9	60.8	61.8	63.2
Finland	9.70	1.20	50,0	51.6	54.1	55.7	56.6	58.5	58.8	59.7	59.1	60.2	60.9
Latvia	22,00	-3.50	41.3	47.3	46,0	50.7	53.9	57.1	60.3	63.3	61.4	57.1	59.8
United Kingdom	6,00	-0.20	53.9	55.1	57.3	57.9	58.4	59.1	59.3	59.9	60.3	59.9	59.7
Netherlands	14.80	3.80	39.9	42.9	45.5	46.3	48.1	49.6	52.8	54.7	56.8	55.9	58.5
Lithuania	10.40	2.80	45.2	47.7	54.6	52.5	52.8	52.9	55.6	55.6	57.6	56.8	58.4
Cyprus	4.70	1.40	51.9	50.9	52.5	54.2	52.4	55.5	57.7	56.6	58.5	59.6	58,0
Ireland	7.60	-0.20	47.9	49.2	50.4	50.7	53.1	54.4	55.1	55.5	54.8	54.9	55.3
Portugal	2.40	-0.70	52,0	53.8	54.1	53.2	53.8	53.5	54.4	54.4	53.9	54,0	53.7
Spain	7.50	3.10	41.7	42.7	43.6	44.3	45.9	46.8	47.4	49.2	50.2	50.8	52.3
Czech Republic	10.90	1.10	38.6	41.9	44.3	44.9	46.9	47.7	48.2	49.5	49.6	49.7	50.6
Bulgaria	19.30	-0.40	29.4	32.6	34.7	37.1	38,0	43,0	45.7	48.7	49.2	47.9	48.3
Slovakia	16.50	4.10	25.4	26.4	28.1	31.1	35,0	36.7	38.8	41.9	42.8	45.1	46,0
France	7.40	4.40	32.6	35.6	38.4	39.9	40.7	40.4	40.2	40,0	41.5	42.6	44.4
Greece	4.40	-1.10	39.8	40.5	42.4	41.2	43.2	43.9	43.9	44.2	44.2	45.1	43.1
Austria	12.90	1,00	29,0	29.7	31,0	28.7	33,0	36.8	39.8	41.9	42.1	43.4	42.9
Romania	-7.20	-2.70	51.4	39.1	40.2	38.3	40.4	42.8	42.4	44.2	43.9	42.5	41.5
Luxembourg	10.20	5.30	24.9	27.9	30.7	30.9	32.4	33.6	32.7	35.1	39.4	40.6	40.4
Belgium	10.10	4.20	26,0	26.7	28.5	31.3	33.3	33.6	35.9	36.1	37.2	39.2	40.3
Poland	1.70	6.30	31.6	29.7	30.3	29.3	30.5	30.7	31.8	33.3	34.5	36.7	39.6
Italy	7.30	4,00	28.2	29.9	31.3	31.4	32.6	33.4	34.6	35.5	37,0	38,0	39.5
Hungary	9.30	6.10	23.8	25.7	29.7	31.3	34.3	34.9	34.5	33.1	35,0	37.3	39.2
Slovenia	9.60	-0.90	24.6	26.6	23.6	31.1	32.1	33.4	34.6	34.2	36.9	36.5	33.3
Malta	1.90	2.20	28.5	30.7	33.1	32.2	31.9	30.6	29.6	30.4	29.5	31.6	32.6

Source: Eurostat

Table A4: Active population of older workers (55-64; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	7324.3	3330.4	20.986.6	21.675,0	23.068.8	23.877.9	25.152.3	26.241.1	27.289.4	28.310.9	29.387.9	30.355.1	31.641.3
Belgium	190.6	85.6	272,0	287.4	314.7	352.1	387.9	405.1	448,0	462.6	486.2	524,0	548.2
Bulgaria	195.6	-16.6	284,0	318.9	328.1	354.9	368,0	416.2	444.1	479.6	482.3	464.2	463,0
Czech Republic	288.5	29.3	436.2	501,0	556.9	589.1	637.2	668.6	693.8	724.7	733.8	741.5	754,0
Denmark	78.9	8.4	359.1	382.9	435.3	448.7	440.9	446.2	444.7	438,0	441.7	446.6	446.4
Germany	997.6	926,0	4.707.8	4.677.8	4.788.6	4.933.6	5.077.1	5.299.2	5.539.1	5.705.4	5.947.9	6.225,0	6.631.4
Estonia	15.3	8.8	82.1	84.3	84.3	80.7	87,0	90.5	91.4	97.4	102.7	102.2	106.2
Ireland	78.6	15.6	161.8	172.8	185.1	193.1	210.4	221.5	231.5	240.4	243.7	249.1	256,0
Greece	100.1	9.5	468.7	482.3	508.4	494.9	521.6	539.5	554.8	568.8	580.7	600.3	578.3
Spain	712.4	272.7	1.683.1	1.765.6	1.855.4	1.935.5	2.079.2	2.177.7	2.259.5	2.395.5	2.484.5	2.551.1	2.668.2
France	1227.3	550.8	1.779.8	2.027.8	2.293.9	2.501.5	2.719.9	2.825.5	2.923.9	3.007.1	3.202.6	3.369.2	3.557.9
Italy	636.9	410.8	1.908.4	2.025.9	2.123.3	2.179.8	2.274.4	2.345.4	2.449.7	2.545.3	2.682.4	2.799.3	2.956.1
Cyprus	14,0	4.3	34.2	34,0	36.7	39.2	39.9	42.8	47.8	48.2	51.1	53.1	52.5
Latvia	42.7	-2.4	116.4	129.7	123,0	132.8	139.7	146,0	152.1	159.1	154.6	146.2	156.7
Lithuania	27,0	15.6	167.5	172.2	191.9	184.4	186.2	186.9	195.6	194.5	201.2	200.5	210.1
Luxembourg	6.5	5,0	10.6	12.1	13.8	14.1	15.2	16.4	15.7	17.1	20,0	21.4	22.1
Hungary	146.5	127.8	267.6	291.5	340.7	371.4	408.3	423.1	420.7	414.1	451,0	498.2	541.9
Malta	6.4	1.4	11.4	12.4	13.4	13.2	13.1	16.4	16.5	17.8	17.5	18.5	19.2
Netherlands	497.1	122.8	646.3	709.9	830.9	875.3	937.4	989.8	1.079.8	1.143.4	1.205.3	1.205.2	1.266.2
Austria	126.1	33.6	262.6	270.9	293.5	277.9	311.7	342.8	367.4	388.7	392.3	411.2	422.3
Poland	467.4	557.1	1.044.1	1.005.2	1.082.1	1.068.9	1.175.7	1.243.1	1.365.8	1.511.5	1.648.6	1.842.6	2.068.6
Portugal	104.7	8,0	578.7	602.2	611.3	605.7	637.3	640.6	670.5	683.4	686.1	688.7	691.4
Romania	-94.1	41.9	1.156.5	868,0	879.9	823.9	891.5	971.3	985.7	1.062.4	1.084.6	1.087.7	1.104.3
Slovenia	32.7	7.9	52.9	57.4	51.3	68.8	70.9	77.3	84.1	85.6	92,0	97.3	93.5
Slovakia	130.9	65.6	120.3	124.9	133.4	155,0	184.8	205.2	222.7	251.2	270.2	295.5	316.8
Finland	165.3	21.7	289.4	315.4	347.2	373,0	394.7	420.5	433.3	454.7	459.7	475.9	476.4
Sweden	158.3	5,0	730,0	782.2	818.7	851.2	867.7	885,0	889,0	888.3	893.4	888.9	893.3
United Kingdom	970.9	14.1	3.355.2	3.560.3	3.827.2	3.959.5	4.074.4	4.198.5	4.262.3	4.326.1	4.371.6	4.351.8	4.340.2

Source: Eurostat

Table A 5: Employment rate of younger workers (15-24)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	0.10	-3.80	37.3	36.7	36,0	35.7	36,0	36.6	37.3	37.4	35,0	34,0	33.6
Netherlands	-1.10	-5.80	70.4	70.5	68.7	66.2	65.2	66.2	68.4	69.3	68,0	63,0	63.5
Denmark	4.70	-8.90	61.7	64,0	59.4	61.3	62.3	64.6	65.3	66.4	62.5	58.1	57.5
Austria	4.50	-1,00	51.4	51.8	50.6	49.9	53.1	54,0	55.5	55.9	54.5	53.6	54.9
Germany	0.10	1.30	46.5	45.4	44,0	41.3	41.9	43.5	45.4	46.6	46,0	46.2	47.9
United Kingdom	-3.10	-6,00	55.5	55.5	54.2	54.9	54.4	53.8	52.9	52.4	48.4	47.6	46.4
Malta	-7.10	-1.20	53,0	51.1	49.6	45.2	45.3	44.2	45.7	45.9	44,0	44.8	44.7
Sweden	-4,00	-1.70	46.2	44,0	43.4	39.5	38.7	40.3	42.2	42.2	38.3	38.7	40.5
Finland	-1.50	-4.30	46.2	44.8	44.3	43.3	40.5	42.1	44.6	44.7	39.6	38.8	40.4
Estonia	9.60	-4.90	26.8	25.4	27.5	27.9	29.1	31.6	34.5	36.4	28.9	25.7	31.5
Slovenia	8.10	-6.90	30.3	31.1	28.6	33.8	34.1	35,0	37.6	38.4	35.3	34.1	31.5
France	2,00	-1.40	29.3	29.9	30.6	29.3	30.2	29.8	31,0	31.3	30.4	30.2	29.9
Cyprus	-1,00	-8.70	39,0	36.7	37.5	37.3	36.7	37.4	37.4	38,0	35.5	33.8	29.3
Ireland	-0.90	-17.70	46.8	44.9	45.4	44.8	48.7	50.3	50.4	45.9	35.8	30.5	28.2
Latvia	8.20	-10,00	29,0	28.8	32.7	29.7	32.6	35.9	38.4	37.2	27.7	26.4	27.2
Portugal	-7.60	-7.50	42.3	42.2	39,0	37.1	36.1	35.8	34.9	34.7	31.3	28.5	27.2
Belgium	-1.10	-1.40	28.5	28.5	27.1	28.1	27.5	27.6	27.5	27.4	25.3	25.2	26,0
Poland	3.10	-2.40	24.2	22,0	21.2	21.1	22.5	24,0	25.8	27.3	26.8	26.3	24.9
Czech Republic	-6.30	-3.40	34.4	32.4	29.8	27.7	27.5	27.7	28.5	28.1	26.5	25.2	24.7
Romania	-7.90	-1,00	32.7	29.1	27.3	28,0	24.9	24,0	24.4	24.8	24.5	24.3	23.8
Spain	2.40	-14.10	33.6	33.8	34.2	34.7	38.3	39.5	39.1	36,0	28,0	24.9	21.9
Luxembourg	-8.50	-3.10	32.3	32.3	27,0	23.3	24.9	23.3	22.5	23.8	26.7	21.2	20.7
Slovakia	-1.50	-6,00	27.7	26.7	27.3	26.3	25.6	25.9	27.6	26.2	22.8	20.6	20.2
Bulgaria	5.20	-6.20	21.1	20.5	21.3	22.3	21.6	23.2	24.5	26.3	24.8	22.2	20.1
Lithuania	4.10	-7,00	22.6	25.2	23.6	20.6	21.2	23.7	25.2	26.7	21.5	19.2	19.7
Italy	-1.80	-5,00	26.2	25.7	25.4	27.6	25.7	25.5	24.7	24.4	21.7	20.5	19.4
Hungary	-10.40	-1.70	30.4	28.6	26.7	23.3	21.8	21.7	21,0	20,0	18.1	18.3	18.3
Greece	-2.80	-7.20	26.3	26.8	26.2	27.4	25,0	24.2	24,0	23.5	22.9	20.4	16.3

Source: Eurostat

Table A6: Employed population of younger workers (15-24; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-27	-225.8	3020.3	22687.9	22314.1	21932.2	21637.0	21962.3	22246.2	22592.0	22462.1	20767.2	19910.2	19441.8
Germany	249.0	-52.5	4131.7	4082.1	3992.5	3816.7	4055.6	4176.9	4334.5	4380.7	4243.7	4180.2	4328.2
United Kingdom	276.6	-489.8	3821.2	3892.2	3891.3	4024.3	4071.5	4107.4	4103.0	4097.8	3787.3	3718.0	3608.0
France	211.3	-122.6	2129.8	2194.8	2277.7	2195.2	2286.5	2255.7	2336.1	2341.1	2267.8	2247.8	2218.5
Netherlands	43.7	-90.5	1324.1	1334.0	1320.0	1280.5	1263.5	1289.9	1344.5	1367.8	1351.5	1264.2	1277.3
Poland	30.0	-252.9	1447.7	1319.5	1286.1	1263.9	1326.7	1396.5	1455.3	1477.7	1395.6	1333.8	1224.8
Italy	-227.5	-303.3	1705.7	1643.5	1623.5	1664.5	1554.6	1541.6	1491.7	1478.2	1318.6	1243.3	1174.9
Spain	-91.9	-790.0	1906.9	1887.1	1873.3	1856.9	2004.5	2030.7	1991.3	1815.0	1381.7	1195.6	1025.0
Romania	-368.3	-100.0	1144.4	1009.1	909.1	933.0	828.3	781.1	779.7	776.1	751.8	720.4	676.1
Austria	89.4	-13.3	465.7	471.4	474.3	470.7	521.7	533.3	549.8	555.1	540.3	530.7	541.8
Sweden	33.1	-2.7	475.3	457.1	458.2	427.5	429.6	459.0	495.8	508.4	470.9	481.7	505.7
Denmark	57.7	-25.1	363.4	366.5	345.0	358.2	369.5	394.8	399.2	421.1	411.4	391.4	396.0
Belgium	1.9	-11.9	353.7	355.6	339.5	352.6	347.8	351.4	353.2	355.6	331.2	331.8	343.7
Portugal	-184.2	-113.8	608.3	592.1	531.4	494.8	473.5	455.9	432.5	424.1	372.8	331.4	310.3
Czech Republic	-129.7	-68.2	506.7	465.3	414.6	380.8	372.8	372.8	381.9	377.0	353.5	326.9	308.8
Finland	-9.7	-26.5	294.4	284.1	280.5	272.3	256.2	266.7	284.6	284.7	253.1	249.0	258.2
Hungary	-186.1	-27.6	432.0	394.7	356.3	302.8	277.4	271.5	261.6	245.9	219.9	218.8	218.3
Bulgaria	36.6	-83.5	226.0	225.6	226.9	236.4	226.9	240.5	249.8	262.6	240.0	207.4	179.1
Greece	-104.3	-93.6	374.6	369.0	347.0	350.8	306.6	293.6	281.1	270.3	257.0	224.1	176.7
Slovakia	-28.0	-65.8	247.1	240.0	246.6	233.4	224.1	222.4	234.3	219.1	186.1	163.8	153.3
Ireland	-14.8	-137.8	298.7	288.2	291.8	286.7	311.8	319.6	319.6	283.9	208.9	167.1	146.1
Lithuania	31.3	-50.1	111.3	125.3	119.8	106.8	111.0	125.6	134.1	142.6	112.9	97.4	92.5
Latvia	33.0	-47.3	98.6	99.4	114.7	105.7	116.9	129.1	137.5	131.6	94.4	86.3	84.3
Slovenia	11.0	-24.5	86.9	88.9	81.0	93.9	90.9	91.4	96.2	97.9	87.0	81.7	73.4
Estonia	20.9	-17.3	52.2	50.4	55.4	56.5	59.5	65.7	70.9	73.1	56.0	47.6	55.8
Cyprus	1.8	-8.3	33.7	31.6	32.3	33.3	34.2	35.2	35.1	35.5	32.9	31.7	27.2
Malta	-5.0	-1.0	31.5	30.5	29.9	27.3	27.8	25.7	26.5	26.5	25.6	25.9	25.5
Luxembourg	-3.2	-0.6	16.1	16.1	13.6	11.7	12.9	12.2	12.1	12.9	15.1	12.1	12.3

Source: Eurostat

Table A7: Employment rate of older workers (55-64)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-27	8.10	1.80	37.5	38.2	39.9	40.5	42.3	43.5	44.6	45.6	46,0	46.3	47.4
Sweden	3.90	2.20	66.2	68.3	68.6	69,0	69.4	69.6	70,0	70.1	70,0	70.5	72.3
Germany	16,00	6.20	37.7	38.4	39.4	41.4	45.5	48.1	51.3	53.7	56.1	57.7	59.9
Denmark	1.90	1.10	56.5	57.3	60.7	61.8	59.5	60.7	58.9	58.4	58.2	58.4	59.5
Estonia	13.70	-5.20	48.7	51.3	52.8	51.5	56.1	58.5	60,0	62.4	60.4	53.8	57.2
Finland	11,00	0.50	45.5	47.8	49.6	51.1	52.7	54.5	55,0	56.5	55.5	56.2	57,0
United Kingdom	5.80	-1.30	52.2	53.2	55.4	56.1	56.8	57.3	57.4	58,0	57.5	57.1	56.7
Netherlands	13.70	3.10	39.3	42,0	44.5	44.6	46.1	47.7	50.9	53,0	55.1	53.7	56.1
Cyprus	5.70	0.40	49.1	49.2	50.2	51.3	50.6	53.6	55.9	54.8	56,0	56.8	55.2
Latvia	23,00	-8.30	36.4	42.6	41.8	45.9	49.5	53.3	57.7	59.4	53.2	48.2	51.1
Lithuania	14.60	-2.60	38.5	43,0	47,0	46.1	49.2	49.6	53.4	53.1	51.6	48.6	50.5
Ireland	7.10	-3.70	46.6	48,0	49.2	49.5	51.6	53.1	53.8	53.7	51.3	50.2	50,0
Portugal	0.10	-2.90	50.7	51.9	51.7	50.1	50.5	50.1	50.9	50.8	49.7	49.2	47.9
Czech Republic	10.70	0,00	36.9	40.3	42.3	42.5	44.5	45.2	46,0	47.6	46.8	46.5	47.6
Spain	6.50	-1.10	39.1	39.7	40.8	41,0	43.1	44.1	44.6	45.6	44.1	43.6	44.5
Bulgaria	22,00	-2.10	24,0	27.7	30.7	33.3	34.7	39.6	42.6	46,0	46.1	43.5	43.9
France	7.50	3.30	30.7	33.8	36.3	37.4	38.5	38.1	38.2	38.2	39,0	39.8	41.5
Austria	13.60	0.50	27.4	28,0	29.1	27.4	31.8	35.5	38.6	41,0	41.1	42.4	41.5
Slovakia	16.80	2.20	22.4	22.1	24.6	26,0	30.3	33.1	35.6	39.2	39.5	40.5	41.4
Romania	-7.40	-3.10	50.5	38.5	39.4	37,0	39.4	41.7	41.4	43.1	42.6	41.1	40,0
Greece	4.60	-3.40	38.2	38.9	41,0	39.4	41.6	42.3	42.4	42.8	42.2	42.3	39.4
Luxembourg	9.30	5.20	24.8	27.9	30.3	30.4	31.7	33.2	32,0	34.1	38.2	39.6	39.3
Belgium	9.30	4.20	25.2	25.8	28.1	30.1	31.8	32,0	34.4	34.5	35.3	37.3	38.7
Italy	7.50	3.50	26.9	28.6	30,0	30.2	31.4	32.5	33.8	34.4	35.7	36.6	37.9
Poland	3,00	5.30	28.6	26.6	27.1	26.1	27.2	28.1	29.7	31.6	32.3	34,0	36.9
Hungary	8.30	4.40	23.1	25,0	28.9	30.4	33,0	33.6	33.1	31.4	32.8	34.4	35.8
Malta	1.10	2.50	28.1	30.2	32.2	31.2	30.8	29.8	28.5	29.2	27.8	30.2	31.7
Slovenia	9.40	-1.60	23.4	25.9	22.7	30.1	30.7	32.6	33.5	32.8	35.6	35,0	31.2

Source: Eurostat

Table A8: Employed population of older workers (55-64; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-27	7258.70	2622.50	19.608.9	20.302.2	21.564.4	22.234.8	23.537.2	24.622.8	25.789.1	26.867.6	27.549.1	28.276.7	29.490.1
Germany	1078.80	977.80	4.143.3	4.154.7	4.184.6	4.300.7	4.430.5	4.644.2	4.966.4	5.222.1	5.472.7	5.745.3	6.199.9
United Kingdom	945.50	-67.00	3.245.4	3.436.9	3.700.3	3.837.4	3.962.7	4.072.6	4.126.0	4.190.9	4.172.7	4.145.7	4.123.9
France	1192.90	456.80	1.675.8	1.920.4	2.172.2	2.345.7	2.576.3	2.663.5	2.775.7	2.868.7	3.004.3	3.146.2	3.325.5
Italy	646.40	375.40	1.820.0	1.941.5	2.033.2	2.093.8	2.195.5	2.278.5	2.390.8	2.466.4	2.591.8	2.699.2	2.841.8
Spain	644.00	47.80	1.576.3	1.641.8	1.732.5	1.794.2	1.952.0	2.053.4	2.126.8	2.220.3	2.184.7	2.190.7	2.268.1
Poland	485.70	494.10	945.9	901.6	967.4	955.0	1.049.0	1.137.6	1.272.7	1.431.6	1.545.2	1.711.1	1.925.7
Netherlands	470.30	106.80	636.5	695.2	813.0	843.5	899.2	952.0	1.040.9	1.106.8	1.168.0	1.156.6	1.213.6
Romania	-100.70	27.60	1.136.6	854.8	862.9	796.6	869.8	946.2	963.0	1.035.9	1.052.3	1.051.5	1.063.5
Sweden	157.40	-3.50	697.5	748.4	782.1	808.7	829.1	846.3	853.8	854.9	846.4	841.0	851.4
Czech Republic	279.80	13.60	416.8	481.5	532.2	557.1	604.4	633.0	661.6	696.6	692.2	693.3	710.2
Portugal	74.30	-22.00	564.1	581.3	585.0	571.0	598.0	600.0	626.8	638.4	633.3	627.6	616.4
Greece	100.50	-21.10	449.8	463.9	492.5	473.8	501.9	519.4	536.1	550.3	554.1	562.7	529.2
Belgium	178.50	83.70	263.9	277.4	309.4	339.3	370.8	385.8	429.0	442.4	461.3	499.7	526.1
Hungary	133.40	101.30	260.0	283.0	331.0	360.7	392.5	406.4	402.9	393.4	422.5	459.3	494.7
Finland	166.80	15.60	263.4	291.7	318.6	341.8	367.6	392.0	405.8	430.2	431.1	444.9	445.8
Denmark	81.70	-5.80	344.9	365.0	418.3	423.4	418.2	428.9	429.5	426.6	423.5	422.2	420.8
Bulgaria	221.40	-32.50	231.7	271.2	289.8	318.6	336.2	383.5	413.8	453.1	452.0	421.2	420.6
Austria	132.70	28.10	248.0	255.3	275.6	265.4	300.6	330.7	356.4	380.7	382.8	402.3	408.8
Slovakia	128.80	50.00	106.3	104.7	116.5	130.0	159.9	185.1	204.4	235.1	249.5	265.6	285.1
Ireland	75.00	-0.90	157.5	168.7	180.7	188.4	204.5	216.1	226.0	232.5	227.9	227.5	231.6
Lithuania	42.90	-4.00	142.9	155.3	165.0	161.9	173.6	175.3	188.1	185.8	180.3	171.4	181.8
Latvia	46.50	-15.30	102.7	116.9	111.8	120.3	128.4	136.4	145.4	149.2	133.9	123.3	133.9
Estonia	18.30	0.50	75.1	77.8	78.7	76.9	82.6	86.7	88.3	93.4	93.1	85.6	93.9
Slovenia	31.80	5.50	50.3	56.0	49.3	66.7	67.9	75.4	81.3	82.1	88.7	93.5	87.6
Cyprus	14.20	3.40	32.4	32.8	35.1	37.1	38.5	41.4	46.3	46.6	48.9	50.6	50.0
Luxembourg	6.00	4.90	10.6	12.1	13.6	13.9	14.9	16.1	15.4	16.6	19.4	20.9	21.5
Malta	5.80	1.70	11.2	12.2	13.1	12.7	12.6	16.0	15.9	17.0	16.5	17.7	18.7

Source: Eurostat

Table A9: Unemployment rate of younger workers (15-24)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	-1.70	5.70	17.3	17.9	18.1	18.6	18.6	17.3	15.5	15.6	19.9	20.9	21.3
Netherlands	0.90	2.30	4.4	4.6	6.6	8,0	8.2	6.6	5.9	5.3	6.6	8.7	7.6
Austria	2,00	0.30	6,0	7.2	7.5	11,0	10.3	9.1	8.7	8,0	10,0	8.8	8.3
Germany	2.80	-2,00	7.8	9.3	11,0	13,0	15.5	13.8	11.9	10.6	11.2	9.9	8.6
Malta	-5.40	1.50	17.6	15.3	17.4	18.3	16.8	15.9	13.9	12.2	14.4	13,0	13.7
Denmark	-0.30	6.20	8.3	7.1	9.8	7.8	8.6	7.7	7.5	8,0	11.8	14,0	14.2
Slovenia	-5.30	5.30	15.7	14.8	15.3	14,0	15.9	13.9	10.1	10.4	13.6	14.7	15.7
Luxembourg	11.60	-1.10	6.3	7,0	10.9	16.9	13.7	16.2	15.2	17.9	17.2	14.2	16.8
Czech Republic	-6.40	8.10	16.3	15.4	16.8	19.9	19.2	17.5	10.7	9.9	16.6	18.3	18,0
Belgium	2.70	0.70	15.3	15.7	19,0	17.5	21.5	20.5	18.8	18,0	21.9	22.4	18.7
Finland	-10.10	3.60	26.6	28.2	27.8	27.5	20.1	18.7	16.5	16.5	21.5	21.4	20.1
United Kingdom	4.70	6.10	10.3	10.9	11.4	10.7	12.8	14,0	14.3	15,0	19.1	19.6	21.1
France	0.60	3.40	18,0	18.9	17.5	20.1	20.6	21.6	19.1	18.6	23.2	22.8	22,0
Estonia	-12.50	10.30	24.5	17.3	24.2	23.5	15.9	12,0	10,0	12,0	27.5	32.9	22.3
Cyprus	0.80	13.40	8.2	7.7	8.9	8.7	13.9	10,0	10.2	9,0	13.8	16.7	22.4
Sweden	8.50	2.70	11.7	12.9	14.3	18.5	22.8	21.5	19.3	20.2	25,0	25.2	22.9
Romania	1,00	5.10	17.6	22.2	19.5	22.3	20.2	21.4	20.1	18.6	20.8	22.1	23.7
Poland	-21.90	8.50	39.2	41.6	41.4	40.1	36.9	29.8	21.7	17.3	20.6	23.7	25.8
Hungary	9.20	6.20	10.7	11.4	12.9	14.4	19.4	19.1	18,0	19.9	26.5	26.6	26.1
Bulgaria	-26.60	13.90	39.3	35.6	27.1	24.5	22.3	19.5	15.1	12.7	16.2	23.2	26.6
Italy	-6.50	7.80	27.8	27.1	26.8	24.6	24,0	21.6	20.3	21.3	25.4	27.8	29.1
Latvia	-9.80	16,00	22.9	25.6	17.5	19.3	13.6	12.2	10.7	13.1	33.6	34.5	29.1
Ireland	6.50	16.70	6.2	7.8	8.1	8.3	8.6	8.6	9,0	12.7	24.3	27.8	29.4
Portugal	7.50	13.70	8.9	10.4	13.4	14,0	16.1	16.3	16.6	16.4	20,0	22.4	30.1
Lithuania	-18.20	19.50	31.6	20.4	26.9	21.2	15.7	9.8	8.2	13.4	29.2	35.1	32.9
Slovakia	-19.90	14.20	38.9	37.7	32.9	32.8	30.1	26.6	20.3	19,0	27.3	33.6	33.2
Greece	-5.90	22.30	28,0	26.1	25.7	26.5	26,0	25.2	22.9	22.1	25.8	32.9	44.4
Spain	3.90	21.80	20.7	21.6	22.3	22.4	19.7	17.9	18.2	24.6	37.8	41.6	46.4

Source: Eurostat

Table A10: Unemployed population of younger workers (15-24; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	-607.70	1121.50	4.750.9	4.875.2	4.852.2	4.939.6	5.017.7	4.649.1	4.134.3	4.143.2	5.154.5	5.254.4	5.264.7
Luxembourg	1.70	-0.30	1.1	1.2	1.7	2.4	2.0	2.4	2.2	2.8	3.1	2.0	2.5
Malta	-3.00	0.40	6.7	5.5	6.3	6.1	5.6	4.9	4.3	3.7	4.3	3.9	4.1
Cyprus	0.50	4.30	3.0	2.7	3.2	3.2	5.5	3.9	4.0	3.5	5.2	6.3	7.8
Slovenia	-4.80	2.30	16.2	15.5	14.6	15.3	17.2	14.7	10.8	11.4	13.7	14.0	13.7
Estonia	-6.90	6.10	16.9	10.6	17.7	17.3	11.2	9.0	7.9	10.0	21.3	23.4	16.1
Latvia	-9.50	14.70	29.4	34.2	24.4	25.3	18.3	17.9	16.5	19.9	47.8	45.5	34.6
Lithuania	-29.30	23.20	51.4	32.2	44.1	28.8	20.7	13.7	12.0	22.1	46.7	52.7	45.3
Austria	18.60	0.60	29.9	36.4	38.2	58.2	60.0	53.2	52.2	48.5	59.8	51.4	49.1
Ireland	21.60	19.60	19.7	24.4	25.8	25.9	29.2	30.1	31.6	41.3	67.2	64.5	60.9
Finland	-50.60	8.70	106.7	111.7	108.1	103.4	64.4	61.5	56.3	56.1	69.4	67.8	64.8
Bulgaria	-107.70	26.60	146.0	124.7	84.2	76.6	65.3	58.3	44.5	38.3	46.2	62.5	64.9
Denmark	4.00	29.00	32.7	27.9	37.6	30.2	34.8	32.9	32.5	36.7	55.2	63.6	65.7
Czech Republic	-57.40	26.50	98.7	84.6	83.5	94.3	88.7	79.0	46.0	41.3	70.6	73.4	67.8
Slovakia	-105.70	24.80	157.2	145.0	121.0	114.0	96.3	80.8	59.8	51.5	69.8	82.7	76.3
Hungary	9.20	15.90	51.8	50.9	52.6	50.9	66.7	64.1	57.6	61.0	79.2	79.2	76.9
Belgium	13.90	1.30	64.0	66.0	79.5	74.8	95.2	90.7	82.0	77.9	93.1	95.8	79.2
Netherlands	15.70	29.60	60.5	64.0	93.0	111.4	113.0	90.5	84.8	76.2	95.9	120.6	105.8
Portugal	23.90	50.00	59.6	68.9	82.1	80.5	90.6	88.5	85.9	83.5	93.4	95.4	133.5
Greece	-68.90	64.50	145.5	130.3	119.8	126.2	107.6	98.8	83.7	76.6	89.3	109.9	141.1
Sweden	66.00	21.50	62.8	67.9	76.6	97.3	127.2	125.7	118.3	128.8	157.2	162.4	150.3
Romania	-67.70	33.00	245.0	288.3	220.6	268.2	210.3	213.1	196.7	177.3	196.9	204.1	210.3
Germany	168.20	-110.10	349.0	418.1	495.2	570.1	745.1	666.5	585.7	517.2	536.6	459.6	407.1
Poland	-624.40	116.30	933.4	940.3	906.8	845.1	774.6	592.0	402.3	309.0	363.1	413.5	425.3
Italy	-258.90	83.10	657.9	612.2	594.5	542.8	489.7	424.7	379.8	399.0	449.9	479.7	482.1
France	66.70	92.70	467.8	512.7	484.1	550.8	592.3	622.9	552.0	534.5	686.0	664.6	627.2
Spain	95.30	296.00	497.7	521.4	536.6	536.0	490.4	443.3	442.7	593.0	841.5	852.0	889.0
United Kingdom	282.10	241.10	440.1	477.7	500.5	484.5	595.7	666.4	682.4	722.2	892.0	903.8	963.3

Source: Eurostat

Table A11: Unemployment rate of older workers (55-64)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	-1.50	1.70	6.6	6.3	6.5	6.9	6.4	6.2	5.5	5.1	6.3	6.8	6.8
Austria	-3.50	1.10	5.6	5.7	6.1	4.5	3.6	3.5	3.0	2.1	2.4	2.2	3.2
Romania	0.80	1.20	1.7	1.5	1.9	3.3	2.4	2.6	2.3	2.5	3.0	3.3	3.7
Italy	-1.50	0.80	4.6	4.2	4.2	3.9	3.5	2.9	2.4	3.1	3.4	3.6	3.9
Belgium	1.40	0.40	3.0	3.5	1.7	3.6	4.4	4.8	4.2	4.4	5.1	4.6	4.0
Netherlands	1.70	1.00	1.5	2.1	2.2	3.6	4.1	3.8	3.6	3.2	3.1	4.0	4.2
Sweden	-0.60	0.90	4.4	4.3	4.5	5.0	4.5	4.4	4.0	3.8	5.3	5.4	4.7
Cyprus	-2.30	1.70	5.5	3.5	4.4	5.3	3.5	3.3	3.1	3.2	4.3	4.7	4.9
United Kingdom	-0.20	1.90	3.3	3.5	3.3	3.1	2.7	3.0	3.2	3.1	4.6	4.7	5.0
Denmark	-1.40	3.10	4.0	4.7	3.9	5.6	5.2	3.9	3.4	2.6	4.1	5.5	5.7
Czech Republic	-0.50	1.90	4.4	3.9	4.4	5.4	5.2	5.3	4.6	3.9	5.7	6.5	5.8
Slovenia	-0.80	2.30	4.8	2.4	3.9	2.9	4.2	2.5	3.3	4.0	3.6	4.0	6.3
Finland	-3.60	1.00	9.0	7.5	8.3	8.3	6.9	6.8	6.3	5.4	6.2	6.5	6.4
Germany	-3.50	2.00	12.0	11.2	12.6	12.8	12.7	12.4	10.3	8.5	8.0	7.7	6.5
France	-1.20	1.90	5.8	5.3	5.3	6.2	5.3	5.7	5.1	4.6	6.2	6.6	6.5
Poland	-4.10	1.60	9.4	10.3	10.6	10.7	10.8	8.5	6.8	5.3	6.3	7.1	6.9
Greece	-0.80	5.30	4.0	3.8	3.1	4.3	3.8	3.7	3.4	3.2	4.6	6.3	8.5
Hungary	2.20	3.70	2.8	2.9	2.9	2.9	3.9	3.9	4.2	5.0	6.3	7.8	8.7
Bulgaria	12.90	3.60	18.4	15.0	11.6	10.2	8.6	7.9	6.8	5.5	6.3	9.3	9.1
Ireland	0.70	6.20	2.6	2.4	2.4	2.4	2.8	2.4	2.4	3.3	6.5	8.7	9.5
Slovakia	-5.30	3.60	11.7	16.1	12.6	16.1	13.4	9.8	8.2	6.4	7.7	10.1	10.0
Portugal	4.10	4.20	2.5	3.5	4.3	5.7	6.2	6.3	6.5	6.6	7.7	8.9	10.8
Lithuania	10.30	9.10	14.7	9.8	14.0	12.2	6.8	6.2	3.8	4.4	10.4	14.5	13.5
Latvia	-5.60	8.30	11.8	9.9	9.1	9.5	8.1	6.6	4.4	6.2	13.4	15.6	14.5
Spain	1.00	7.70	6.3	7.0	6.6	7.3	6.1	5.7	5.9	7.3	12.1	14.1	15.0

Source: Eurostat (data were not available for Estonia, Luxembourg and Malta)

Table A12: Unemployed population of older workers (55-64; in thousands)

Country	Ch 01-08	Ch 08-11	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27	65.60	707.90	1.377.7	1.372.8	1.504.4	1.643.1	1.615.1	1.618.4	1.500.3	1.443.3	1.838.8	2.078.4	2.151.2
Cyprus	-0.30	1,00	1.9	1.2	1.6	2.1	1.4	1.4	1.5	1.6	2.2	2.5	2.6
Slovenia	0.80	2.50	2.6	1.4	2,0	2,0	3,0	2,0	2.7	3.4	3.3	3.9	5.9
Austria	-6.60	5.50	14.6	15.6	17.8	12.4	11.1	12.1	11,0	8,0	9.4	9,0	13.5
Belgium	12.10	1.90	8.1	10,0	5.3	12.8	17.2	19.3	19,0	20.2	24.8	24.3	22.1
Latvia	-4,00	12.90	13.8	12.9	11.2	12.6	11.3	9.7	6.6	9.8	20.7	22.9	22.7
Ireland	3.60	16.50	4.3	4.1	4.4	4.7	5.9	5.4	5.5	7.9	15.8	21.6	24.4
Denmark	-2.90	14.20	14.3	17.9	17,0	25.3	22.8	17.3	15.2	11.4	18.2	24.3	25.6
Lithuania	-16,00	19.70	24.6	16.9	27,0	22.5	12.6	11.5	7.5	8.6	20.9	29,0	28.3
Finland	-1.40	6.10	25.9	23.7	28.7	31.1	27.1	28.5	27.5	24.5	28.6	31,0	30.6
Slovakia	2,00	15.60	14.1	20.1	16.8	25,0	24.8	20.1	18.2	16.1	20.8	29.9	31.7
Romania	6.70	14.20	19.8	13.2	17,0	27.2	21.8	25.1	22.7	26.5	32.4	36.1	40.7
Sweden	0.90	8.50	32.5	33.8	36.6	42.5	38.6	38.7	35.2	33.4	47,0	47.9	41.9
Bulgaria	-25.80	15.80	52.3	47.7	38.2	36.2	31.7	32.7	30.3	26.5	30.3	42.9	42.3
Czech Republic	8.80	15.60	19.4	19.5	24.7	32,0	32.9	35.5	32.2	28.2	41.5	48.2	43.8
Hungary	13.20	26.50	7.6	8.6	9.7	10.6	15.8	16.6	17.8	20.8	28.5	38.9	47.3
Greece	-0.50	30.70	18.9	18.4	15.9	21.1	19.7	20.1	18.7	18.4	26.6	37.6	49.1
Netherlands	26.90	16,00	9.7	14.7	17.9	31.7	38.1	37.8	38.9	36.6	37.3	48.6	52.6
Portugal	30.50	29.90	14.6	20.9	26.3	34.6	39.3	40.6	43.7	45.1	52.8	61,0	75,0
Italy	-9.50	35.40	88.4	84.3	90.1	86,0	78.9	66.9	58.9	78.9	90.6	100.1	114.3
Poland	-18.30	63,00	98.2	103.6	114.7	114,0	126.7	105.5	93.1	79.9	103.4	131.5	142.9
United Kingdom	25.40	81.10	109.8	123.4	126.9	122.1	111.7	125.9	136.3	135.2	199,0	206.2	216.3
France	34.50	93.90	104,0	107.4	121.6	155.9	143.6	162,0	148.2	138.5	198.3	223.1	232.4
Spain	68.60	224.80	106.7	123.8	123,0	141.3	127.2	124.3	132.7	175.3	299.8	360.3	400.1
Germany	-81.20	-51.80	564.5	523.1	604,0	632.9	646.6	655,0	572.7	483.3	475.2	479.6	431.5

Source: Eurostat (data were not available for Estonia, Luxembourg and Malta)

Table A13: Early Retirement Reforms 1960-1980

Country	Retirement age (Male)		Programme (Year of Adoption)	Condition for eligibility
	Normal	Early		
Austria	65	55	UP (1961)	unemployed 1 year for economic or structural reasons
		60	RW (1961)	in certain sectors after 35 years of service
Belgium	65	55	RW (1974)	unemployed for at least 1 year (in certain cases ER age below 55)
		60	YE (1976)	employer must replace the worker by a young who must work for at least 1 year.
		60	UP (1978)	unemployed for at least 1 year
Canada	65	60	ER (1987)	
Denmark	67	18	DU (1977)	earning capacity that is permanently reduced (ill health or social circumstances)
Finland	65	60	UP(1961)	person who has received UB for 200 days in previous 60 weeks (ER age reduce temporarily to 55)
		63	YE(1979)	retiree is replaced by unemployed under 25
France	65 (until 1983)- 60(from 1984)	60	RW (1962, 1972)	workers made redundant for economic reasons
		55	RW (1977, 1979, 1980)	workers made redundant for economic reasons
		55	YE (1982)	youth or unemployed must be hired for 2 years
		55 (50 in certain cases)	RW(1984)	protection of workers in the Steel industry undergoing restructuring
Germany	63-65	60	UP (1973)	unemployed for at least 52 weeks
		60	DU (1973)	35 years of contributions and unable to work also for market reasons
		63	ER (1973)	35 years of contributions
		59-58	RW (1979, 1981, 1982)	applied to certain sectors (steel, automobile, metal chemical)
		58	YE (1984)	vacancy must be filled by a person outside the firm
Italy	60		ER (1965)	35 years of contributions
			DU (1965)	related to market conditions
		55	RW(1979)	unemployment due to economic crisis or industrial reorganization
		58	YE(1984)	company signs a collective agreement to increase employment accordingly
Japan	65	60	ER (1973)	
Netherlands	65	60	DU(1967)	employees with a disability of at least 15% and unemployed for at least 1 year
		60	RW (1977)	collective agreement in specific sectors
		62	UP (1977)	workers unemployed for preceeding 2 and 1/2 years
Norway	67	18	DU(1971)	working capacity reduced by at least 50%, account is also taken of likelihood of finding employment
Spain	65	60	AF(1967)	
		< 60	DU (1972)	related to labor market conditions
			YE (after 1972)	employer must replace with youth seeking first job
Sweden	65	60	AF (1963)	
		60	DU (1970)	working capacity reduced 1/2 also on grounds of redundancy
		60	UP (1972)	unemployment benefit has been paid for a maximum period
		60	RW (1975)	collective agreement with large firms and some industries
UK	65		FPP (1970s)	depends on specific plan
		62-64	YE (1977)	employer must replace retiree by someone from unemployment register
		60	UP(1981)	men unemployed for at least 1 year
US	65	62	AF (1961)	
		55	FPP (1970s)	depends on specific plan
		62	ER (1977)	note: new calculation of benefits increases generosity
Sources: Economic Commision for Europe (1986), Gruber and Wise (1999), Casey (1992).				
Legenda: RW = pension to workers made redundant for economic reasons; UP = awarding of the pension requires a period of unemployment; DU = disability pension awarded also according to labor market conditions or to unemployed workers; AF = actuarially fair ER provision; ER = general early retirement provision; FP = firms' pension plans ; YE = awarding of the Pension requires the employment of a young worker.				

Table A14: Early Retirement Reforms 1990-2010

Country	Year of Adoption	Programme
Austria	2003	Increase of the minimum retirement age: for men, the age will increase from 61.5 years to 65 years; for women, the age will rise from 56.5 years to 60 years. The increase will be phased in gradually beginning July 2004, and by 2017, early retirement will be eliminated.
Austria	2000	Increasing the entry age for early retirement: the earliest age at which employees may take early Retirement and receive a state pension -on grounds of a long contribution history or of unemployment, or to receive a partial pension - is increased by 18 months to 56,5 years for women and 61,5 for men;
Austria	1990s	1997 early retirement (-) 1996 early retirement (+) 1995 early retirement (+) 1993 early retirement (+)
Belgium	2008	Additional measures to discourage early retirement: companies have to make other options available and contribute to the costs of early retirement; 'time credits' for non-work activities were reduced; lower implicit taxation through a 'work resumption supplement' for over-50s; reduced employers' social security contribution for elderly low-income workers.
Belgium	2007	Raising the number of years' service used to calculate an employee's right to take early retirement at 58 or 60 years of age, to a career of at least 30 or 35 years respectively.
Belgium	2001	Rising early retirement time for white-collars
Belgium	1990s	1999 early retirement (-) 1990 early retirement (+) 1992 early retirement (+) 1994 early retirement (+) 1987 early retirement (+)
Bulgaria	2003	Increasing by 6 months the statutory age for retirement for both men and women. Men's statutory Retirement age becomes 62 and 57 for women.
Cyprus	2005	Increase of the retirement age for civil servants from 60 to 63 years. The retirement age of 63 will become fully effective as from July 2008, the same as in the private sector, where retirement ages range between 63 and 65. Objective of the government is to arrive at a single retirement age also in the broader public sector and educational services and semi-governmental organizations.
Czech Republic	2003	Restriction in the possibility to early retire
FI	2003	Raising the qualifying age for early old age pension from 60 to 62;
FI	2003	Abolishing the general retirement age of 65. Workers may instead start to receive an ordinary old age pension at any time they choose between the ages of 63 and 68.
FI	2000	Raising the minimum age for eligibility to individual early retirement from 58 to 60 years
FI	1990s	1997 Early retirement (+) 1993 early retirement (+) 1985 Early retirement (-)
FR	2003	Eliminating progressive early retirement (préretraite progressive); Increasing the cost of company early retirement schemes Placing restrictions on state-financed early retirement schemes.

FR	2003	The age at which an employer can oblige an employee to retire will be raised to 65, instead of the age at which the employee can claim a full pension. It will be possible to pension-off employees under the age of 65 (but over 60) who are eligible to a full pension, if they receive early retirement compensation
FR	2001	Enabling all companies in the banking sector to offer either full or progressive early retirement to employees meeting certain conditions. The scheme is open to workers once they reach the age of 58 and remains open for a maximum of 2 years thereafter. Workers must have been employed by the company for at least 15 years. When they leave the scheme, workers must then meet all the required criteria to be eligible for a full pension.
Germany	2006	Raising the statutory retirement age from 65 to 67 years. This increase will be gradually implemented between 2012 and 2029
Germany	2004	Increase from 60 to 63 years of the minimum entry age for early retirement on account of unemployment. The rise will be implemented gradually between 2006 and 2008 in line with constitutional transitional phases.
Germany	1990s	1996 early retirement (+) 1998 early retirement (-) 1999 early retirement (+)
Hungary	2010	Early retirement for women is permitted after 40 years of service, including time spent on maternity leave.
Hungary	2007	Reforming the early retirement system: persons going into early retirement after 1 January 2008 will be allowed to take up regular employment with earnings above minimum wage only if they simultaneously suspend their pensioner status.
Ireland	2003	Increased of the eligible pension age for most civil servants to 65 and either eliminated or increased Mandatory retirement ages for new government workers.
Italy	2008	Allowing three new categories of workers who are engaged in hard physical and psychological work to retire 3 years earlier than the original time stipulated.
Italy	2007	Retirement age will increase from 57 to 58 years on 1 January 2008, and then to the age of 60 by 2011 and to 61 years on 1 January 2013
Italy	2004	(62 for self-employed), depending on the number of years of social security contributions.
Italy	1990s	Tightening the eligibility requirements to retire before the statutory retirement age as of 2008 1994 Early retirement (-) 1993 Early retirement (+) 1981 Early retirement (-)
Poland	2008	Women aged 55 years with a 20-year employment history and men aged 60 years with a 25-year employment history will be eligible to retire early and receive a 'bridging' pension until they reach full retirement age.
Poland	2007	Granting the right to early retirement to men who have reached 60 years and have at least 35 years of contributions.
Poland	2004	Introduction of more rigid requirements for obtaining pre-retirement benefits. Moreover, the age of Women eligible for early retirement has been increased from 50 to 55 and in the case of men, from 55 to 60.
Poland	2001	Abolition of pre-retirement allowance, which allowed people meeting certain age and employment requirements to cease work before retirement age and receive a guaranteed benefit disbursed by the Labour Fund until they become eligible for retirement. At the same time, the group of people entitled to pre-retirement benefits was expanded (extended to women aged 50 who had worked for 30 years and to men aged 55 who had worked 35 years).
Poland	2000	Limiting the eligibility to pre-retirement programmes to individuals living in areas with a high unemployment rate. Eliminating the possibility to combine income from work with a pre-retirement benefit and allowance.
Portugal	2005	Progressive rise, from 60 to 65, of the legal retirement age for public servants during the period 2006-2015, by six months a year; Progressive extension of number of years of service needed to receive a full pension from 36 to 40 years during the period 2006-2013, by six months a year.
Portugal	2005	Suspension and abrogation of some of the existing early retirement schemes: private-sector workers may no longer retire early from Portugal's pay-as-you go retirement system. Previously, workers could qualify for early retirement benefits either at age 55 with 30 years of contributions or at age 58 if they were unemployed.
Portugal	2003	Eligibility conditions concerning access to early retirement by long-term unemployed were relaxed and it became possible, under certain conditions, to retire at 58 without pension reduction.

Portugal	2000	The date on which retirement begins is no longer set at 65 years of age - pension entitlement will now be based on the criterion of 40 years of contributions.
Slovak Republic	2007	Tightening of legislation on early retirement
Slovak Republic	2005	The legal retirement age for both men and women is set at 62 years.
Spain	2007	Tightening the requirements for access to partial retirement before the standard retirement age of 65: the minimum age is 61 years old (previously 60); workers qualify after at least 6 years with the employer (previously there was no threshold) and with 30 years' contributions paid (previously 15 years); the working day may be reduced by at least 25% and at most 75% (previously 15% and 85%).
Spain	2006	15 years of effective contribution are now required in order to qualify for retirement pension
Spain	2002	Implementing the pension reforms agreed in 2001
Spain	2001	Better retirement pension for workers taking up their entitlement after the age of 65, whenever the worker accredits 35 years of contributions. The amount of the pension is incremented by 2% for each year of contribution beyond reaching 65, in order to extend working life beyond the legal retirement age of 65 and the effective average retirement age of 62.5 (flexibility in the retirement age and elimination of incentives for early retirement).
Spain	1990s	1997 Early retirement (-)
United Kingdom	2006	Setting a default retirement age of 65. Employers will be free to continue employing people beyond the default age, while retirement ages below 65 will in general be outlawed, unless objectively justified.
United Kingdom	2004	Raising the earliest age that a pension may be taken from age 50 to age 55 from 2010; making compulsory retirement ages unlawful, unless employers can show that they are objectively justified.

Legenda: (-) more generous eligibility conditions; (+) stricter eligibility conditions.

Sources: fRDB-IZA Social Reforms Database, Labref (2013)

Table A15: Measures taken in EU Member States to promote youth employment

	Schooling	Development training system	Active labour market policies	Reform of the benefit system
AT	Reforms to merge all 10-14 year olds into a new form of comprehensive school. Introduction of second-chance schools.	Reform of the Vocational Training Act. 'Apprenticeship guarantee' for young people up to the age of 18.	Extension of school-to-work programmes through the 'Campaign for the future of young people'. Hiring subsidies.	The period for receiving unemployment benefits is lower for those people aged under 25 years (26 weeks instead of a whole year).
BE	Policies at secondary level to attract more pupils into technical and professional studies. Investments into the technical endowment of schools.		The 'Marshall plan' encompasses several measures to promote motivation and access to employment for young people. A start-up bonus is paid to young people who start with a practical training and/or gain work experience during the period of compulsory education. Hiring subsidies for employers in the form of a reduction of the non-wage labour cost.	Funding and loans for young people starting their own business.
BG	School social assistance programme in place encompassing benefits for children of poor families.		'Youth work experience' including coaches in the form of hiring subsidies for employers recruiting young people who have not found employment after graduation.	Entrepreneurship education and training.
CY		Modernisation of the apprenticeship scheme to enhance the transition from school to apprenticeship and employment. Acceleration of training programmes for people attempting to enter the labour market for the first time.	Promotion of the training for unemployed and particular training for unemployed tertiary education graduates.	
CZ			'Anticipating Labour Market and Skills Needs' at national, regional and sectoral levels. A project is introduced providing subsidies to employers recruiting a recent school graduate. Language and IT courses and other forms of retraining are offered.	Reductions for employers for hiring low-paid workers regarding social security contributions and unemployment insurance. Benefits for families with young people aged up to 26 years.

	Schooling	Development training system	Active labour market policies	Reform of the benefit system
DE	'Catch up an secondary school qualification'. Labour offices help young people to obtain a secondary school qualification in combination with continuing vocational training.	Extension of training programmes. Special programmes for those without qualifications. Industry committed to creating additional training places.	Extension of eligibility for short-term allowance to temporary agency workers. Public employment agency promoting training and improving vocation orientation. 'Perspectives for vocational qualification' targets migrant youth. 'Jobstarter connect' programme improves the transition of young people from school to work.	
DK	Training and education was focused on sectors with skill shortages and people with low skills. Training for unemployed in companies.		Obligation to take part in ALMPs after three months (earliest six). Incentivising companies to create training placements for more apprenticeships	
EE	Guidance measures for early school leavers.		Organisation of job search clubs through the public employment service for young unemployed. Wage subsidies for employers hiring young unemployed (16-24) after three months of unemployment.	
EL	Introduction of second-chance schools focusing on practical skills and work experience. Teaching support classes (general and technical extra coaching) to enhance school performance.	Targeted training programmes with NGOs for young people with special needs.	Subsidised jobs for young people. Temporary expansion of job creation programmes. Programmes for the promotion of self-employment. 'One start-one opportunity' for young people between 16 and 25 to obtain work experiences, attain a training certificate in IT or counselling services. Reduction of non-wage labour costs.	
ES	Guidance measures for early school leavers. Local police prevents early school leaving through the identification of persons under the age of 16. Initial vocational qualification programmes for early school leavers to enrol in training courses.	Some regions have programmes fostering internships for VET and university graduates. New and more vocational and training programmes were created.	Local Investment Fund to support public works. Reduction in social contributions for young people starting their own business. 'School workshop and crafts training' programme of unemployed young under 25 years offering training followed by a work placement stage. Hiring subsidies. Argo global funds university graduates internships in international companies.	
FI	Assignment of personal advisors to early school leavers in form of a 'search team'.	Increase of vocational training places and creation of new vocational training programmes.	Youth guarantee since 2005 including the development of an individual employment plan. Promotion of entrepreneurship among the youth. Voucher for subsidised work. The 'chance card' is a voucher for young jobseekers who recently finished vocational education and entitles the holder to wage subsidies.	The payment of benefits is linked to activation measures.

	Schooling	Development training system	Active labour market policies	Reform of the benefit system
FR	Introduction of second-chance schools. 'Hope for suburbs' programme at 200 schools including intensive training and individual support for pupils with low performances. 'Acting for youth' plan extended compulsory education from 16 to 18 including the right to benefit from training or a job after leaving school.	'Emergency plan for youth employment' contains a series of measures including apprenticeships, training programmes and subsidised contracts. Implementation of the 'no apprentice without an employer' programme which includes training centres, public employment services and consular chambers.	The number of subsidised jobs was increased. Rewards for employers hiring apprentices.	Extension of eligibility for partial unemployment schemes to temporary agency workers, part-time workers and fixed-sum workers.
IE	There have been 41 community training centres in place to deliver services to early school leavers aged 16-21 including the provision of training/education and assistance for labour market integration.	Review of the traineeship programme as an alternative to apprenticeships, providing on-the-job training for specialist skills over a shorter period of time. Implementation of a 11-week training programme for up to 700 redundant apprentices a year.	The new 'work experiences' aims to offer 2,000 subsidised work places for unemployed graduates.	Reduction of jobseekers' allowance for those aged under 20. Introduction of a pilot programme to activate selected unemployed aged 18-19.
IT	Support for pupils at the risk of dropping out.		PARI programme access to employment for disadvantaged groups including training opportunities. Creation of a fund to promote youth entrepreneurship.	Income support benefits were extended to unemployed workers and apprentices.
LV		Additional funding to increase the recognition and quality of vocational education and training and to encourage young people to participate in this form of education.	Practical training for unemployed 18 to 24 year old young people who are unable to find a job. The length of the training varies from 6 to 12 months. Participants obtain a monthly support. Financial support for those starting their own business.	The payment of benefits is linked to the participation in activation measures.
LT			Tax privilege in the form that employers are exempted partly from social insurance contributions when offering first time job seekers a work placement. Financial support for those starting their own business.	

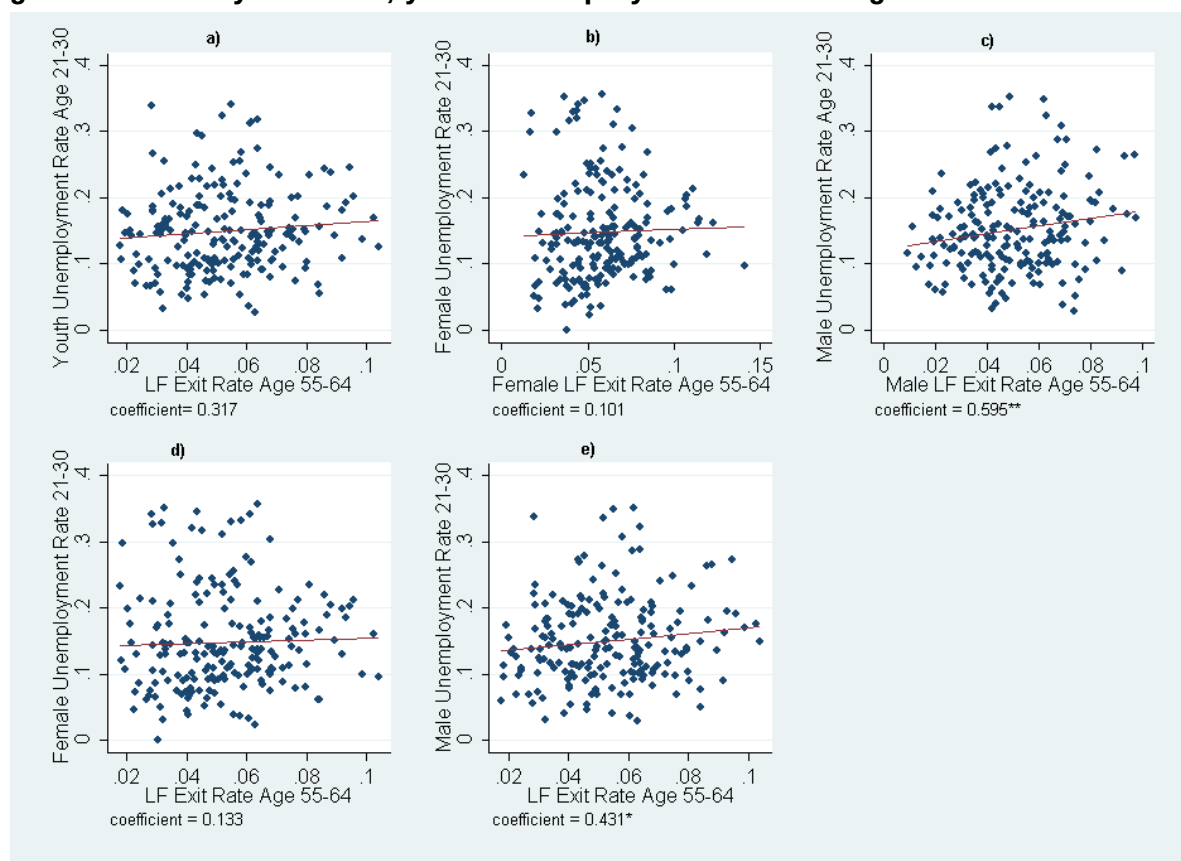
	Schooling	Development training system	Active labour market policies	Reform of the benefit system
LU	Introduction of second-chance schools for young people aged 16-24.	Reform of the professional training scheme in 2006. Now three types of competence-based diplomas exist focusing on practical training to increase the employability of students.	Employer incentives to hire or train young people by receiving an allowance of 30% through the Employment Fund if meeting certain conditions.	
HU	Young people with no qualification obtain help to end basic education and to participate in training as part of the 'Pathway to work' programme.		Public work schemes. START programme covering non-wage costs of the employers in case of employing first time jobseekers.	Incentivising the return of young mothers to work. The eligibility age for family allowances was reduced from 23 to 20 for those still studying.
MT		Basic employment training (BET) for young school leavers (ten-week programme)	Launch of the 'Youth employment' programme promoting the integration of young people between 16 and 24 into the labour market by employment related information, youth days and, amongst others, personal consultancy services.	
NL	Youth action plan to keep youth longer in education.	Formulation of a guarantee for a traineeship place for all school leavers being unemployed for more than three months.	Granting of tax credits or reimbursement for employers to cover the training costs through the traineeship guarantee. Extension of employment services for young jobseekers. 'Action plan on youth unemployment' including 30 covenants with regions on youth unemployment. Additionally, a programme matches young jobseekers with opportunities (apprenticeships, volunteering opportunities and jobs).	'Investment in Youth Act'. Young people aged from 18 to 27 are not entitled to social assistance anymore, but are offered work, education or a combination.
PL		12-month apprenticeship	Establishing internships for the youth up to 25 years old is financially supported.	
PT	Already since 2005 the 'New opportunities initiative' has been in place to reduce the failure rate at school and to place half of all secondary pupil onto either vocational or technological courses until the age of 18.	Reform of vocational training in 2007. New training places were created for young graduates, where high unemployment exists.	Direct subsidies or exemptions regarding social security contributions for employers hiring long-term unemployed or youth in full-time jobs. Help for business creation among the youth. 'Support programme for entrepreneurship' which contains help for start-ups including credit lines with low interest rates for those aged between 18 and 35 with secondary education.	

	Schooling	Development training system	Active labour market policies	Reform of the benefit system
RO	Increase of compulsory schooling from 8 to 11 years.	A system of recognition of informally acquired skills has been created which allows individuals to receive a certificate.	Public subsidies (of 50 per cent of the salary for up to 12 months) for companies hiring unemployed youth. Promotion of 'start-up enterprises' from those aged under 35 years including tax exemptions for some years and recruiting subsidies in the form of exemptions from the mandatory social security contributions for a certain period of time. In addition, a credit guarantee by the state is in place.	
SE	The 'Youth guarantee' contains training and the completion of secondary school. Online guidance and virtual meetings with job coaches. All students leaving upper secondary school obtained a book including job-searching strategies, tips for writing applications, etc.		'Youth guarantee' (restricted to unemployed young people registered at the PES) for young people to allow them to either find work or to begin and return to education. Local mentoring programmes for young unemployed by managers or entrepreneurs. 'Boost' programme to support start-ups.	Reduction of social security contributions for workers up to the age of 26.
SI	'Project learning for young adults' to motivate school-dropouts to return to education or to gain skills to ease the transition to work including mentorship.		Training programmes for the youth targeting on areas facing skill shortages. Subsidies for employers hiring graduates. 'Graduate – Activate yourself and get the job' programme to improve the employment opportunities for young graduates. Employers provide six months of practical training including mentorship.	
SK	Education, training and preparation for the labour market.		Advisory services for young graduates without any work experience. 'Work experience for school leavers' for young people up to 25 years to gain practical skills at a specific employer. Financial support for start-ups.	Linkage of the participation in activation measures to the payment of benefits.
UK	Increase of compulsory schooling. Young people will have to remain in education or training until the age of 18 by 2015.	New regulation in place containing the obligation as an public contractor to have a certain proportion of apprentices amongst the workforce.	Extra funding for the job creation of long-term unemployed young people. Future jobs fund to encourage local authorities to create new jobs of benefit to the local community. Incentives for employers hiring and training individuals with more than 6 months of unemployment. 'September guarantee' and young person's guarantee.	Increase of all minimum wages including those affecting in particular the youth. 'Flexible new deal' for those claiming 'Jobseeker's allowance'. For those aged 18-24 involvement in activities as personal advice and guidance, development of an action plan and gaining work experience is compulsory after six months of claiming benefit. Although young people are not entitled to receive

	Schooling	Development training system	Active labour market policies	Reform of the benefit system
				'Jobseeker's allowance' for people aged 18-24 a flat rate is paid.

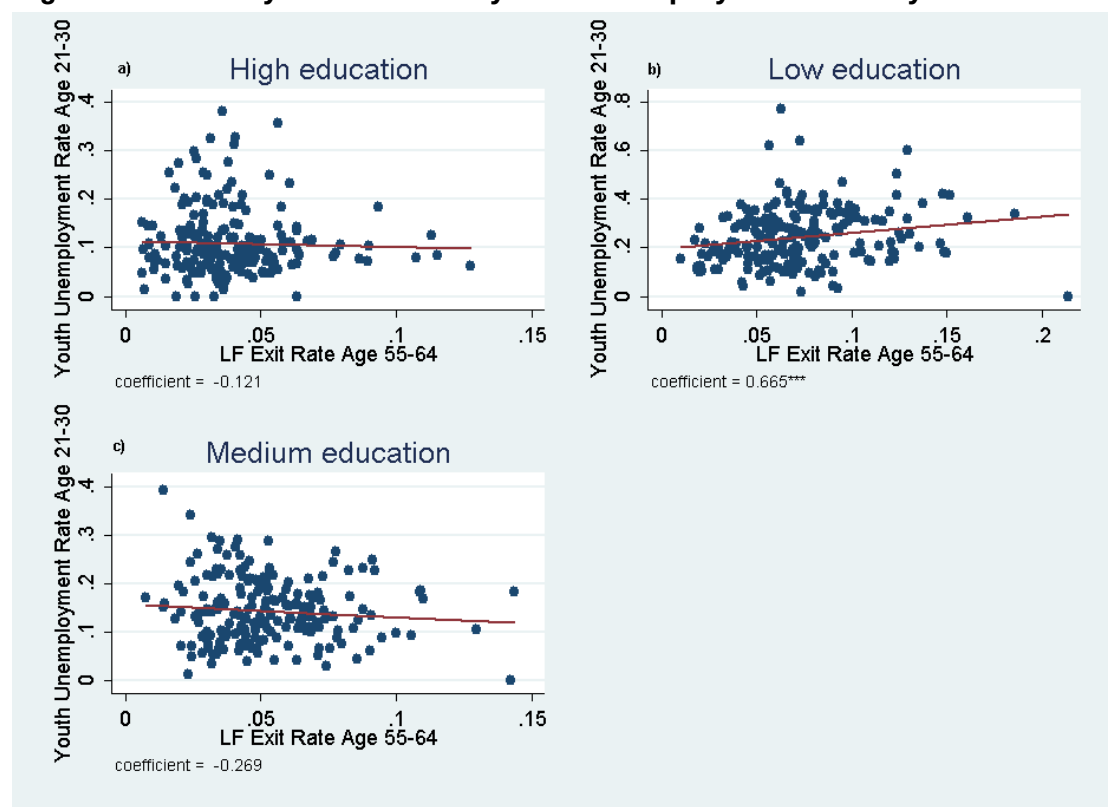
Source: European Commission, 2011a: 10-25; ILO, 2010: 71-80; Lima et al. (2007).

Figure A1: Elderly exit rate, youth unemployment rate and gender

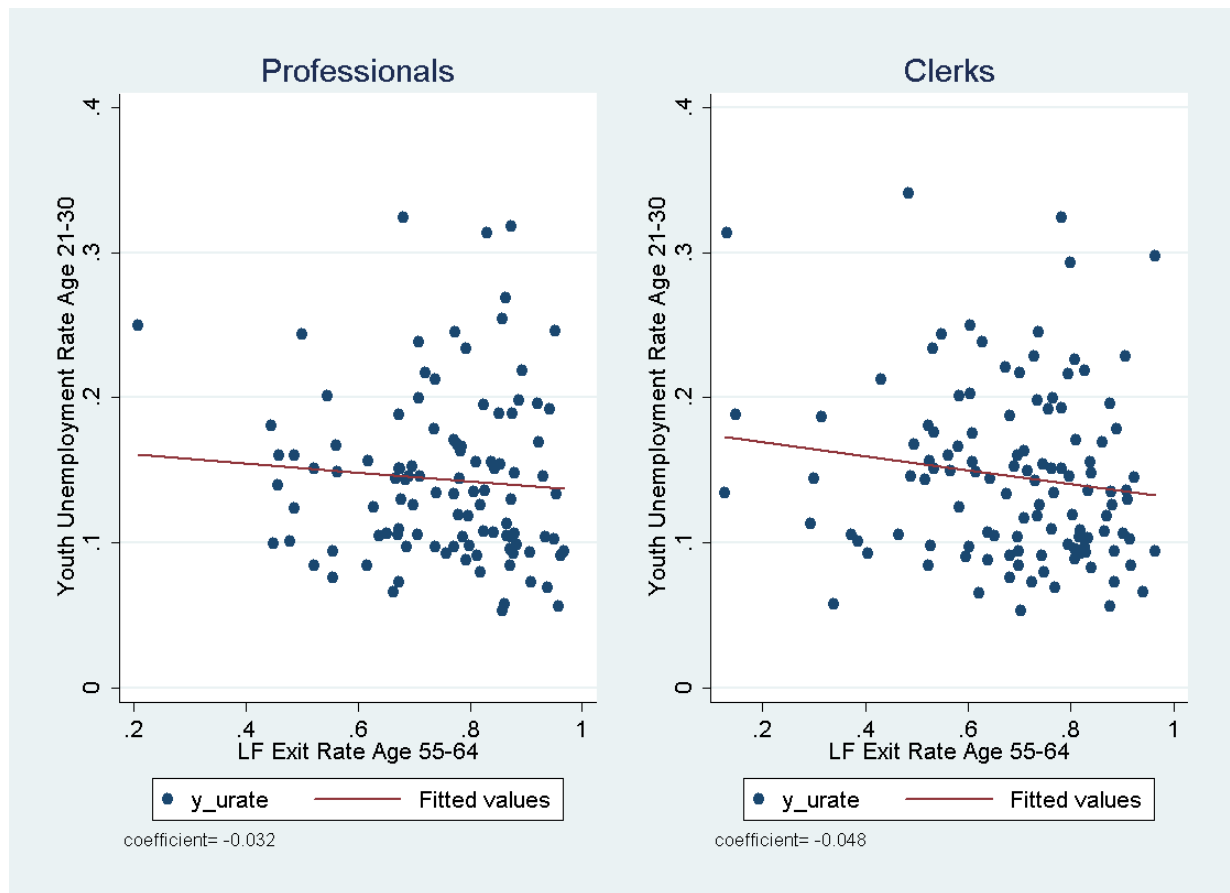


Source: Labour Force Survey 2009

Figure A2: Elderly exit rate and youth unemployment rate by level of education



Source: Labour Force Survey 2009

Figure A3: Elderly exit rate of clerks and professionals and youth unemployment rate

Source: Labour Force Survey 2009

NOTES

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