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Lisbon post 2010: employment rate goals

The employment rate in de European Union has increased considerably between 2000 and 2008, but the Lisbon target of 70% will not be met in 2010. Employment has increased from 62% in 2000 to 66% in 2008, mainly due to women and elderly workers entering the labour market or extending their stay. This paper presents a proposal to develop country-specific employment goals for the time period 2010 to 2020. These goals have to be realistic and ambitious. We compare age and gender specific participation rates in the various EU Member States and the outcomes are used to sketch the options for higher employment rates in the next decade. Subsequently, we develop three scenarios with varying employment rate goals for the EU as a whole and for each Member State separately.

Summary

The EU countries have made good progress in boosting employment. The employment rate in the EU increased from 62% to 66% of the labour force between 2000 and 2008. The Lisbon target of 70% in 2010 will not be met, partly because of the economic crisis in 2009. That is, however, not the only reason. Some Member States have managed to increase employment significantly and others have not. Labour market reforms could make a difference, but apparently these reforms have not been pushed very intensively in each Member State.

Even after 2010 it is important for Europe to increase participation. Labour market participation increases the tax base, lowers inactivity and less unemployment reduces social spending. In a time when government debts rise rapidly due to the economic crisis and an aging population will increase the demand for care and pension benefits, higher employment rates could be important to improve the balance of the public finances. This paper describes three scenarios for labour market participation between 2010 and 2020. The first scenario is the status quo that shows that total employment will decline due to aging with constant participation rates by age. The other two scenarios present a more ambitious and a more modest increase in employment. This increase varies between the Member States: the increase is larger in countries with low employment rates. These differences are mainly due to the variation in employment of women and older workers. Here are also the gains for higher employment rates. In the ambitious scenario, employment increases to 74% of the labour force, with female employment rising to 69%. In the moderate scenario employment rises to 70%; for women the rate is 64.5%. The employment rates of older workers between 55 and 64 years increase from about 46% to 52% and to 59%, respectively. Besides labour market participation of senior citizens, above 65, varies widely across the EU. In most countries this share is very low and there seem to be many opportunities for increasing employment of the group 65 to 69 aged.

The scenarios are based on two methodologies. First, regression analysis is used to derive the relation between the level of employment in 2000 and the change between 2000 and 2008 by Member State to investigate which employment increases are possible. Second, the possible increases in employment are underpinned by lower unemployment rates and increasing labour market by gender and five-year age groups considering changes in the demographic composition until 2020. The potential changes in unemployment and labour market participation are based on comparisons between the Member States and over time.

The presented numbers are averages and targets for the European Union as a whole. The targets vary by country derived from the methodology. In the scenarios we have developed employment paths for each Member States to ensure the feasibility of the EU target. The EU

target is a useful communication device but should always be related to the country-specific goals. Because the country-specific targets are derived by a common methodology for all countries, the degree of realism and ambition of these goals does not deviate too much between the scenarios.

The increase in employment rates in the scenarios are based on past experiences in other (EU) countries. Countries with high employment rates are used as a benchmark. In developing the scenarios it is considered that the suggested employment increases are possible because these changes are shown in various countries for different age groups and genders. From that perspective, the scenarios are realistic, but the methodology is mechanical. The employment increases are not automatically realised. Therefore, labour market institutions and policies have to be reformed in many Member States. This requires much effort and massaging the resistance against these reforms. This paper does not discuss these reforms. Moreover the costs of these reforms and their effects on welfare are also not discussed. This does not only include financial costs, but also the costs of less leisure time and changes in work-life balance.

Labour market participation could also be increased by raising the number of working hours per employee. Labour market participation is often only measured in persons. As we have shown before the average number of hours worked differs widely between the Member States. Differences in hours worked are due to differences in holiday leave, the average number of working hours per week and part-time work. If the number of hours worked varies strongly, employment measured in persons is hardly comparable between Member States. This factor can be taken into account by a correction factor applying to the number of hours worked over an average (EU-15 or 27) or a benchmark (US). As a result, participation in the new Member States goes up substantially and will be significantly lower in the Netherlands.

1 Introduction

In 2000 the European leaders set ambitious targets for improving the functioning of their economies in 2010. This date is coming close, but the goals are not achieved. In a globalising world and an ageing Europe it is important to set new goals for the functioning of product and labour markets after 2010. This is called the post Lisbon 2010 agenda. The purpose of this paper is to develop employment goals for 2020 as a part of this agenda.

First, we evaluate the progress made between 2000 and 2008. The gross trends in labour market participation and unemployment are distinguished.[1] These developments are not only apparent at the macro level, but also by gender and age group. The developments in different EU countries are compared. On this basis, we draw some conclusions that are used to develop employment goals in the three scenarios between 2010 and 2020.

This is the main aim of this paper. Scenario 1 is the status quo (also called baseline), scenario 2 describes a moderate increase in employment in which the current EU target of 70% employment is achieved and a third, ambitious growth scenario is developed which the average employment rate is 74% in 2020. These scenarios also include participation of women and elderly, for which the EU has set separate goals. Because the scenarios on total employment are built from employment developments by gender and age group, the goals for the various groups are consistent with each other. Female employment in scenario 2 and 3 will be nearly 65% and 69% of the female labour force, respectively. The employment rates for the 55 to 64 aged will increase until 52% and 59% in 2020, respectively.

The EU goals are built from the country-specific targets. The extent to which these scenarios will be achieved depends on the duration of the recession and the structural impact on employment and on the reform efforts of Member States. These reforms are not discussed in this paper, but are indispensable for achieving new employment goals.

This paper does not discuss whether the employment goals are welfare improving. It focuses on the feasibility of new goals and develops scenarios for new goals in 2020 for the EU and the Member States based on demographic and employment patterns. In particular, if employment is stimulated by higher labour market participation, less leisure time could have a negative effect on welfare. Preferences for leisure time vary between the Member States such that optimal employment goals would also be different for the Member States. Moreover, policies to increase participation and to lower unemployment could be costly. These costs are not considered here.

[1] Unemployment is the difference between labour market participation and employment. The EU uses the term employment rates of activity rates), which is equivalent to net labour market participation that s to say labour market participation minus unemployment.

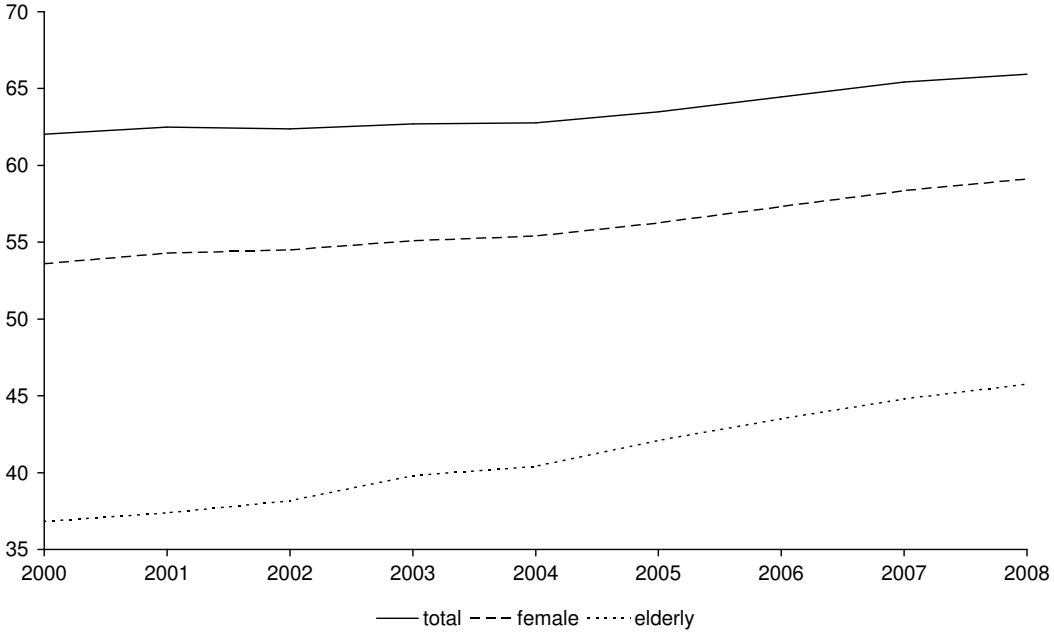
2 Employment developments between 2000 to 2008

2.1 Employment and unemployment for men, women and older workers

2.1.1 Employment

Average employment in the EU rose from 62 to 66% as a share of the labour force[2] between 2000 and 2008. Figure 2.1 shows that, especially since 2004, employment has grown substantially. The employment goal of 70% is not met, but there is clear progress, although the recession will have a negative impact on employment in 2009 and 2010. The employment rate of women lags behind that of men, but gradually the difference between both rates becomes smaller. Employment increased from 53.6 to 59.1% of the female workforce, close to the Lisbon target of 60% in 2010. The increase of 5.5%-points was significantly higher than that for men. For older workers (from 55 to 64 years old) employment has increased from 36.8% to 45.7%: an increase of almost 9%-points. The Lisbon target of 50% is not reached, but the rapid increase in employment of this group suggests that further increases are possible.

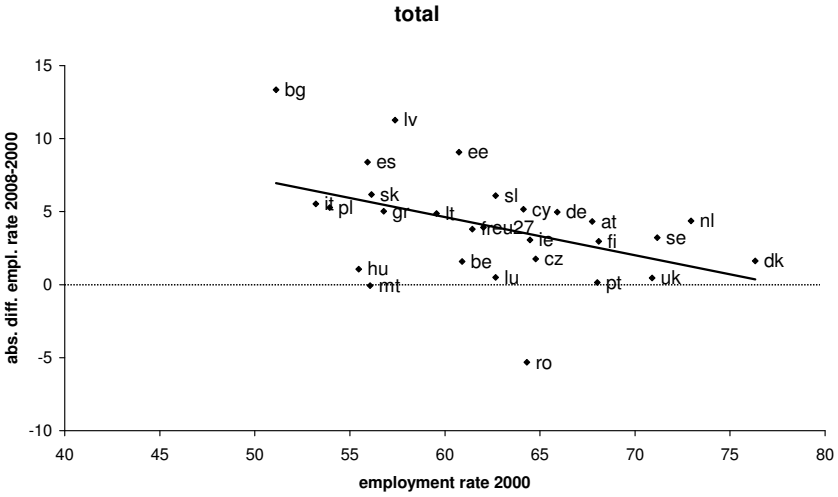
Figure 2.1 Development employment rates between 2000 and 2008[3]

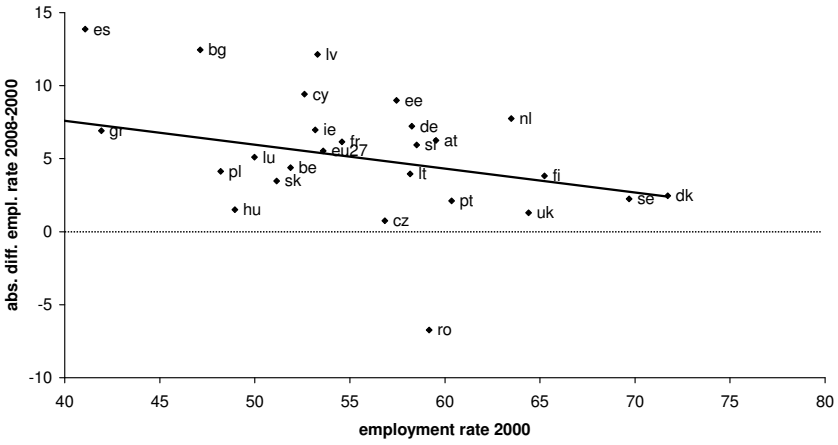


[2] Labour force is defined as the population between 15 and 64 years.

[3] The data source for Figures 2.1 to 2.5 is Eurostat (2009).

Figure 2.2 Employment changes per Member State and total EU between 2000 and 2008





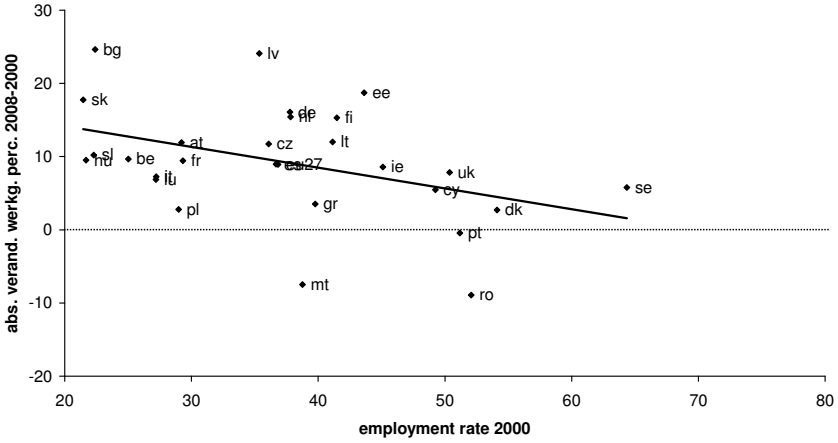


Figure 2.2 shows the relationship between the employment rate in 2000 and the change between 2000 and 2008. This sequence is shown for the total labour force, women and elderly. In general, lower employment in 2000 is accompanied by a larger increase in employment between 2000 and 2008. For example, countries with an employment rate of 60% in 2000 were able to raise employment by 5%-points on average. For countries with a 70% employment rate in 2000 this was only 2.5%-points. This is not surprising: the opportunities to increase employment are much more limited as participation in the base year is already high. An exception is Romania, where employment for all groups is substantially lower in 2008.[4] For the employment of older people this is also the case in Malta.

The variation within the EU is large. New members such as Malta, Poland and Hungary and even big countries, such as Italy and France, are far from the 70% target in 2008, but countries such as Denmark, the Netherlands and Sweden have clearly achieved the goals. This is also the case for Germany and the United Kingdom.

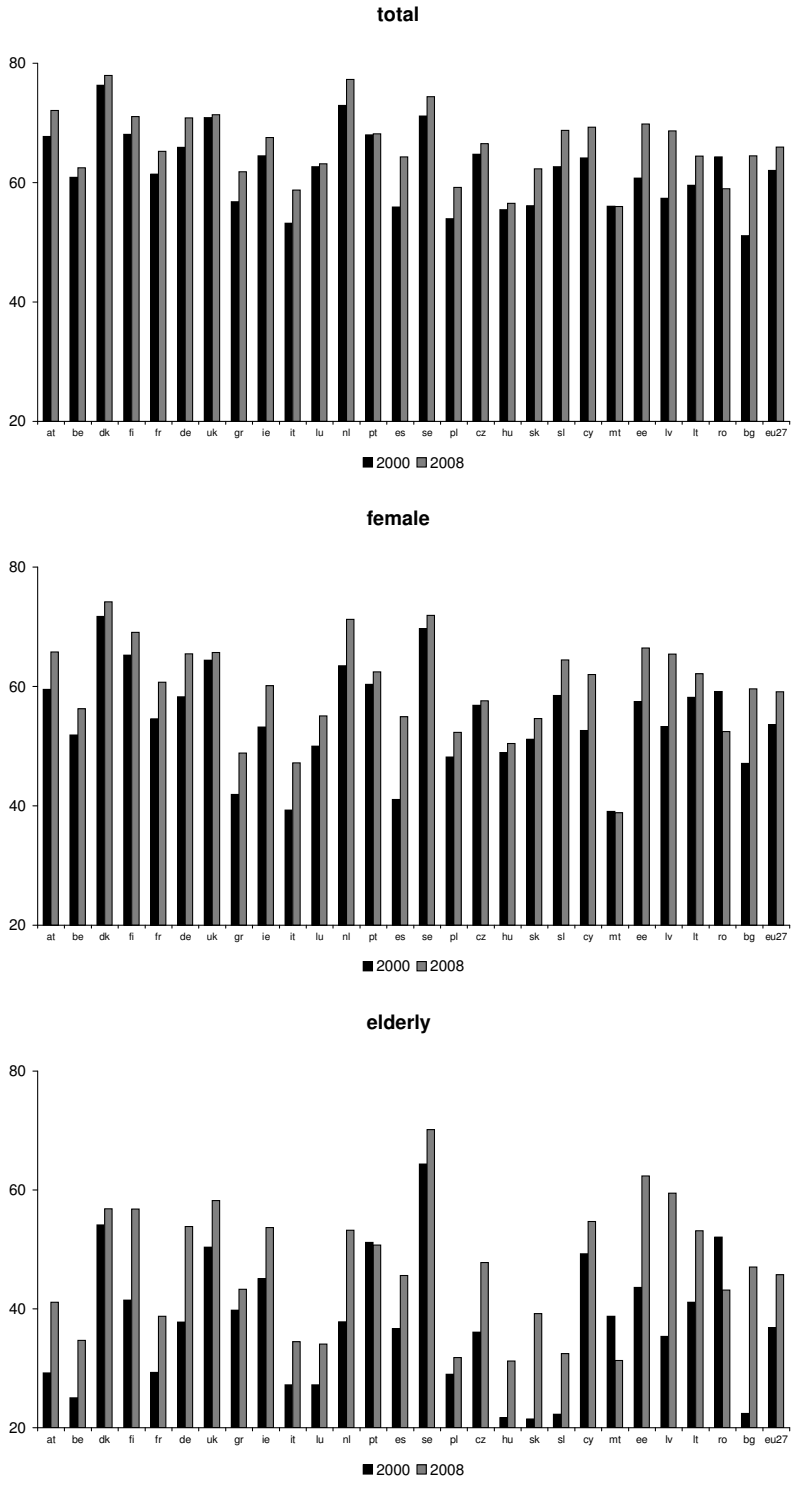
In some countries, participation has risen sharply: in Spain, the employment rate increased by 9%-points between 2000 and 2008. In the new Member States Estonia, Latvia and Bulgaria's participation increased even further. The increase of women at the labour market is an important cause for the overall increase. In Spain, Latvia and Bulgaria female employment increased by more than 10%-points (Figure 2.3). Also countries like Estonia, Cyprus, Greece, Ireland, Italy, Netherlands and Germany poured many women in the labour market. In countries with a higher labour market participation rates of women in 2000 (UK and Scandinavian countries), the increase was much smaller.

The employment increase for elderly workers shows a more diverse pattern (Figure 2.3). That is already the case in the initial situation in 2000. In Bulgaria, Hungary, Slovakia and Slovenia the employment rate was just over 20%, while it was over 60% in Sweden. Especially in the first group of countries, employment has increased more than average. The performance of Bulgaria, Slovakia, Estonia and the Netherlands is astonishing with increases of more than 15%-points. The differences remain large in 2008. In Malta, Hungary, Poland and Slovenia less than a third of the elderly are employed and in Belgium, Italy and Luxembourg it is barely higher. In Sweden 70% of the elderly participates in the labour market, but such a high rate is unique in Europe.

When specifically Dutch employment is considered, it appears that the Netherlands scores well in a European context, especially for total involvement and participation of women (second and third place respectively). Although the participation of people above 55 years already meets the 2010 target in 2008, there are still many possibilities for higher employment rates. It should be noted that the employment target is defined in persons. In the Netherlands about 70 percent of women is part-time employed, making participation in hours one of the lowest in Europe.

[4] Due to changes in the survey characteristics between 2001 and 2002 data for Romania are difficult to compare over time..

Figure 2.3 Employment rates in EU Member States in 2000 and 2008

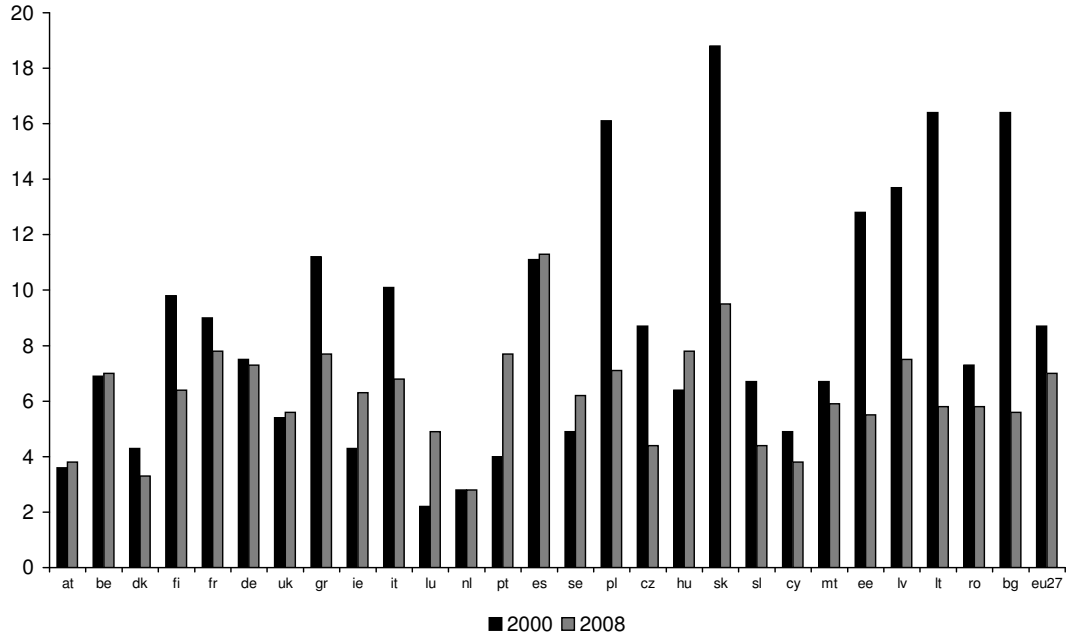


2.1.2 Unemployment

Average unemployment declined between 2000 and 2008 from 8.7% to 7%. Especially in the Baltic States, Poland, Slovakia and Bulgaria the fall is spectacular. These are also the countries

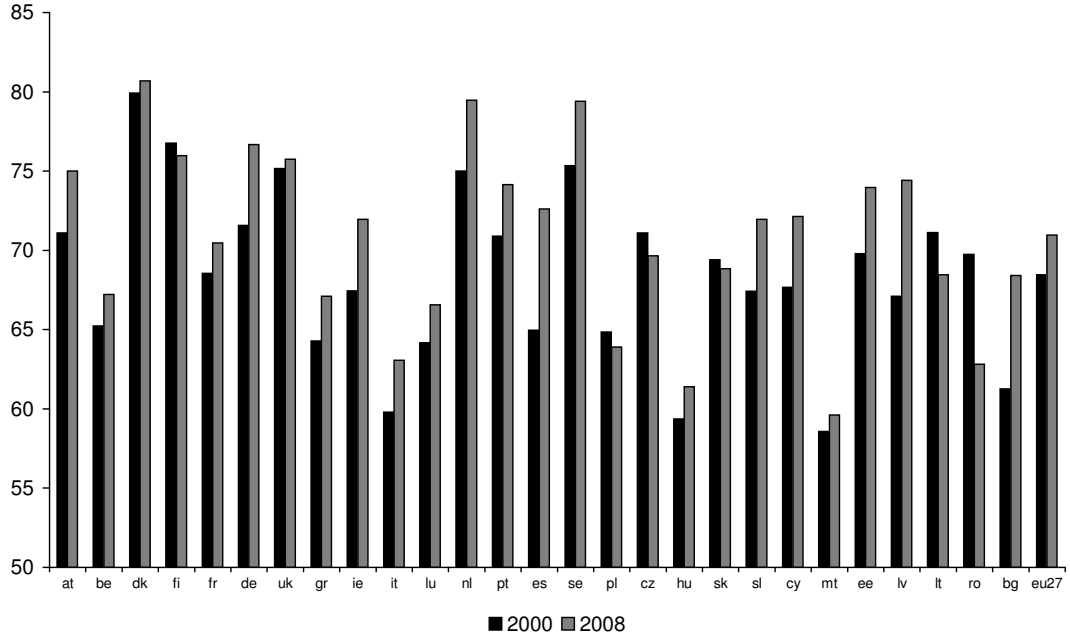
with the highest unemployment rates in 2000. In most of these countries, unemployment is now below the EU average, only Slovakia still has an unemployment rate of about 9%. Unemployment was the highest in Spain in 2008 and will not decline in the coming years. In the intervening years, employment significantly improved in Spain, but the economic crisis had already considerable impact on the Spanish labour market in 2008. Unemployment is lowest in the Netherlands and Denmark.

Figure 2.4 Unemployment in the Member States in 2000 and 2008



The net increase in labour market participation is not only the result of lower unemployment but also of a higher participation in many European countries. This is shown in Figure 2.5. In Spain, Latvia and Bulgaria, the participation rate increased by almost 10%-points between 2000 and 2008. In Finland, Poland, the Czech Republic and Slovakia, we see a small decline, while in Romania participation decreases sharply. This decrease induces the decline in employment in Romania despite falling unemployment.

Figure 2.5 Labour market participation in the EU Member States in 2000 and 2008

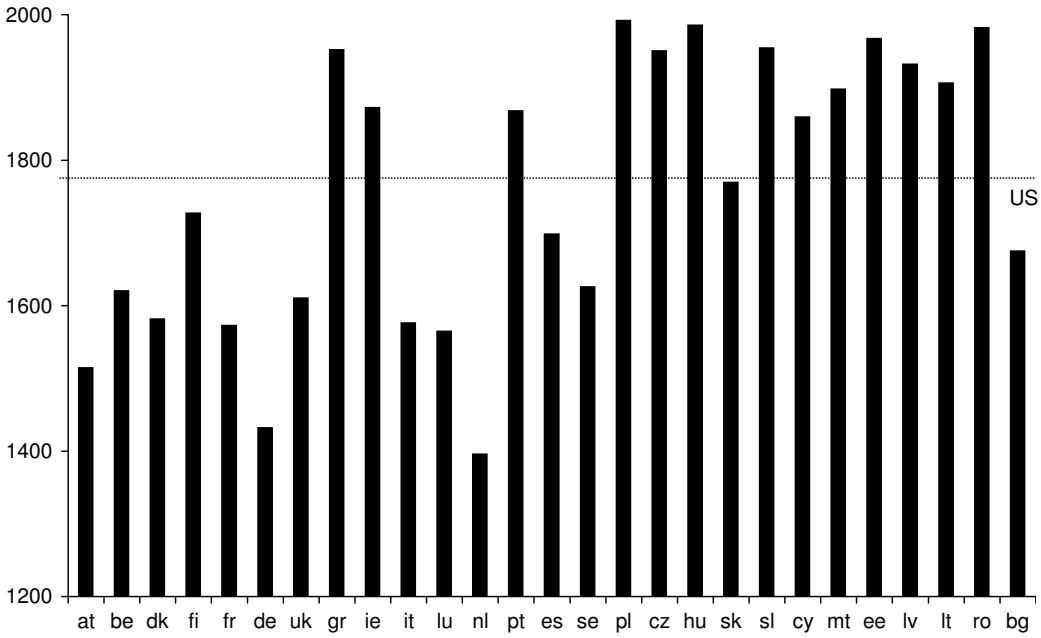


2.1.3 Worked hours per year[5]

The number of hours worked per year varies considerably in the EU. Figure 2.6 compares the number of hours worked per employee for all EU countries with the number of hours worked in the United States. The contrast between the 15 old and the 12 new Member States is large: in the first group only the Greek and Irish employees work more hours per year than their American counterparts, while the second group only the Bulgarian workers lag behind the US. The chart presents a great diversity in working hours: an average Hungarian employee works 600 hours a year more than his or her Dutch colleague, with almost 1400 hours per year on average the least number of working hours. The average employee in Hungary and in other new Member States works thus almost 50 weeks per year, 40 hours per week.

[5] This text is largely based on chapter 1 of Dekker and Ederveen (2005).

Figure 2.6 Worked hours per year for all EU Member States in 2008[6]



There are large differences in numbers of hours worked between the countries which explain a significant proportion of the income gap between the EU15 and the US (Dekker and Ederveen, 2005 and OECD, 2008). Differences in hours worked per worker may result from differences in the number of weeks per year, in hours worked per week for full timers, or differences in shares of part-time workers. For the EU-15 Pommer and Van Gameren (2005) have made this subdivision.[7] For the 12 new Member States this information is not available. The calculation is based on a hypothetical maximum number of hours worked per year: 2288 hours, which are 52 working weeks of 44 hours. Then the loss of labour over the limit is due to each of the identified causes.[8] In the Netherlands, employees have on average annual 31 holydays and annual leave 8 bank holidays. Multiplied by 8 hours per day, the loss of labour due to leave is annually over 300 hours (approximately 14% of the potential). The workweek effect measures the difference of a full-time work week over the supposed limit of 44 hours. In the Netherlands the usual full week is 36.7 hours,[9] which is significantly lower. This gives an additional loss of about another 300 hours compared to the hypothetical maximum. Finally, there is the part-time effect: through many part-timers in the Netherlands the actual working week is significantly lower, causing an additional loss of another 300 hours lead. The total loss of labour relative to the assumed annual maximum of 2288 hours thus comes out to more than 900 hours (40% of

[6] Source: GGDC. Hours worked per employee in 2008. The hours worked per employee in the US in 2008 (1775) is indicated by the horizontal line.

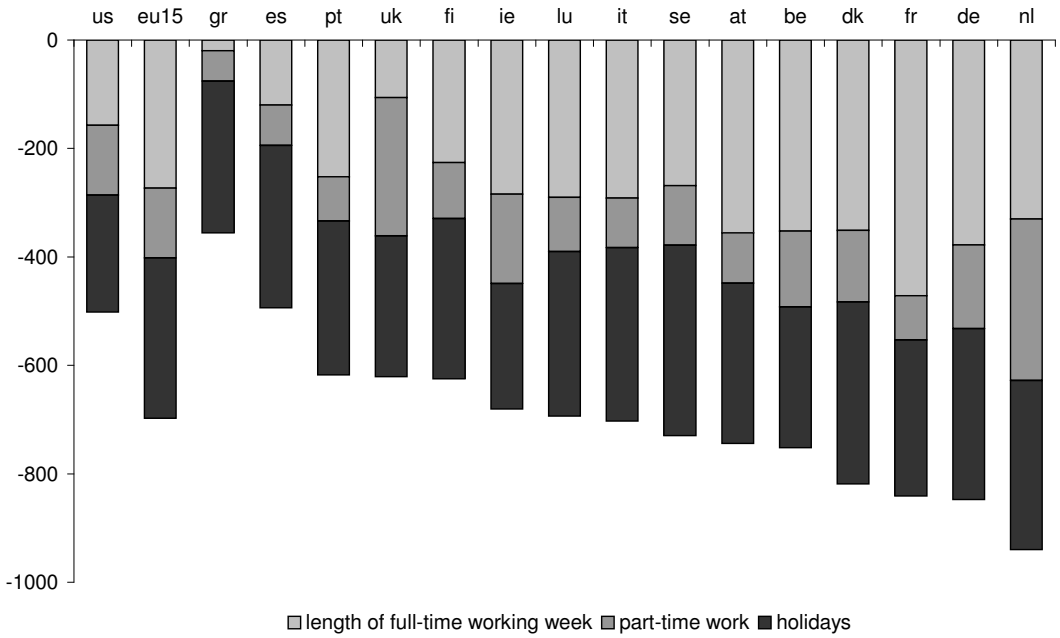
[7] OECD (2008) distinguishes the working hours per week and the number of working weeks to explain the number of working hours per year.

[8] Pommer and van Gameren consider number of working hours per capita. We consider working hours per employee.

[9] Source: OECD. The EIRO states 38.9 hours per week.

the potential). The following graph shows the results of this decomposition for the EU-15 and the United States.

Figure 2.7 Decomposition of number of working hours in the EU15 and the US in 2003[10]



For the EU15 (unweighted average) the lower number of hours worked compared to the United States can be traced to more days off and a shorter workweek for full-timers. The EU-15 has about 10 annual leave days extra over the US, while full-time work week is almost 3 hours less. The loss of hours worked by part-time work for the EU-15 as a whole is comparable to the hour loss in the United States.

In the Netherlands the number of hours lost on all three components is higher than average in the EU-15. The number of holidays is higher, the shorter full-time work week and part-time work is more established. This last feature distinguishes Netherlands within the EU-15. The effect is more than twice as large. This is also clear from the decomposition of the OECD (2008). Only in the United Kingdom part time work causes a loss of employment potential of over 200 hours per year.

Various opinions dominate the debates about the causes of these differences in working hours. Marginal tax rates, regulated working hours and other arrangements and preferences for leisure time are all relevant, but the extent is subject to debate (Dekker and Ederveen, 2005 and OECD, 2008). This paper ignores this discussion because it primarily addresses a description of the labour market participation, but recognizes the importance of this debate for the use of policy instruments to increase the number of hours worked.

[10] Original source: OECD and EIRO. The Figure is presented by and the numbers for 2003 are calculated by Dekker and Ederveen (2005). The figures for the EU15 are an unweighted average of the individual Member States.

2.2 Labour market participation by age group and gender

2.2.1 Developments in labour market participation by age group and gender

Figure 2.8 presents labour market participation by age for men and women between 1980 and 2020. Since 2008 the numbers are predictions of the ILO (2008). We see that participation of young people from 15 to 24 years fell due to higher education participation. The participation of women (from 24) runs up from 1980 onwards. The participation of people aged 55 years and over declines over time, although change can be seen since the year 2000. For men between 25 and 54 aged participation ranges from 90 to 95%, although over time participation drops a few percentage points.

Figure 2.8 Labour market participation by five-year age group and gender in the EU

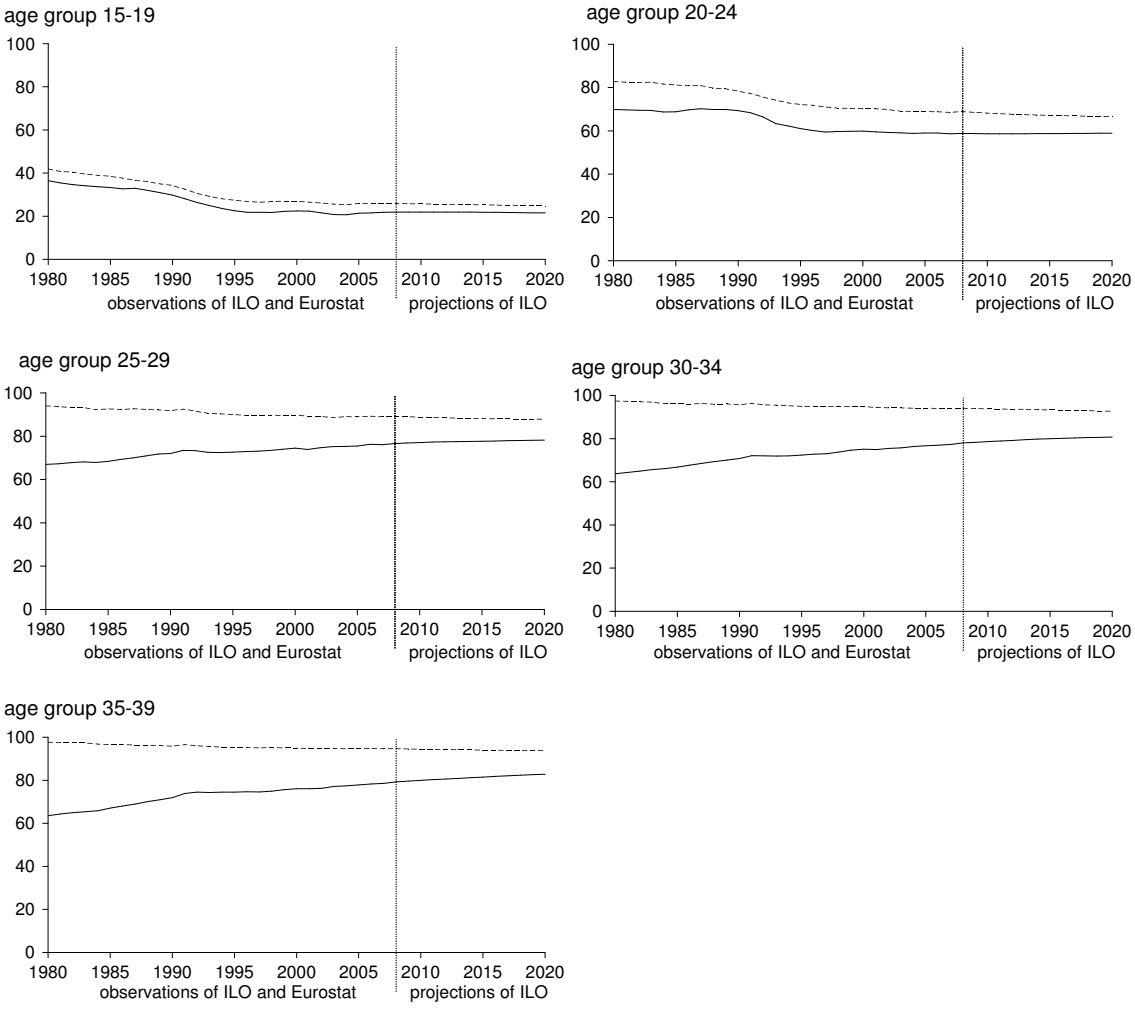
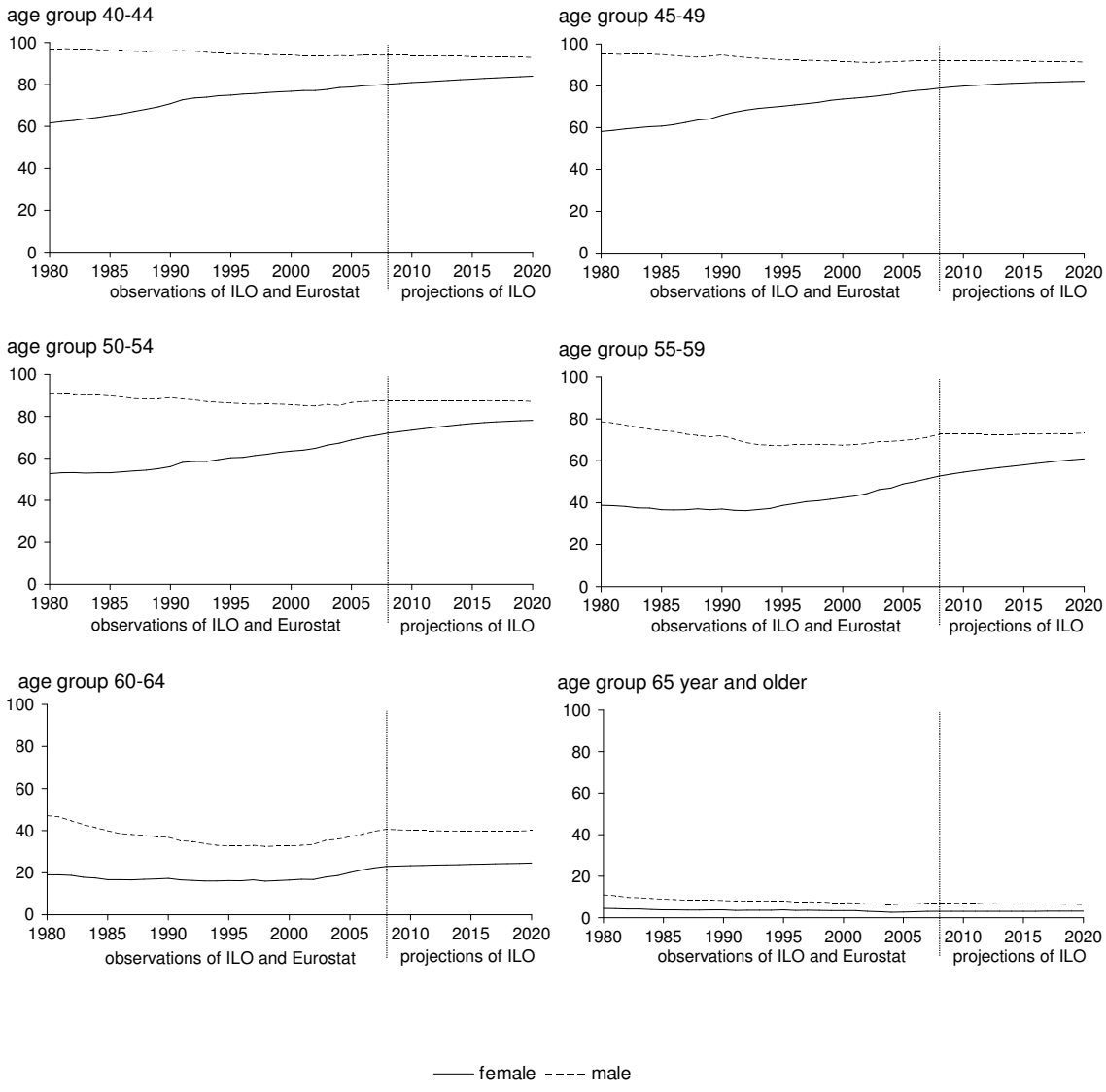


Figure 2.8 Labour market participation rates by five year age group and gender in the EU (continued)



2.2.2 Labour market participation by age group and gender in the Member States in 2007

Table 2.1 presents the participation rates for all male five-year age groups between 15 and 65 + in the EU Member States for 2007. For comparison the participation rates of Japan and the US are also included. The bottom rows of the table present the standard deviations of the participation rates in the EU. These are low for the age groups from 25 to 54. This means that the variation in participation among the Member States in a specific age group is relatively limited. For the young and the elderly there is much more variation. This is also reflected by the figures for minimum and maximum participation in the EU Member States.

The age group 15 to 19 is not considered here. The variation in participation is large, but no clear conclusions can be drawn. The variation may be caused by differences in educational structures or different definitions of labour market participation. Small jobs with formal employment contracts by students are probably not counted as participation in many countries. In countries such as the Netherlands and Denmark, however, this is counted as labour market participation. In the age group 20 to 24 nearly 70% participates in Europe. The variation is quite large: from 50% in Luxembourg to 84% in the Netherlands. If low labour market participation implies education participation, there is little reason to propose higher employment targets for these groups. From 25 years, labour market participation in the Member States ranges from 80 to 95%. The average is 89%. Many countries are now close to this average. For each country, the participation could rise to 90% and some even to 95%. The average is lower than for the 29-34 age group. This difference is probably to some extent due to educational participation of the male 25-29 year olds.

For males aged 30 to 44 years labour market participation is very high: 94%. Some countries have participation rates up to 98%. If the latter is taken as benchmark, there is obviously some potential for increasing participation to 96% on average, but this does not add much to total employment. From 44 years onwards participation is slightly lower on average and drops to 92%. Especially in some new Member States participation falls compared to the younger age group by 5%-points. This trend continues for the age group of 50 to 54 years. Some countries show that the drop in participation between 45 and 54 years for men can be limited to 4%, as the major EU countries show. After 54 years participation drops significantly, but the differences in labour market participation among Member States rise sharply. The main reason for leaving the labour market from 55 years onwards is retirement or early retirement (EU, 2008). Country specific arrangements for early retirement are an important reason for these differences. In countries such as Austria, Belgium. France Italy, Luxembourg Hungary, Poland, Slovakia many workers retire before the age of 65 due to early retirement or a lower pension age (EU, 2008). These are also the countries with low participation rates for the age group 60 to 64. In countries such as UK, Germany, Spain, Portugal, Denmark and Sweden early retirement is nearly not possible. In particular many male workers in those countries retire at the age to 65, implying relatively high labour market participation rates at the age of 60.

The participation of men fell from 87% for 50-54 year olds to 71% for 55-59 year olds. This decline continues to 40% for 60-64 year olds. In some countries 85% of the 55-59 year olds participates at the labour market such as Germany, but in some others it is just 60%. Examples are Italy, France, Belgium and some new Member States. For the 60-65 age group in these countries less than 30% of this group participates. In most countries participation declines by more than 30%-points. This is not a necessity. The decline in participation in Sweden is much more limited and this is also the case in the US and Japan. There is also a considerable variation of labour market participation of 65 and older aged. The average participation is 7%, but in

Portugal still 24% of men aged over 65 participate at the labour market. Such numbers we notice also for the US and Japan.

Table 2.1 Labour market participation for men in the EU Member States in 2007 (% of age group)

Age group	C15	C20	C25	C30	C35	C40	C45	C50	C55	C60	C65+
EU27	26.0	68.5	89.0	94.1	94.6	94.0	91.9	87.4	71.3	39.6	7.0
Austria	50.2	79.2	91.7	95.8	96.6	95.0	93.7	87.9	70.6	28.6	7.3
Belgium	10.9	62.2	92.6	94.4	94.9	93.9	92.2	86.7	61.7	23.8	3.0
Denmark	62.8	82.8	90.2	95.0	94.7	93.9	92.0	88.7	87.0	46.8	9.2
Finland	30.7	76.8	88.9	94.0	93.3	92.5	90.2	84.6	71.3	43.2	6.3
France	20.7	64.9	93.4	96.1	96.2	95.3	93.8	90.3	62.0	17.6	2.0
Germany	33.8	73.9	86.8	95.2	96.7	95.9	94.7	91.8	83.1	45.7	5.4
UK	45.7	83.0	92.3	93.8	92.4	92.6	90.5	87.5	78.4	58.8	10.1
Greece	11.7	55.5	91.0	97.4	97.4	96.9	95.0	89.0	76.0	44.1	7.1
Ireland	31.1	81.3	92.0	92.8	93.4	92.5	91.0	86.5	77.5	60.6	16.2
Italy	13.6	57.8	80.4	92.0	94.2	94.0	93.3	89.5	60.5	29.7	6.1
Luxembourg	10.7	50.1	87.8	98.0	98.7	97.0	95.6	90.4	55.1	13.1	2.1
Netherlands	62.2	84.3	94.0	96.1	95.1	94.3	93.4	91.3	83.3	41.7	8.7
Portugal	20.2	67.0	89.4	95.1	95.3	94.1	94.0	88.5	71.8	53.0	24.2
Spain	27.8	72.1	90.6	94.4	94.9	93.8	92.1	88.7	76.6	48.0	3.2
Sweden	30.8	76.1	90.0	94.4	95.4	94.9	91.7	90.2	85.1	67.5	15.1
Bulgaria	8.1	59.8	84.8	90.4	89.3	90.5	87.0	81.6	69.1	39.8	5.3
Cyprus	10.4	73.8	91.8	96.9	94.7	96.5	96.2	94.3	82.9	64.7	18.4
Czech rep.	8.7	62.8	92.3	97.4	96.8	96.4	95.6	91.6	81.6	39.3	7.1
Hungary	5.8	51.9	89.1	92.8	91.8	89.0	83.2	75.4	61.3	19.2	3.0
Malta	34.1	81.4	95.4	96.8	97.3	94.9	93.8	87.8	70.8	21.8	12.8
Poland	9.4	61.4	90.3	93.6	93.4	91.0	84.6	76.1	54.7	28.3	7.6
Romania	17.6	53.4	80.8	87.6	90.1	89.9	88.7	78.8	63.2	36.4	19.5
Slovakia	9.3	65.7	94.0	95.6	95.8	93.9	92.2	86.6	77.2	27.1	1.5
Slovenia	23.1	68.0	90.6	95.9	94.7	94.1	90.8	81.9	62.9	22.6	12.0
Estonia	16.7	72.0	95.4	96.1	95.1	94.2	91.9	88.4	79.0	42.0	14.4
Latvia	19.1	77.5	91.9	92.9	93.7	90.5	88.7	87.9	78.9	53.7	16.7
Lithuania	6.3	57.2	88.9	88.9	87.6	89.8	87.9	83.1	76.0	48.2	9.3
Japan	16.4	70.0	94.0	96.9	96.6	97.1	96.9	95.8	93.1	74.4	29.7
US	41.1	78.7	91.3	93.1	93.0	91.6	89.8	86.4	77.8	59.2	20.5
Stan deviation	16.4	10.5	3.7	2.5	2.5	2.3	3.3	4.7	9.4	15.0	6.0
Maximum	62.8	84.3	95.4	98	98.7	97	96.2	94.3	87	67.5	24.2
Minimum	5.8	50.1	80.4	87.6	87.6	89	83.2	75.4	54.7	13.1	1.5

Source: Eurostat (2009).

Table 2.2 shows the participation rates for all female five year-age groups between 15 and 65 + years in the EU Member States, Japan and the US in 2007. The bottom of the table presents the standard deviation of the participation rates in the EU. This is for all age groups much higher than the standard deviation for men, except for the age group 60 to 64 years. For men, the standard deviation for many age groups does not exceed 5, while that for women is substantially

higher, except for younger age groups. The variation in labour market participation among the Member States is much larger for women than for men.
In the age group 20 to 24 years, participation is almost 60%, about 10%-points lower than for men.[11] If this is caused by education participation, there is little reason here to set targets for labour market participation. Participation varies from nearly 40% in Luxembourg and Italy to 80% in the Netherlands. Given the educational participation, the latter figures seem to be very high and probably reflect many jobs with only a few working hours. From 25 years of age onwards, labour market involvement varies between 63 and 86%; the EU average is 76%. Many countries are close to the average and in 11 countries female labour market participation is over 80%. In Italy, Hungary, the Czech Republic and Slovakia less than 70% of 25 to 29 year old women participate in the labour market. The levels are lower than for men and the variation over countries is much higher. High participation levels in some countries could act as a benchmark for other countries: this could imply increasing participation by 10%-points up and in some other EU countries, perhaps by 15%-points.

For women aged 30 to 49 years the participation fluctuates around 78%. Some countries have higher participation rates up to 92% for Slovenia. In many countries 85% of the women in this age group participate. Various countries are substantially below this percentage. Participation in Malta is very low: varying from 40% to 50%. Other countries with a lower participation rate often achieve 70% participation, although from the age of 40 this becomes more difficult. Examples are Greece, Italy and Spain.

From 50 years onwards participation reduces substantially from 71% for the 50 to 54 year olds to 50% for 55 to 59 old women. In the Nordic countries and Estonia the fall in participation is limited and remains at a high level of about 75% if women become older. In some new Member States participation holds even back to 30%. Examples are Poland, Slovakia and Slovenia. In old Member States, such as France and Italy, participation of older women falls by about 30%-points. This also applies to Austria, Greece and Belgium. For women in their sixties labour market participation is slightly above the 20%. In almost all countries the participation falls by 30%-points compared to the 55-59 age group. Only in Portugal, Spain and Sweden this fall is limited. Sweden is the only country where participation is still over 50%. In Japan and the US labour market participation of women 60 to 64 years is more than 40%.

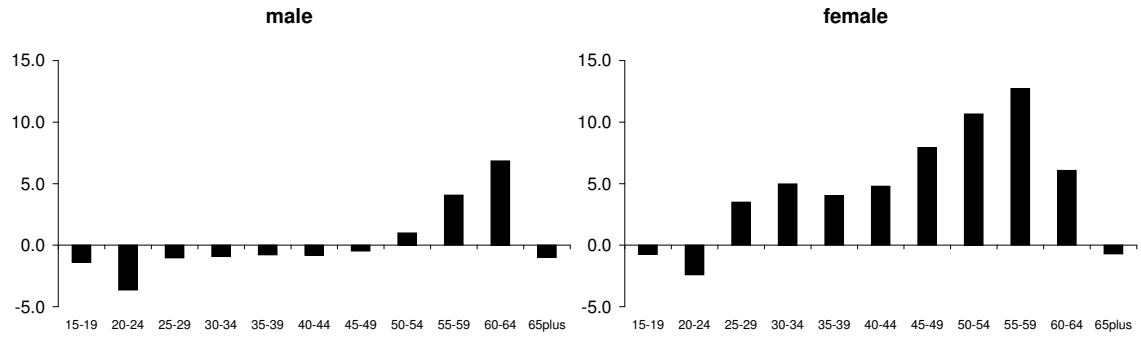
[11] We ignore the age group 15 to 19 years.

Table 2.2	Female labour market participation in the EU Member States in 2007 (% of age group)										
Age group	C15	C20	C25	C30	C35	C40	C45	C50	C55	C60	C6T
EU27	21.8	58.6	76.1	77.3	78.5	79.7	78.2	70.9	51.3	22.3	3.1
Austria	40.7	71.8	78.6	78.4	84.1	85.0	82.3	76.0	44.3	11.6	3.0
Belgium	8.0	55.1	83.8	82.6	81.8	80.7	76.1	63.8	40.8	12.1	0.9
Denmark	62.6	76.8	81.9	85.5	88.2	87.2	85.7	83.1	78.8	30.5	2.8
Finland	37.0	69.2	79.4	80.1	84.7	89.6	90.2	87.7	75.3	38.6	2.1
France	12.6	58.7	81.7	81.2	83.0	84.8	84.5	79.4	55.4	15.3	0.9
Germany	29.3	68.1	77.9	80.7	82.3	84.4	84.1	79.4	67.0	27.7	2.5
UK	45.1	71.7	76.2	74.9	76.1	79.8	80.5	77.5	65.4	33.5	4.6
Greece	7.5	47.1	77.3	72.8	74.0	71.5	64.9	52.6	35.6	20.6	2.2
Ireland	27.0	71.6	81.7	75.2	69.9	67.7	69.7	63.6	48.3	31.2	4.0
Italy	8.4	41.5	63.1	68.2	67.8	65.5	63.0	55.4	34.6	10.8	1.2
Luxembourg	7.1	38.2	82.2	85.4	77.7	73.0	68.9	61.1	43.9	10.1	2.1
Netherlands	64.2	80.8	85.9	83.8	82.2	81.8	80.6	73.7	57.5	22.9	2.8
Portugal	13.8	59.7	85.4	88.3	87.0	84.4	79.1	71.1	56.2	36.6	13.9
Spain	19.7	62.4	80.9	78.5	73.8	72.5	67.9	58.3	41.5	22.8	1.1
Sweden	37.3	70.7	82.2	87.7	88.6	88.9	88.6	85.8	80.0	59.0	7.5
Bulgaria	6.7	47.9	71.3	78.5	83.9	88.0	84.7	78.6	59.6	12.9	1.6
Cyprus	8.7	67.0	83.8	84.1	82.0	78.8	74.2	67.3	52.8	27.7	4.5
Czech rep.	5.5	47.0	65.9	68.4	82.6	90.7	92.1	87.7	53.1	14.9	2.7
Hungary	3.2	39.3	66.9	68.0	74.8	80.7	79.4	72.1	41.8	9.8	1.2
Malta	27.5	74.2	71.2	53.9	44.6	36.4	31.8	26.3	20.8	15.1	6.0
Poland	6.4	49.4	74.3	79.4	81.2	82.2	78.2	61.6	26.2	11.9	3.2
Romania	9.8	39.5	70.6	73.5	76.4	77.8	75.2	59.2	39.4	26.5	13.6
Slovakia	7.2	51.3	68.3	74.8	85.1	90.4	86.5	82.2	35.0	7.9	1.0
Slovenia	14.7	53.9	84.8	92.9	92.8	91.3	89.2	72.8	31.0	12.6	6.7
Estonia	11.5	52.5	72.0	80.1	82.9	88.7	90.9	86.9	75.8	41.8	9.1
Latvia	13.5	59.1	76.8	80.4	87.3	84.6	87.5	84.0	72.7	33.7	8.6
Lithuania	7.8	42.7	78.7	85.2	87.0	86.3	85.5	81.2	68.5	29.1	3.4
Japan	16.2	69.5	75.8	64.0	64.3	72.0	75.6	70.8	60.8	42.2	13.0
US	41.5	70.1	74.9	74.1	74.0	77.0	77.2	74.7	66.6	47.9	12.6
Stan. Deviation	17.4	12.9	6.5	8.0	9.2	11.3	12.4	13.9	16.9	12.4	3.6
Maximum	64.2	80.8	85.9	92.9	92.8	91.3	92.1	87.7	80.0	59.0	13.9
Minimum	3.2	38.2	63.1	53.9	44.6	36.4	31.8	26.3	20.8	7.9	0.9

Source: Eurostat (2009).

Besides the differences between countries in 2007 the trends over time also give some idea of the possibilities to increase participation by age. Figure 2.9 presents the changes in labour market participation for men and women between 1995 and 2007 by age group for the EU.

Figure 2.9 Changes in EU labour market participation between 1995 and 2007 by age group and gender



For men, only the participation of the elderly between 55 and 64 years increased substantially in the EU. The variation between the countries is large as Table A1 in the appendix illustrates. It appears that in countries such as Finland, Germany and Slovakia, the participation for the older age groups increases by more than 10% and even by more than 20% for the Netherlands since 1995. In some new Member States participation significantly decreased, probably related to the transformation to a market economy. In Bulgaria, Lithuania and Romania this is true for almost all male age cohorts. For almost all other countries, the changes in participation for 25 to 54 year olds are limited. It is striking that in Sweden the participation in these age groups has become 5%-points higher and that in Italy participation of 50 to 54 year olds increased by 10%-points.

From 25 years onwards the participation of women in all age groups has increased since 1995 as is shown in Figure 2.9. The average development hides the substantial variation between the Member States. This is shown in Table A2 in the appendix. In countries like Greece, Ireland, Italy, Luxembourg, Netherlands, Spain and Cyprus, the participation in almost all age groups increased by more than 10%-points and for the older age groups often more than 20%-points. In the Baltic States, Hungary, Czech Republic, Slovakia and Slovenia participation of older women is increasing, but decreases for younger women.

2.3 Labour market policies

Section 2.1 and 2.2 described the increases in employment in nearly all EU Member States between 2000 and 2008. The greater part of this increase has been realised since 2004. The growing economy was helpful for creating jobs, but many countries have also introduced new labour market policies to stimulate employment. These policies cover various policy fields like labour taxation, unemployment and welfare related benefits, active labour market programmes job protection, pensions systems, wage bargaining working time arrangements and immigration and mobility.

An example of these reform polices that comes first in mind are the Harz reforms in Germany, but most Member States took a variety of measures to stimulate employment. The labour market reform (Labref) database of the European Commission (2009) presents a systematic overview of all these policies between 2000 and 2006. This database covers 36 areas of policy intervention in eight broad policy fields described above. They focus mainly on policies affecting employment, not stimulating participation. Measures like stimulating child care are lacking, but it is a very comprehensive database. It shows that many Member States have been very active in reforming labour market policies. For example, the European Commission (2005) shows that the 24 Member States took 262 reform measures in 2004. Nearly all countries took more than ten measures, except some small Member States. Most measures were active labour market policies and changes in labour taxation were also popular. Of course, these measures do not say anything about the coverage and impact on employment, but indicate that Member States are reforming policies to stimulate employment. It is not the purpose of this paper to describe all these labour market reform policies in detail.

We also do not discuss the effectiveness of these policies for increasing employment, but evaluating these policies is important for developing new effective policies or increasing employment after 2010. Without developing and implementing new policies none employment goals will be met. Goals are only achievable and realistic if Member States are prepared to take effective reform measures. On the other hand, in countries with high employment rates, it becomes more difficult to increase it. Policies become more costly, because the incentives for potential employees and employers have to be increased. Borghans (2009) questions whether further stimulating labour market participation in the Netherlands delivers many gains for the Dutch government. The costs could possibly dominate the benefits. Whether this is the case depends on individual responses to financial incentives. It does not conclude that this is the case now, but warns for the diminishing returns of the fiscal stimulus for labour market participation.

3 Post 2010

3.1 Employment goals by Member State

The current Lisbon goals focus on an employment rate of 70% in 2010. In formulating a new employment goals two questions come to the fore:
Should we target one goal for the EU, or country-specific goals?
What are realistic goals for the year 2020 given the experience in recent years?

The Member States have to find a balance between ambitions and credibility, taking into account their divergent starting positions. Member States can improve the credibility of the employment targets by committing themselves to realistic agreements. Realistic means that the planned increase in the employment rate is also feasible. The feasibility can be based on past trends or developments in other countries, but the feasibility is also determined by the demographic trends in the next decades. Finally, the feasibility of the new targets depends also on the willingness of countries to adopt policies supporting these aims.
This reasoning suggests that one goal for all countries is not realistic. This makes the second question, the most relevant one. A disadvantage of different goals could be that the shared ambition is undermined. This could be alleviated by minimum ambitions to increase the employment rate per Member State. Another possibility is that the proposed targets for each country are derived through a uniform methodology which assesses the level of ambition and feasibility. This possibility is outlined in this paper. Below, three scenarios are presented based on a common methodology to give substance to this question. In these scenarios the realism and ambition of the targets are emphasized in different ways.

3.2 Scenarios for 2020

3.2.1 A short overview

The first scenario assumes that participation rates by age and gender remain constant over time. We assume that unemployment (as a % of the labour force) remains also constant.[12] This is a baseline scenario where no targets are implemented. Changes in employment are entirely due to changes in population composition. Given the aging population in Europe, a major shift from young to old aged people will lead to less participation in the labour market. The reason is that less old people participate compared to younger and middle-aged people.

Scenario 1 does not contain new employment policies, but it is also not predictive of the development of labour market participation without policies. It may be that increased participation of younger women compared to the past will also lead to higher participation of

[12] Ideally we would distinguish unemployment rates by age group. The availability of these figures is very limited.

these cohorts at an older age (Euwals and Folmer, 2009). In addition, younger generations are better educated which also leads to higher labour market participation.[13]

The second scenario focuses on achieving the employment targets and less on new ambitions. That does not mean that the goals will be achieved easily. In some Member States major efforts are necessary to increase labour market participation. This scenario assumes that the impact of the economic crisis on the job market will continue and that the realization of the current Lisbon targets will require a lot of effort. This scenario assumes that the targeted employment rate in 2020 will be 70% implicating that the current target will be achieved. 5.5% of the labour force is unemployed and the participation rate will be about 74%. Compared to the figures in 2008, the participation of women and elderly workers will increase in particular. This scenario seems to be realistic, because employment has to rise with another 4%-points. This increase is also realized in the period 2000 to 2008. This implies that from 2009 to 2012 the unemployment increase due to the crisis in 2009 and 2010 have to be balanced by a decline in 2011 and 2012.

The third scenario is the ambitious scenario. We assume that the participation rates rise sharply and that unemployment drops to 4% (all countries). 4% we interpret as a lower limit for the natural rate of unemployment.[14] There will always be frictional unemployment. Gross participation rises to 77% for the EU as a whole, so the employment target will be approximately 74% in 2020. That is, employment will increase by 8%-points compared to 2008: a sharp rise, particularly considering the current crisis and its projected impact on the labour market.

3.2.2 The model

The employment rate (emp) in a country is defined as (gross) labour market participation lpr corrected for unemployment (u):

$$emp_i = (1-u_i)\, lpr_i \qquad i \in \langle group\ of\ countries \rangle \tag{3.1}$$

Labour market participation is the sum of participation of all age groups between 19 and 64 years and of both genders:

$$lpr_i = \sum_{k=m,v} \sum_{l=1}^{10} \frac{lpr_{k,l,i}\ pop_{k,l,i}}{pop_i^{15-64}} \quad \rightarrow \qquad l\ are\ five-year\ age\ groups \tag{3.2}$$

$pop_{k,l,i}$ is the size of age group *l* by gender *k* in country *i*. pop_i^{15-64} is the labour force in country *i*, that is the population aged 15 to 64.

[13] See Goldin (2006) for the US and Lejour et al. (2009) for the EU.

[14] The natural rate of unemployment, see Layard et al. (1990).

Participation, unemployment, population size and composition change over time. Usually this is indicated by a subscript *t*, but this subscript is omitted. The development of labour market participation over time is determined by developments in the population composition, participation rates by age and gender and unemployment. We use this relationship to construct scenarios for 2020. Eurostat (2009) has developed demographic projections by age group (indicated by a line in equation (3.3)).

$$\widehat{emp}_i = (1-\widehat{u}_i) \sum_{k=m,v} \sum_{l=1}^{10} \frac{\widehat{lpr_{k,l,i}}\ \overline{pop_{k,l,i}}}{\overline{pop_i^{15-64}}} \quad \rightarrow \qquad l\ are\ five-year\ age\ groups \qquad (3.3)$$

The hats indicate predictions. We make assumptions about unemployment and participation by age and gender between 2009 and 2020 for each EU country to determine the employment rates by Member States in each scenario.

This is a simple model that imposes consistency between labour market participation by age group, unemployment and employment. Therefore it is possible to indicate how employment can be increased through lower unemployment or by raising participation for different age groups and gender. Whether this is achieved, depends upon the attitudes of employers and potential employees. Education, skills and wages play an important role here. In addition, the behaviour could be guided by policies such as labour market institutions, taxation, social security and childcare. It is beyond the scope of this paper to discuss the factors influencing the labour force extensively and to determine what policy actions are needed to increase participation at a certain level for each Member State. These actions are essential because realistic goals are only achievable by realistic policy actions.

In this paper we focus on another dimension of realism: the feasibility of goals in an international, comparative historical perspective. This seems to be a modest ambition, but to our knowledge the first time that employment targets are analyzed in this way.

In the first scenario, the benchmark, participation rates are assumed to be constant by age cohort and unemployment also remains constant:

$$\widehat{u}_i = u_i^{2008} \quad \cap \quad \widehat{lpr_{k,l,i}} = lpr_{k,l,i}^{2008} \quad \forall\, k,l,i \qquad (3.4)$$

In the other scenarios the participation rates and unemployment rates change. For the underpinning of these changes we use two approaches which are crossed. The first is a macro approach. From the relationship between participation in 2000 and the change between 2000 and 2008 (also shown in Figure 2.2) it follows:

$$\Delta emp_i = \alpha - \beta\, emp_i^{2000} \tag{3.5}$$

where the coefficients are estimated. The results of these regressions for employment of the total population, women and elderly are presented in Appendix 3. For all three groups it holds that the employment level in the year 2000 has a significant negative effect on the increase in employment.

If this relationship is used to develop employment rates until 2020, it follows

$$\widehat{emp_i} = emp_i^{2008} + \widehat{\Delta emp_i} = emp_i^{2008}\ (1-\beta) + \alpha \tag{3.6}$$

The estimated coefficients and the employment level in 2008 are used to estimate the change until 2020. The relationship is estimated for a change over a period of 8 years. The scenarios run for 12 years. It is assumed that the extra four years are needed to recover from the crisis. The results of equation (3.6) are used to determine the increase in participation for men, women and elderly in the moderate scenario. The results for the various countries are clustered in groups. The figures for women follow directly from equation (3.6). The figures for men follow from total employment which is adjusted for female employment. In the ambitious scenario, the employment increases are more or less doubled.

This is the macro approach which is combined with an analysis of labour market participation by age and gender to determine achievable combinations of lower unemployment and higher participation rates by age group and leading to net employment increases in Tables 3.1 and 3.2. This is the consistency check that equation (3.3) holds. There are some constraints imposed such that structural unemployment is not less than 4% due to frictional unemployment and that participation by age and gender surpasses minimum levels but does not surpass upward ceilings. That limit is defined by the best performing country in that age and gender group. For participation by age we assume that countries with low participation rates can improve more than countries with high participation rates. For some age groups this is imposed by a threshold value which each country should achieve at least and for other age groups by a theoretical maximum. In the first case, the threshold is determined by the country ranking of the labour market participation rates of the relevant age group in 2007. For the moderate scenario a threshold value is picked from the countries ranked between the 6th and 10th position. For the ambitious scenario the threshold value is derived from the values in the top 3 of the ranking.

For the age groups with a theoretical maximum we have determined an average EU participation level. For the moderate scenario, the 2007 level of the country at the fifth place in

the ranking is selected and for the ambitious scenario the participation level of the country at the first place. However, extreme values are excluded.

3.2.3 The detailed construction of the scenarios

The country-specific targets vary. The basic idea is that countries with relatively high employment rates do less (and can do) to increase employment. Figures 2.2 and 2.3 also show that countries with a very low rate in 2000 have achieved a large increase in employment between 2000 and 2008. The analysis of the age groups shows that in some countries the participation in the age groups 25 to 50 years is up towards the 95% for men. That does not so deliver a big dividend, but for older men this is different. The differences between countries are very large (see Table 2.1). We assume that participation until 25 years will not rise because of schooling. From Figure 2.4 and 2.5 we cluster the countries with a high and low participation of women and men. Four groups of countries can be distinguished.

Table 3.1 Employment rates and goals per country group for men

		Employment increase to 2020[1]	
country group	countries	moderate	ambitious
High: >76%	Austria, Denmark, Germany, UK, Sweden, Netherlands and Cyprus	+1-2%	+3%
Medium -high: 72 – 76%	Finland, Greece, Ireland, Portugal, Czech Republic, Malta, Slovenia, Estonia and Latvia	+2-3%	+5%
Medium-low: 68 –72%	Belgium, France, Luxemburg, Italia, Spain, Bulgaria and Slovakia	+3-4%	+7%
Low: <68%	Hungary, Poland, Romania and Lithuania	+5%	+10%

[1] Numbers are in %-points. EU average in 2008 is 72%.

The classification of the two groups above or below the average of 72% in 2008 is determined by a bandwidth of 4%-points above and below the average. Considering the good labour market performance of the high country group during the period 2000 and 2008 it should be possible to raise participation in middle high group by 5%-points until 2020 in the ambitious scenario. Also the participation of men in this group could be increased somewhat, especially for the older age groups. The participation efforts for the middle low and low country groups are correspondingly larger. In 2020 all countries achieve an employment rate of 72% or more, above the current EU average for men. The EU average would rise by about 6%. For ages up to age 50 years, the participation in the ambitious scenario would rise to 95% and then drop to around 60% for 60 to 64 years aged men.

In the moderate scenario, participation increases by about 3%-points. The efforts for each group of countries are correspondingly 50% lower. The participation of the age groups between 25 and 49 years is around 93% and then decreases to 50% for 60 to 64 year olds.

For women, the analysis of the age groups shows that in some countries participation in the aged 25 to 50 years could rise to towards 85% and sometimes even to 90%. This results in substantially higher participation rates in a number of countries. For the older age groups employment could also go up. The differences between countries are very large (see Table 2.2). I assume that participation until 25 years does not rise because of schooling. From Figures 2.4 and 2.5 we can cluster the countries in 5 groups in terms of participation.

Table 3.2 Employment rates and goals per country group for women

		Employment increase to 2020[1]	
country group	countries	moderate	ambitious
High: >70%	Denmark, Finland, Sweden, Netherlands	+2%	+4%
Medium-high: 65 – 70%	Austria, Germany, UK, Estonia and Latvia	+4%	+8%
Medium: 60 – 65%	Cyprus, France, Ireland, Portugal, Slovenia, Lithuania	+4%	+8%
Medium-low: 55 – 60%	Belgium, Luxemburg, Bulgaria, Czech Republic	5-6%	+10-12%
Low: 55%	Greece, Italy, Spain, Poland, Hungary, Slovakia, Malta, Romania	7-8%	+15%

[1] Numbers are in %-points. EU average in 2008 is 60%.

In 2008, the participation of women is almost 60%; 12%-points lower than that of men. In the ambitious scenario, we assume that participation can increase by 10%-points. This is an ambitious increase. Between 2000 and 2008 the participation of women rose by 5.5%. This means that participation in the country groups low and middle-low have to increase by 15% and 12%-points. Some countries have shown that such increases are possible in the period 2000 to 2008 (see Figure 2.2). For the countries just above the average we impose an increase of 8% and for the well performing countries 4%.

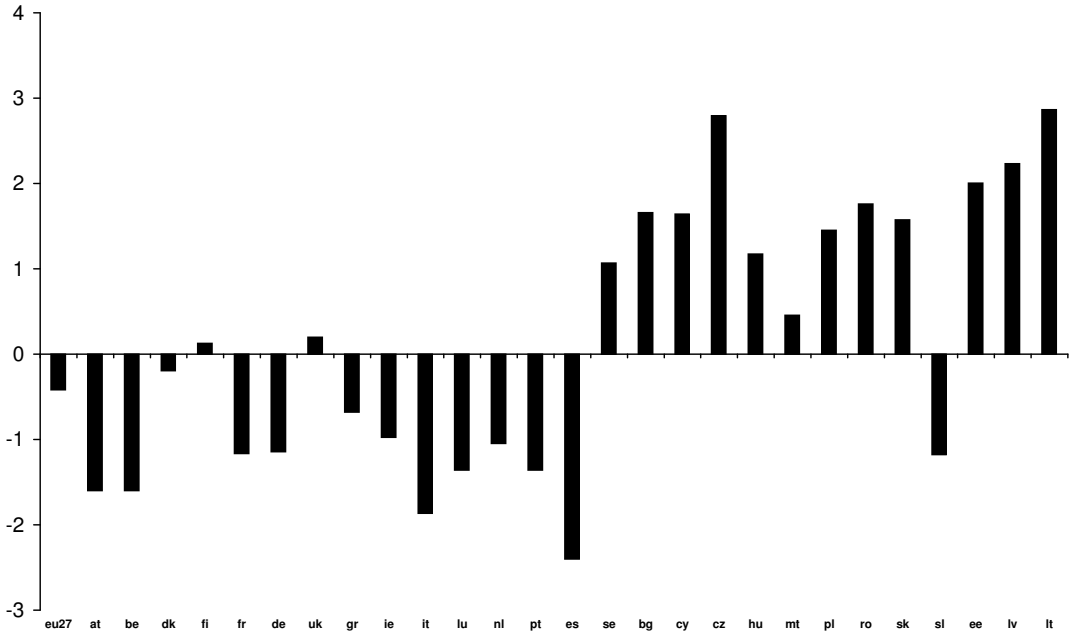
We have quantified these ambitions by imposing assumptions on the rise of age specific participation rates. The appendix presents these assumptions in more detail. The basic idea is that participation by age could increase to 90% for 35 to 49 year olds. Before the age of 35, this is 5% lower and after the fiftieth anniversary participation decreases from 80% to 40% on average for 60 to 64 year old women. In the moderate scenario, participation rates are about 5%-points lower and even 10%-points for the 60-64 age group. The EU-wide participation of women rises by 5%-points.

Unemployment drops from 7% to 4% in the EU27 (average) in 2020. In countries with unemployment above 4% this decreases gradually and in countries with a lower unemployment rate, the rate remains constant over time. The fall in unemployment is substantial; the decrease between 2000 and 2008 was 1.7%. In the moderate scenario we assume that unemployment could fall to 5.5% for all countries. Member States with lower unemployment rates maintain that level.

3.3 The results

The first scenario is a baseline scenario where participation rates and unemployment do not change from 2008 to 2020. Only demographic changes affect participation. The net participation in the EU will fall slightly as a result of these changes. Figure 3.1 shows that aging leads to less labour market participation in the old Member States. Especially the outcomes for Italy and Spain are remarkable where the decrease in employment is about two percentage points. Also in Germany and France, employment rates decrease by 1%-point. In the UK and Finland, the participation increases slightly. In the new Member States, employment increases substantially, sometimes by two percentage points, except in Slovenia, where employment is decreasing.

Figure 3.1 Change in employment rates because of ageing between 2008 and 2020



In the ambitious scenario, the employment rate increases to 74% in 2020 for the EU as a whole as Table 3.3 shows. Each country has met the 70% target of 2010. Only Belgium, Hungary and Italy are 1%-points below, but employment increases substantially in these countries. Some countries achieve employment rates of about 80%. Examples are Denmark and the Netherlands. Employment of men is generally 4% to 6%-points higher than the average, and for women thus 4% to 6%-points lower.

Table 3.3 Employment rates in moderate and ambitious scenario in 2020 (% of labour force)

Scenario	Moderate			Ambitious		
gender	total	men	women	total	men	women
column	(1)	(2)	(3)	(4)	(5)	(6)
EU27	69.9	75.3	64.4	73.8	78.3	69.2
Austria	72.3	78.4	66.0	75.4	80.4	70.3
Belgium	64.5	69.3	59.7	68.5	72.7	64.3
Denmark	79.1	82.7	75.4	80.5	84.1	76.8
Finland	73.3	75.6	71.0	77.0	79.2	74.7
France	66.5	70.8	62.2	70.1	73.5	66.7
Germany	73.1	78.5	67.6	77.2	81.5	72.8
UK	74.2	79.4	69.1	78.3	82.4	74.1
Greece	68.0	75.5	60.3	72.2	78.4	65.7
Ireland	71.7	77.2	66.1	75.8	80.2	71.3
Italy	64.5	70.7	58.3	68.9	74.0	63.6
Luxembourg	66.3	70.8	61.5	69.7	73.1	66.1
Netherlands	77.9	83.4	72.3	80.3	84.9	75.6
Portugal	70.5	75.1	65.8	74.2	78.1	70.4
Spain	70.1	76.7	63.3	74.5	80.2	68.6
Sweden	76.4	79.1	73.7	77.9	81.0	74.8
Bulgaria	69.0	74.2	63.8	73.3	78.0	68.5
Cyprus	73.9	80.6	67.3	75.9	81.1	70.6
Czech rep.	72.2	78.0	66.3	74.3	79.6	68.9
Hungary	64.4	69.4	59.4	68.8	73.0	64.7
Malta	68.6	75.0	62.0	72.8	77.9	67.4
Poland	65.5	71.5	59.5	69.9	75.0	64.8
Romania	67.6	73.2	62.0	72.1	76.8	67.4
Slovakia	68.6	74.7	62.3	71.9	77.9	65.9
Slovenia	69.4	73.7	64.7	71.5	75.9	66.7
Estonia	73.7	77.5	70.0	76.5	79.8	73.2
Latvia	73.8	77.9	69.8	77.0	81.1	73.0
Lithuania	70.4	74.8	66.2	74.5	78.6	70.7

In the moderate scenario all increases are approximately 50% lower. Total employment rises from 66% in 2008 to 70% in 2020 as a share of the labour force. This is the current target for 2010 that the 15 old Member States agreed in 2000. The employment rate of women is almost 65%, which is significantly higher than the 60% target for 2010. Female employment ranges from 60% in Belgium and Hungary to 75% in Denmark. Female participation in the labour market is about 11%-points lower, only in the Scandinavian countries the differences between men and women are much smaller.

Figure 3.2 presents the changes in employment ratios between 2008 and 2020 for both scenarios. The vertical axis represents the employment increases and the horizontal axis the employment level in 2008. This is subsequently presented for total population, men and women and older workers.

All figures show that participation increases more in countries with low employment figures in 2008. This is most obvious for women where the differences between countries are much larger in 2008. Malta is the outlier with a very low employment rate of 40% for women in 2008. Their employment increase seems very ambitious, but we have to be cautious here, because there is evidence that the labour market data for Malta are not reliable.[15] For men, the differences are much smaller in 2008. The pattern is somewhat less obvious, but still higher participation in 2008 implies a smaller increase in 2020. The same pattern is reflected in the overall participation.

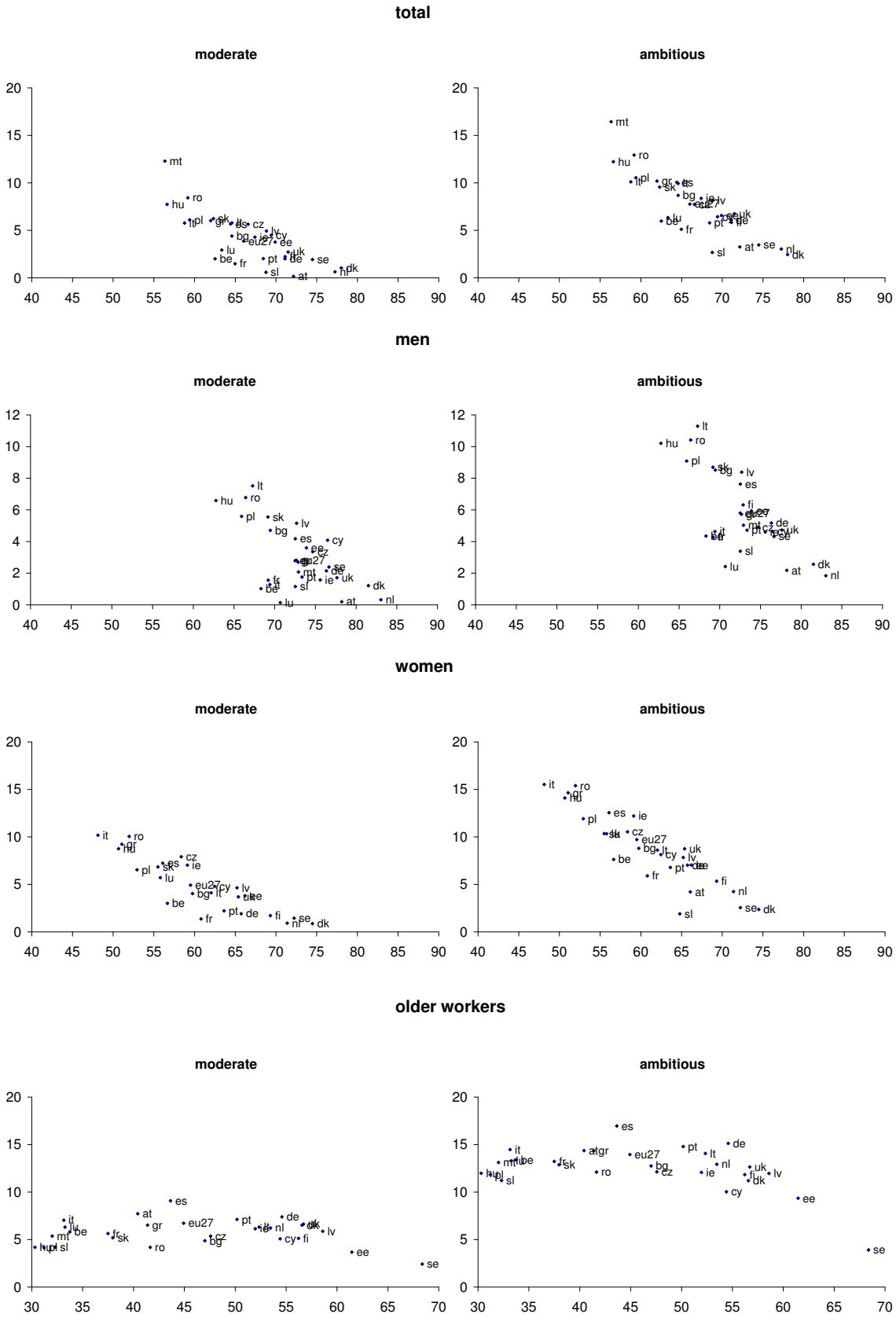
Table 3.4 Employment rates for older workers in both scenarios in 2020

Scenario	moderate	ambitious		moderate	ambitious
EU27	51.6	58.9	Spain	52.7	60.6
Austria	48.1	54.8	Sweden	70.8	72.3
Belgium	39.6	47.1	Bulgaria	51.9	59.8
Denmark	63.1	67.8	Cyprus	59.5	64.4
Finland	61.3	68.0	Czech rep.	52.9	59.7
France	43.1	50.7	Hungary	34.5	42.3
Germany	62.0	69.7	Malta	37.4	45.1
UK	63.3	69.3	Poland	35.3	43.0
Greece	47.9	55.7	Romania	45.8	53.8
Ireland	58.1	64.0	Slovakia	43.2	50.8
Italy	40.2	47.6	Slovenia	36.5	43.5
Luxembourg	39.6	46.6	Estonia	65.1	70.8
Netherlands	59.7	66.4	Latvia	64.5	70.6
Portugal	57.3	65.0	Lithuania	58.6	66.4

Employment rates of the older workers also increase in the scenarios. In the moderate scenario nearly 52% of all aged 55 to 64 will be employed in 2020. This is just above the current Lisbon goal of 50%, but substantially higher than the 46% in 2008. In the ambitious scenario the employment rate will nearly reach the 60%. In nearly all Member States employment rate of older workers increase substantially, except in Sweden where employment is already high in 2008 (see Figure 3.2).

[15] See the discussion in Lejour et al. (2009) on participation rates by age group and gender.

Figure 3.2 Increase in employment rates for all Member States between 2008 and 2020



4 Employed senior citizens in the scenarios

More people aged 65 and over continue working, especially in the first years after the official retirement age. This is not included in the figures so far. The figures are based on the participation of the labour force and that is defined from 15 to 64 years within the EU. In calculating employment rates, this population group shows up in the numerator and denominator of the definition. It seems useful to modify this definition, but this could create confusion and makes the data incomparable. Now a number of countries increase the retirement age above 65, and it is expected that employment between 65 and 70 years will increase substantially. As the participation of workers 55 to 64 years is increasing, it is also likely that people after their 65th birthday participate (part time) in the labour market even if the formal retirement age is not raised.

It is relevant to incorporate this trend in the scenarios. This can be done by taking 65 and older in the definition of employment in the numerator, but still define the labour force in the denominator to 65 years. Then, the employment rate is defined as the ratio of the number of employed persons from the age of 15 divided by the population between 15 and 64 years. The advantage is that the employment rates with and without 65 and older are comparable. All participation rates are redefined: for the realization in 2008 and for the scenarios. We have also assumed that participation of people over 65 will increase in the moderate and ambitious scenario.

Table 4.1 shows that participation for older men is on average 7%. For women it is only 3% in 2007. There is considerable variation: in Portugal labour market participation for men is even 25% and it is 14% for women. In the moderate scenario we assume that participation of men over 65 is on average 15% (with a maximum of 30%) and 10% for women (maximum 30%) in 2020. In the ambitious scenario, the figures for the EU average are respectively 25% and 20% (the theoretical limits are unchanged).

In 2008 employment rates are about 1%-points higher if the aged 65 and older are included. In countries such as Slovakia, Belgium, Luxembourg, France and Spain the effects of their labour market participation is more modest. This is not surprising because in those countries participation of 55 to 64 year olds is well below the EU average. In the UK, Portugal, Romania and the Baltic States, the impact is much bigger.

The small effect of 1%-points increase of the employment rate in 2008 was little reason to adjust the definition of labour market participation. This is, however, different in the scenarios until 2020. The moderate scenario assumes an increase of on average 6.4%-points, and 73.5% of the labour force will be employed. This increase is much higher than without participation of 65 and older: 2.4%-points of this increase is due to higher labour market participation of older

people (see Table 4.1). The increase in participation to the 65 and older does not differ much between countries: from 1.7% to 3.2% in Luxembourg in Malta.

Table 4.1 The effects of labour market participation of above 65 aged in the scenarios

scenario	2008		moderate			ambitious		
		Difference		Difference	Difference		Difference	Difference
65+	With 65+	65+[1,4]	With 65+	in time[1,2]	65+[1,3]	with 65+	in time[1,2]	65+[1,3]
Period	2008	2008	2020	2020-2008	2020	2020	2020-2008	2020
column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EU27	67.1	1.1	73.5	6.4	2.5	80.5	13.3	5.6
Austria	73.4	1.2	76.0	2.6	2.5	82.1	8.8	5.5
Belgium	63.0	0.4	67.3	4.3	2.3	74.4	11.5	5.5
Denmark	79.3	1.3	82.9	3.6	2.6	87.3	8.0	5.6
Finland	72.0	0.9	77.3	5.3	3.1	84.6	12.6	6.8
France	65.3	0.3	69.2	3.9	2.4	76.1	10.8	5.7
Germany	72.2	1.1	76.8	4.6	2.6	84.3	12.1	6.0
UK	73.2	1.7	78.3	5.1	2.4	85.3	12.1	5.3
Greece	63.1	1.1	71.5	8.4	2.3	78.7	15.6	5.4
Ireland	68.8	1.4	75.0	6.2	1.9	80.8	12.0	3.6
Italy	59.7	1.0	68.4	8.7	2.9	76.5	16.8	6.7
Luxembourg	63.8	0.4	68.4	4.6	1.7	74.1	10.3	4.0
Netherlands	78.4	1.2	81.8	3.3	2.7	87.2	8.7	5.7
Portugal	72.7	4.2	77.6	5.0	2.9	83.1	10.5	4.7
Spain	64.9	0.5	72.7	7.8	2.1	79.9	15.1	5.0
Sweden	76.1	1.6	80.8	4.8	2.8	85.7	9.7	6.2
Bulgaria	65.5	0.9	72.2	6.8	2.4	79.6	14.1	5.4
Cyprus	71.5	2.1	78.2	6.7	2.2	81.4	9.9	3.5
Czech rep.	67.5	0.9	75.8	8.3	2.7	80.9	13.4	5.7
Hungary	57.0	0.4	67.1	10.0	2.3	74.6	17.6	5.4
Malta	58.2	1.8	73.7	15.5	3.2	80.6	22.5	6.0
Poland	60.2	0.8	68.7	8.5	2.4	75.9	15.7	5.1
Romania	62.2	3.1	73.0	10.8	2.3	79.4	17.1	4.2
Slovakia	62.6	0.2	70.6	8.0	1.8	76.3	13.7	4.2
Slovenia	70.2	1.4	73.6	3.4	2.8	78.8	8.7	6.0
Estonia	72.3	2.4	78.6	6.2	2.5	84.1	11.7	5.2
Latvia	71.7	2.9	79.3	7.6	2.7	84.4	12.7	4.6
Lithuania	65.8	1.2	73.5	7.7	1.9	80.1	14.3	4.4

[1]The numbers are in %-points.

[2] The numbers in column 4 (resp. 7) are the difference between the numbers in column 3 (resp. 6) and 1.

[3] The numbers in column 5 (resp. 8) are the difference between the numbers in column 4 (resp. 7) and the increase in employment without 65plus. The latter increase is the difference between the numbers in column 1 (resp. 4) in Table 3.3 and the numbers in Figure 2.4.

[4] The numbers in column 2 are the difference between the numbers in column 1 and employment without 65plus, illustrated in figure 2.8.

In the ambitious scenario, the impact is much larger. The total employment rate rises to 80%, about 6%-points higher than in the same scenario without 65 and older. The variation between countries is limited: a consequence of the assumptions. Forty percent of the increase in

employment is the result of labour market participation of people over 65. This is a significant effect which is neglected if we do not take account of this in the definitions.

In the moderate scenario, participation is 73.5% in 2020 of which accounted for by 3.6%-points over 65. In the ambitious scenario 6.7%-points from the 80.5% employment can be attributed to the people over 65. These numbers show that it is relevant to include people over 65 in the definitions of the employment rate. In this section we have just renamed the denominator, an alternative is to extend the definition of the labour force to 69 years, may be combined with an adjustment of the minimum age to 20 years.

Moreover, a higher participation of older people does not necessarily imply an equivalent increase in full time equivalents. It could be expected that many older people will work part time and the average number of working hours will decrease.

5 Conclusions

The EU countries have made good progress boosting employment. The employment rate in the EU increased from 62% to 66% of the labour force between 2000 and 2008. The Lisbon target of 70% in 2010 is not met, partly because of the economic crisis in 2009. That is, however, not the only reason. A comparison of the Member States shows that some countries have managed to increase employment significantly and other countries have not. Often this performance difference is related to different labour market institutions (Dekker and Ederveen, 2005). Labour market reforms could make the difference between high and low employment rates.

Even after 2010 it is important for Europe to increase participation. Labour market participation increases the tax base and less unemployment reduces public social spending. In a time when government debts rise rapidly due to the economic crisis and an aging population higher employment rates could be important to improve the government budget. This paper describes three scenarios for the development of labour market participation between 2010 and 2020. The first scenario is the status quo showing that total employment will decline due to aging at constant participation by age. The other two scenarios present a more ambitious and a more modest increase in employment. This increase varies between the Member States: the increase is larger in countries with low employment rates. These differences are mainly due to the variation in employment of women and older workers. In the ambitious scenario, employment increases to 74% of the total labour force and to 69% of the female labour force in the EU. In the moderate scenario, employment rises to 70%; for women it is 64.5%. The employment rates of older workers between 55 and 64 years increase from about 46% to 52% and 59% respectively. Besides, labour market participation of senior citizens (above 65) varies widely across the EU. In most countries this rate is very low and there seem to be many possibilities for increasing labour market participation of the group 65 to 69 aged.

The presented numbers are averages and targets for the European Union as a whole. The targets vary by country. In the scenarios we have developed employment paths for each Member State to underpin the realism of the EU target. The targets are no EU wide goal, but an average, resulting from country-specific targets. The EU target is still very useful as a communication device but should always be related to the country-specific goals. Because the country-specific targets are derived by a common methodology for all countries the degree of realism and ambition of these goals does not deviate too much.

The increase in employment rates in the scenarios are based on past experience and other (EU) countries. Countries with a high participation rate are used as a benchmark. In the development of the scenarios it is taken into account that employment increases are possible because these increases are shown by various countries for different age groups and genders. From that

perspective, the scenarios are realistic. However, the employment increase is not automatically realized and institutions and labour market regulation in the benchmark countries are not simply copied by other countries. This requires much effort. In addition, labour market institutions are embedded in the culture of a country (Dekker et al., 2006). The scenarios will only be achievable with substantial labour market reforms in Europe. The feasibility of these reforms has not been studied. Gelauff and Lejour (2006) show that taxes and social benefits should be substantially reduced to promote participation and to lower unemployment. Based on a few rules of thumb and estimates from the literature they concluded that the average rate of income tax has to be decreased by 8%-points in the EU and the replacement rate by 10% to meet the 70% employment target. These results provide only an indication of necessary measures. Gelauff and Lejour (2006) devoted no attention to the participation of older workers. Cutting off measures for early retirement, such as tax facilitation or subsidies, may already have a substantial effect on employment such that stringent measures in the sphere of lower taxes and lower benefits may be less necessary.

Employment can also be increased by raising the number of hours worked per employee. Labour market participation is often only measured in persons instead of full time equivalents. As we have shown before the average number of hours worked differs substantially between the Member States. Differences in hours worked are due to differences in holiday leave, the average number of hours per week and part-time work. There are several underlying causes: taxes, regulation and preferences of employees. If the hours worked per employee vary strongly, employment rates measured in persons are hard to compare. This factor can be taken into account by a correction factor applying to the number of hours worked over a showing average (EU-15 or 27) or a benchmark. As a result, participation in the new Member States goes up substantially and will be significantly lower in the Netherlands.

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Appendix 1 Changes in labour market participation 1995 to 2007

Changes in labour market participation of men per age cohort between 2007 and 1995

Age cohort	C15	C20	C25	C30	C35	C40	C45	C50	C55	C60	C65+
EU27	-1.4	-3.6	-1.0	-0.9	-0.8	-0.8	-0.5	1.0	4.1	6.8	-1.0
Austria	-1.0	4.5	3.3	-0.1	-0.8	-1.3	0.4	-0.7	4.3	7.9	1.3
Belgium	2.2	1.7	-0.5	-0.5	-0.5	0.7	1.0	4.4	8.5	5.2	0.7
Denmark	-7.4	-0.6	-1.3	-0.4	0.6	3.6	1.7	-0.5	3.9	-4.0	4.5
Finland	-9.1	4.8	-0.5	-1.0	-0.6	0.2	0.3	-1.3	10.4	20.6	2.5
France	7.2	2.0	-1.2	-0.9	0.0	-1.3	-0.8	0.4	3.2	5.4	-0.1
Germany	0.0	-2.2	1.1	0.4	0.4	-0.1	0.1	0.4	10.8	17.7	1.2
UK	-2.9	-2.5	-1.6	-0.6	-2.1	-0.6	-1.4	0.4	4.7	8.6	2.0
Greece	-5.7	-15.4	-2.3	0.7	0.1	0.3	0.9	0.8	1.2	-4.0	-4.7
Ireland	5.8	3.3	-0.4	-1.3	0.2	1.7	2.8	2.2	5.3	5.7	0.7
Italy	-8.6	-4.5	-1.7	-1.9	-1.7	-2.0	0.5	10.4	0.7	-0.8	-0.1
Luxembourg	-6.3	-13.2	-0.7	0.9	1.8	0.9	1.2	1.4	1.3	-1.7	-0.6
Netherlands	10.3	6.3	1.1	0.8	0.4	-1.3	0.9	5.3	22.1	22.0	4.5
Portugal	-6.7	-1.8	-2.3	0.3	0.2	-2.4	0.0	1.5	2.3	1.5	0.5
Spain	3.1	6.5	0.7	-0.7	-0.6	-1.4	-1.4	0.8	5.1	7.7	0.3
Sweden	14.9	11.7	4.6	5.1	5.0	3.0	-0.7	0.1	0.7	13.6	7.8
Bulgaria	-8.4	-17.5	-7.2	-3.6	-6.0	-5.0	-6.4	-2.7	-5.2	10.3	-5.5
Cyprus	-2.0	-1.5	-4.0	-1.9	-4.1	-2.2	-1.4	-1.1	-7.0	-6.7	-13.8
Czech rep.	-14.3	-20.4	-4.1	-0.5	-0.5	-0.2	1.1	2.8	5.7	11.3	-2.1
Hungary	-12.6	-22.1	-2.0	0.7	2.4	0.7	0.9	1.7	15.9	8.1	0.3
Malta	-19.4	-0.7	6.1	6.0	6.3	2.0	2.2	-1.3	-14.3	-0.2	-2.5
Poland	-4.7	-12.4	-3.1	-1.4	-1.2	-0.3	-0.3	-0.6	-3.2	-5.9	-8.6
Romania	-20.5	-24.0	-12.9	-7.7	-5.1	-6.7	-5.3	-7.3	-6.4	-16.0	-25.1
Slovakia	-12.9	-15.3	-1.7	-1.5	-0.9	-1.3	-2.3	-1.5	9.9	13.9	-1.2
Slovenia	5.1	-4.0	2.9	-2.8	-0.9	1.6	0.0	1.8	15.3	3.0	3.1
Estonia	-3.3	-3.7	1.8	-1.2	0.4	-0.1	-5.7	1.4	3.6	8.5	-0.2
Latvia	-15.9	-8.9	-4.9	-0.7	0.2	-2.4	2.1	-1.7	-0.7	19.1	4.7
Lithuania	-22.8	-22.3	-3.3	-1.9	-5.9	-5.6	-4.9	-4.8	-1.7	7.9	-3.4
Japan	-1.5	-4.0	-2.5	-1.0	-1.4	-0.7	-0.8	-1.5	-1.0	-0.4	-7.7
US	-13.9	-4.4	-0.9	-0.5	0.5	-0.4	-0.8	0.0	0.4	6.2	3.9
St. deviation	9.4	10.1	3.7	2.5	2.7	2.4	2.5	3.2	7.7	9.1	6.4
Maximum	14.9	11.7	6.1	6.0	6.3	3.6	2.8	10.4	22.1	22.0	7.8
Minimum	-22.8	-24.0	-12.9	-7.7	-6.0	-6.7	-6.4	-7.3	-14.3	-16.0	-25.1

Changes in labour market participation of women per age cohort between 2007 and 1995

Age cohort	C15	C20	C25	C30	C35	C40	C45	C50	C55	C60	C65+
EU27	-0.7	-2.4	3.5	5.0	4.0	4.8	7.9	10.7	12.7	6.1	-0.7
Austria	2.3	-1.2	-1.8	0.9	8.2	10.0	13.3	16.1	15.3	1.3	0.1
Belgium	2.8	-0.2	1.9	5.2	7.8	13.3	19.1	21.9	19.3	6.7	-0.1
Denmark	-0.5	2.1	4.7	3.6	3.3	-2.6	-0.3	10.7	21.2	8.8	1.9
Finland	1.5	8.1	5.6	-0.4	-1.9	1.3	1.9	5.0	12.1	20.2	0.6
France	5.0	3.0	1.6	2.3	4.6	4.8	8.1	10.5	12.2	4.2	0.1
Germany	2.8	-0.8	4.5	7.9	8.0	7.6	10.4	12.0	20.2	17.8	1.0
UK	-1.9	1.4	2.9	4.9	1.7	1.7	2.2	6.9	9.7	8.4	1.4
Greece	-7.5	-5.5	14.2	11.3	13.9	15.7	18.7	13.0	6.5	-0.1	-1.8
Ireland	8.6	1.3	6.8	12.0	14.7	19.7	26.5	28.4	21.7	15.9	0.9
Italy	-7.7	-7.3	3.7	8.5	8.4	10.9	15.0	19.8	14.7	3.1	-0.4
Luxembourg	-8.5	-22.2	16.5	29.3	25.4	18.4	20.2	29.8	25.5	1.9	0.0
Netherlands	17.1	3.4	8.6	12.8	14.6	15.5	18.0	24.7	29.0	14.8	2.0
Portugal	-6.9	4.2	4.8	8.0	6.7	7.6	11.1	10.9	13.4	9.2	2.9
Spain	0.2	5.0	10.2	15.6	14.4	18.2	24.5	24.1	16.4	8.0	-0.3
Sweden	17.6	8.6	2.6	4.2	0.4	0.2	-1.4	-2.3	2.8	12.6	5.2
Bulgaria	-14.4	-17.2	-17.2	-16.5	-8.5	-6.1	-2.8	-3.4	36.7	-2.7	-4.3
Cyprus	-19.4	-4.7	15.0	17.4	14.9	12.7	14.5	18.7	15.1	6.4	-4.9
Czech rep.	-18.7	-11.8	0.6	-9.3	-6.5	-1.5	1.7	8.0	23.9	1.7	-0.8
Hungary	-10.2	-12.4	13.5	5.1	-3.7	0.9	3.7	16.0	27.4	4.9	0.2
Malta	-24.5	0.7	24.0	21.8	26.1	9.5	12.7	8.0	8.7	4.6	-3.6
Poland	-3.1	-10.8	3.3	2.1	-2.7	-2.1	-2.6	-3.8	-9.9	-9.1	-5.1
Romania	-20.3	-24.9	-7.1	-9.5	-10.2	-9.1	-9.1	-13.7	-14.2	-21.4	-21.2
Slovakia	-15.2	-7.6	-1.5	-7.9	-3.2	0.3	-0.1	15.5	19.8	4.1	-0.1
Slovenia	6.9	-8.9	-5.7	-1.1	-2.0	0.7	7.3	24.1	14.7	-0.3	2.0
Estonia	-6.2	0.0	4.6	-4.7	-5.3	-3.7	-4.1	3.6	26.9	19.4	2.6
Latvia	-14.2	-4.7	-4.9	0.6	-0.7	-4.4	2.0	5.2	36.1	16.6	2.7
Lithuania	-10.5	-24.0	-3.2	0.4	-3.6	-4.7	-8.7	-2.7	25.2	9.9	-7.7
Japan	0.2	-4.7	9.4	10.3	3.8	2.5	4.2	3.7	3.7	2.4	-2.6
US	-10.8	-0.4	-0.4	-1.0	-2.6	-1.1	0.0	4.0	7.3	10.0	3.8
St. deviation	10.9	9.4	8.4	10.0	9.7	8.4	10.0	10.9	11.7	9.0	4.9
Maximum	17.6	8.6	24.0	29.3	26.1	19.7	26.5	29.8	36.7	20.2	5.2
Minimum	-24.5	-24.9	-17.2	-16.5	-10.2	-9.1	-9.1	-13.7	-14.2	-21.4	-21.2

Appendix 2: technical details scenarios

No change scenario (1). Unemployment and participation rates by gender and age group remain constant at the 2008 level.

Moderate scenario (2).

Unemployment is reduced from 7% to 5,5% in the EU27 on average, it gradually goes down. For Member States with a lower unemployment rate, it remains constant.

Participation males and females until 24 years of age: no change.

Male participation

- Between 25 to 49 participation in every age group to 93%, remains constant if initial rate is higher.
- Between 50-54 participation to 88%, remains constant if initial rate is higher.
- Between 55-59 average EU participation to 76%. Theoretical upper limit is 90%.
- Between 60-64 average EU participation to 50%. Theoretical upper limit is 70%.
- Over 65 average EU participation to 15%. Theoretical upper limit is 30%.

Female participation

- Between 25 to 34 participation in every age group to 81%, remains constant if initial rate is higher.
- between 35 to 49 participation in every age group to 85%, remains constant if initial rate is higher.
- Between 50-54 participation to 76%, remains constant if initial rate is higher.
- Between 55-59 average EU participation to 60%. Theoretical upper limit is 80%.
- Between 60-64 average EU participation to 30%. Theoretical upper limit is 60%.
- Over 65 average EU participation to 10%. Theoretical upper limit is 30%.

Ambitious scenario (3)

Unemployment is reduced from 7% to 4% in the EU27 on average, it gradually goes down. For Member States with a lower unemployment rate, it remains constant.

Participation males and females until 24 years of age: no change.

Male participation

- Between 25 to 49 participation in every age group to 95%, remain constant if initial rate is higher.
- Between 50-54 participation to 90%, remains constant if initial rate is higher.
- Between 55-59 average EU participation to 80%. Theoretical upper limit is 90%..
- Between 60-64 average EU participation to 60%. Theoretical upper limit is 70%.
- Over 65 average EU participation to 25%. Theoretical upper limit is 30%.

Female participation

- Between 25 to 34 participation in every age group to 85%, remains constant if initial rate is higher.
- Between 35 to 49 participation in every age group to 90%, remains constant if initial rate is higher.
- Between 50-54 participation to 80%, remains constant if initial rate is higher.
- Between 55-59 average EU participation to 65%. Theoretical upper limit is 80%.
- Between 60-64 average EU participation to 40%. Theoretical upper limit is 60%.
- Over 65 average EU participation to 20%. Theoretical upper limit is 30%.

Appendix 3: regression results

The change in the total employment rate between 2000 and 2008 (27 observations).

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant term	20.30646	6.397859	3.173947	0.003843
Employment rate in 2000	-0.26131	0.102155	-2.55801	0.016702

The change in the female employment rate between 2000 and 2008 (27 observations).

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant term	14.12433	5.253515	2.688549	0.012587
Employment rate in 2000	-0.16345	0.095026	-1.72002	0.097787

The change in the employment rate for older workers between 2000 and 2008 (27 observations).

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant term	19.82342	4.93309	4.018458	0.000472
Employment rate in 2000	-0.28309	0.126378	-2.24	0.034222