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Labour market participation rate in the euro area: performance and outlook, a long-term view

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This article analyses the trajectory and the main explanatory factors of changes in the labour market participation rate in the euro area in recent decades. First, these changes are compared with the United States, highlighting the extraordinary convergence that has taken place between the two areas owing to the momentum in the European labour market and the declining secular trend on the other side of the Atlantic. Second, the increase in participation in the euro area was led by females, particularly as a result of the higher probability of new cohorts joining the labour market against a background of significant socio-educational changes. In any event, in view of the demographic ageing in progress and the progressive exhaustion of the above-mentioned changes, the focus is on the need for specific policies aiming to raise labour participation of such population groups where there is still room to do so, i.e. older workers, in general, and women in countries where the gender gap is still large.

LABOUR MARKET PARTICIPATION RATE IN THE EURO AREA: PERFORMANCE AND OUTLOOK, A LONG-TERM VIEW

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Introduction

The participation rate of an economy measures the proportion of the working-age population that participates actively in the labour market, whether working or actively seeking work. Accordingly, this variable reflects the labour supply available for production of goods and services. In the medium term, decisions relating to labour market participation are a key driver of the economy's potential growth, along with the accumulation of physical and technological capital. Also, in the field of monetary policy, participation rate changes are a key variable with which to measure the degree of slack in the labour market and underlying wage pressures.

The different behaviour of the participation rate in the United States and the euro area has raised increasing interest in academic debate and in economic policy management. Since the 1990s the labour participation rate in the United States has been on a downward trend,[1] which affected most of the age groups and intensified during the Great Recession (see Chart 1). This process has been thoroughly analysed in the economic literature and most studies suggest that at least 50% of the fall in the participation rate in the United States would be accounted for by demographic factors; specifically, by the effect of population ageing basically as a result of the retirement of cohorts of baby-boomers.[2] In parallel, a change has been identified in the behaviour of the younger cohorts who, for the first time, are showing lower participation rates than their predecessors.[3]

By contrast, the participation rate in the euro area, which in the 1980s was close to 10 pp lower than that of the United States, has followed an upward path (including the recent recessions), exceeding the United States' levels in both the male and female populations. This increase in the participation rate became one of the main drivers of growth in activity and employment in the euro area during the period 1999-2007 and continued to contribute positively during the period 2008-2013 (see Chart 2).

This article identifies first the structural factors which determine the performance of the participation rate in the euro area and in the United States from 1992, the first year for which there is disaggregated information at the level of education and age group,[4] to 2015. The results reveal that convergence of the female participation rate in the euro area with that of the United States has been the factor which has contributed the most to this uneven performance, owing to both the improvement in educational levels and a higher propensity to participate among new cohorts. Second, it analyses the behaviour of the participation

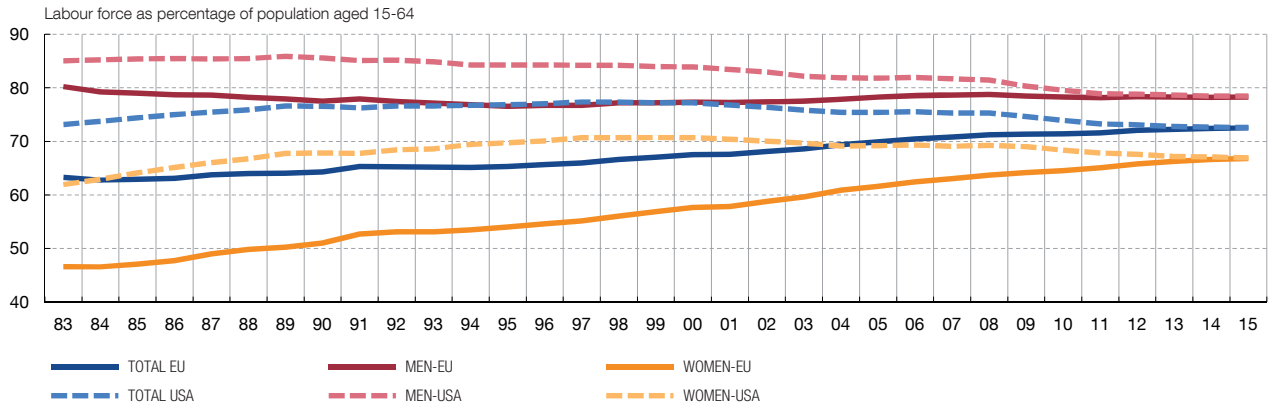
1 From the 1960s in the case of male participation.

2 See S. Fujita (2014), "On the Causes of Declines in the Labor Force Participation Rate", Federal Reserve Bank of Philadelphia, Special Report, 6 February; CEA (2014), "The Labor Force Participation Rate since 2007: Causes and Economic Implications"; and R. Balakrishnan *et al.* (2015), "Recent US Labor Force Dynamics: reversible or not?" IMF Working Paper 15/76.

3 See R. Balakrishnan *et al.* (2015).

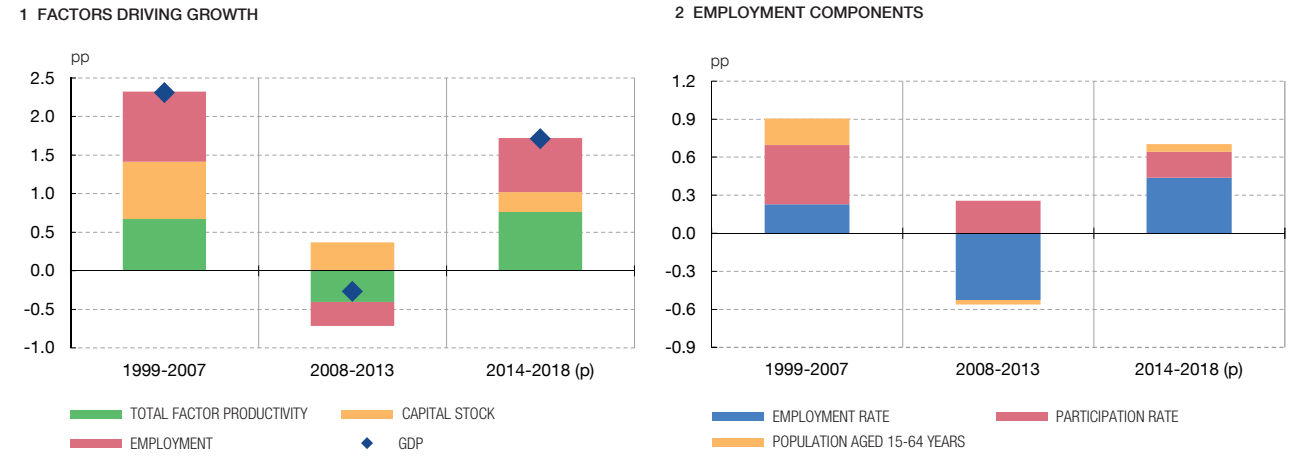
4 Most of the studies for the United States use a broad measure of participation that includes the population segment aged 65 and over. This would be the most advisable definition for economic growth considerations given the higher sensitivity to the ageing process of these individuals. However, this article focuses on analysing population segments more directly linked to the labour market, i.e. the so-called working-age population, without affecting in any case the general trends on both sides of the Atlantic. Additionally, the 15- to 64-year-old group is used for the general comparison between the euro area and the United States and, conditioned by the data available, the 25- to 64-year-old group is used for the detailed analysis by age and educational level.

PARTICIPATION RATES IN THE EU AND THE UNITED STATES: HISTORICAL PERSPECTIVE BY GENDER (1960-2015) CHART 1



SOURCE: OECD.

AVERAGE ANNUAL CONTRIBUTION TO THE RATE OF CHANGE OF REAL GDP IN THE EURO AREA (a) CHART 2



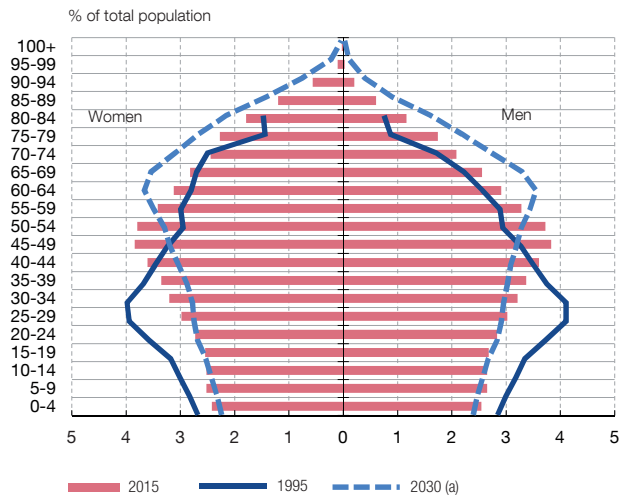
SOURCE: European Commission.

a Assuming a production function where GDP = total factor productivity * employment^(2/3) + capital stock^(1/3).

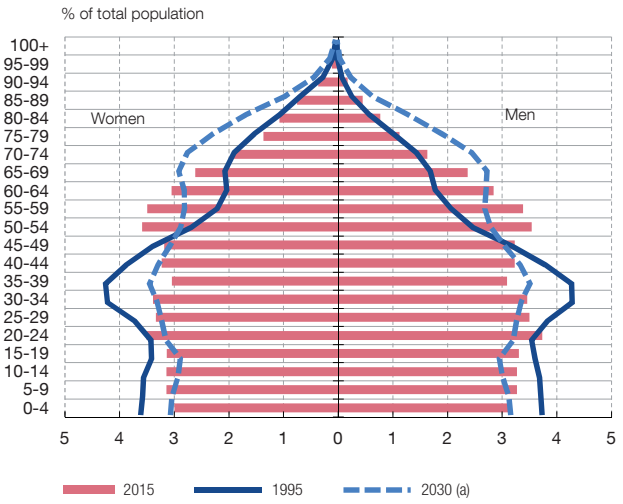
rate in a group of countries in the euro area (Belgium, the Netherlands, Germany, Spain, Italy, Greece, France and Portugal) for which there is sufficient information. A comparison of these different economies reveals the existence of common trends, but also marked heterogeneity in terms of scale. Thus, for example, the initial gap in the participation rate between genders and educational levels determines the magnitude of the convergence process observed for the female population. Additionally, the differences in demographic processes also condition the different countries' participation rates, although to a lesser degree.

Finally, in order to anticipate possible future developments in the participation rate, a prospective exercise has been carried out based on Eurostat's demographic projections. The results suggest that the participation rate in the euro area could decrease in coming years as a result of the negative contribution of demography and the exhaustion of the positive impact of the improvement in educational levels. In order to moderate or even reverse this trend it is a priority to encourage an increase in the propensity to participate in the labour market among certain population groups where there is still room to do so, such

1 POPULATION BY GENDER AND AGE GROUP IN THE EURO AREA (1995, 2015 and forecast for 2030)



2 POPULATION BY GENDER AND AGE GROUP IN THE UNITED STATES (1995 and 2015)



SOURCES: Eurostat and United Nations.

a Baseline scenario from Eurostat (2013) and United Nations forecasts.

as the female segment and the older female and male segment for certain countries. More generally, in the current demographic context of the euro area, economic policies that foster an increase in labour participation gain significance as a means of boosting growth potential in the area and encouraging the restructuring of public finances and ensuring the sustainability of pension schemes.

Closing the participation gap on both sides of the Atlantic

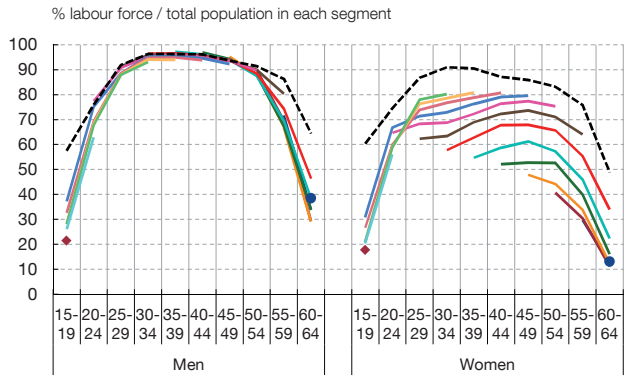
This section analyses the factors underlying the uneven behaviour of the participation rate on each side of the Atlantic. Chart 1 shows that the participation rate in the United States has been decreasing progressively since the late 1990s, while a rising trend is seen in the euro area. This difference in performance was even more pronounced during the latest crisis. The male participation rate in the United States, which used to be the highest among OECD countries, stood in recent years 1 pp below that of the euro area for both genders. This convergence was much more pronounced in the case of women, since the starting point was a negative gap with the United States of 15 pp in the early 1980s.

In principle, there are many reasons that could have contributed to this difference in performance. Firstly, a comparison of Charts 3.1 and 3.2 showing the population pyramids for the two areas at different points in time reveals that the baby boom occurred earlier and was more pronounced in the United States.[5] Accordingly, in recent years the US economy has recorded a relatively higher increase in the older population, which usually has a lower labour market participation rate.

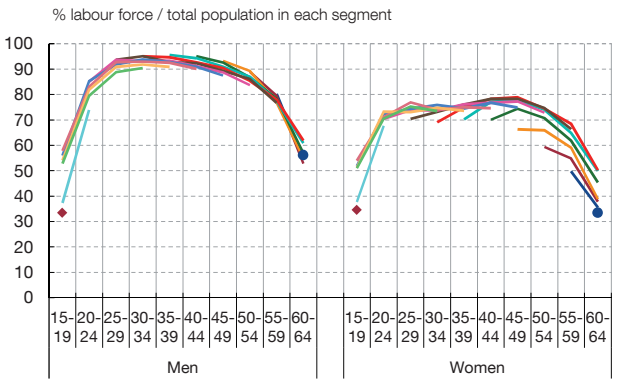
A second factor (see Chart 4) relates to the fact that female participation of the new cohorts in the euro area increased continuously in the past two decades, both for younger women (25 to 44 years old) and for those closer to retirement. This higher propensity to participate may

5 According to United Nations data, the fertility rate peaked in the United States in the 1950s (around 3.5 births per woman) and in Europe in the early 1960s at a lower level (2.7 births per woman).

1 PARTICIPATION RATE BY GENDER, AGE GROUP AND COHORT IN THE EURO AREA: 1984-2014



2 PARTICIPATION RATE BY GENDER, AGE GROUP AND COHORT IN THE UNITED STATES: 1984-2015



SOURCE: OECD.

a Each line represents a cohort (covering five years) and, in the case of the EU, the maximum is that of the country with the highest participation rate in each age group.

be due to both decisions regarding motherhood and to improvements in the work/family life balance. However, in the United States this process had already reached its ceiling in the mid-1980s and significant changes are only seen for the older female population.

Finally, a third factor behind the convergence of the participation rate on both sides of the Atlantic has been the gradual increase in the European population's level of educational attainment. According to the Barro and Lee (2015) database, the proportion of individuals between 30 and 34 years old with a university education (who traditionally have a greater propensity to participate in the labour market) has changed from being lower than 10% on average in Europe[6] in the early 1980s to nearly 30% in 2010, levels where the United States already stood at the beginning of this period.

In order to quantify the weight of these three factors on changes in the participation rate a decomposition analysis was performed, breaking down the participation rate using the shift-share methodology. Four age groups (25-34, 35-44, 45-54 and 55-64) and three levels of education were considered in this analysis (primary, secondary and tertiary education). This enables changes in participation to be identified that are due to developments in the structure by population age (demographic-age), changes in the distribution by educational level (demographic-education) and changes arising from intrinsic variations in the probability of participation of each of the age and educational level groups considered (referred to here as the "pure cohort effect").[7]

6 The European average was calculated on the basis of data published for Belgium, Spain, the Netherlands, Italy, Greece, Germany, France and Portugal.

7 The shift-share methodology allows the change in the aggregate participation rate to be broken down as follows:

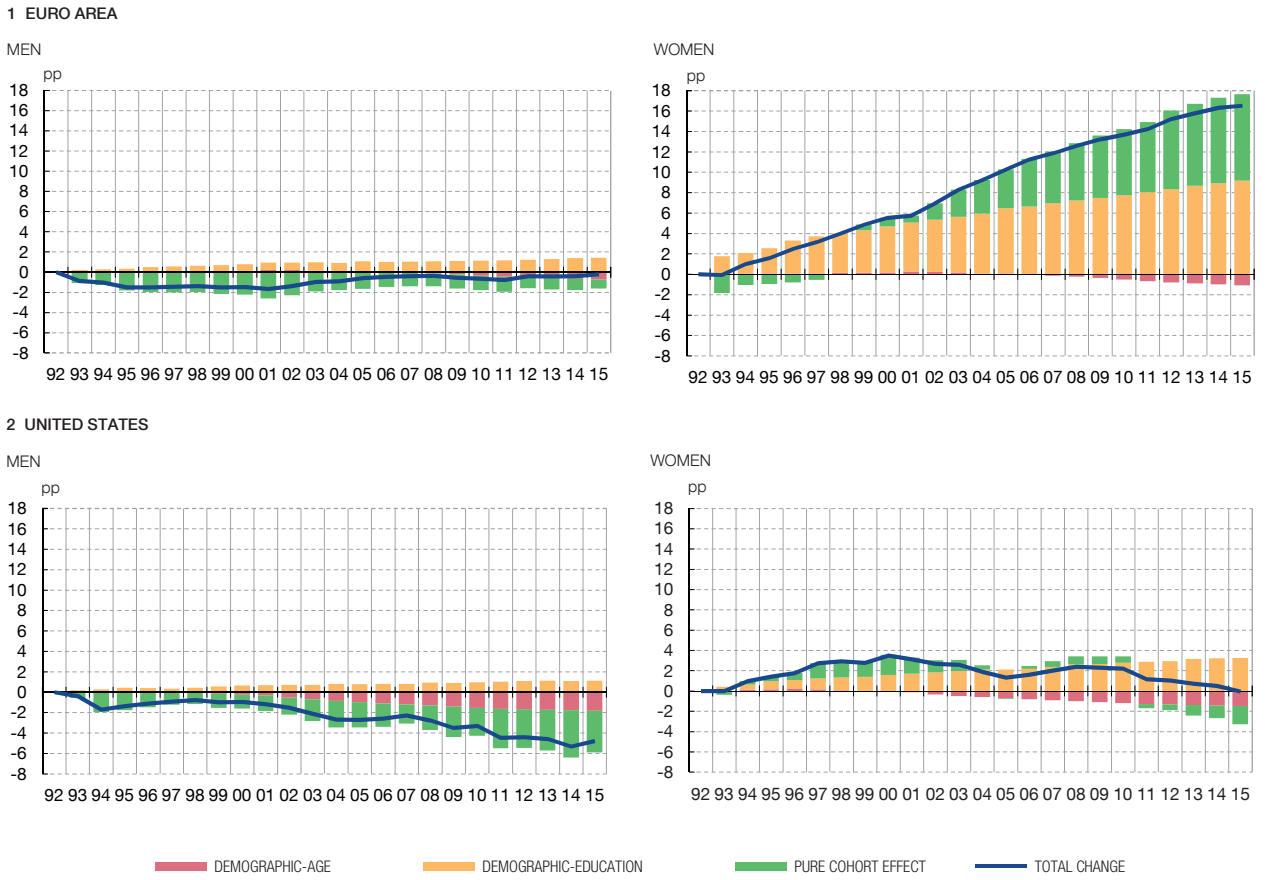
$$\Delta\text{Participation rate}_{g,t} = \sum_{a=1}^{4}\sum_{e=1}^{3}\Delta\alpha_{g,a,t}\times\beta_{g,a,e,t}\times PR_{g,a,e,t} + \sum_{a=1}^{4}\sum_{e=1}^{3}\alpha_{g,a,t}\times\Delta\beta_{g,a,e,t}\times PR_{g,a,e,t} +$$

$$+\sum_{a=1}^{4}\sum_{e=1}^{3}\alpha_{g,a,t}\times\beta_{g,a,e,t}\times\Delta PR_{g,a,e,t} + IT_{g,t}$$

Where the first addend makes reference to the demographic-age effect described in the main text, the second addend refers to the demographic-education effect, while the third one quantifies the pure cohort effect, i.e. regardless of changes in the composition of the population. Finally, "IT" is the interaction term between changes in the three foregoing components, which is usually residual in terms of scale.

CUMULATIVE CHANGE IN PARTICIPATION RATE: CONTRIBUTION OF EACH EXPLANATORY FACTOR (1992-2015)

CHART 5



SOURCE: Banco de España calculations based on OECD data.

Chart 5 shows the contribution over time of changes in the weights of each age and educational attainment group, which are sub-categories of the broad "demographics" category, and the aggregate contribution of changes in the probability of participating in the labour market for each age and educational attainment group (pure cohort effect).

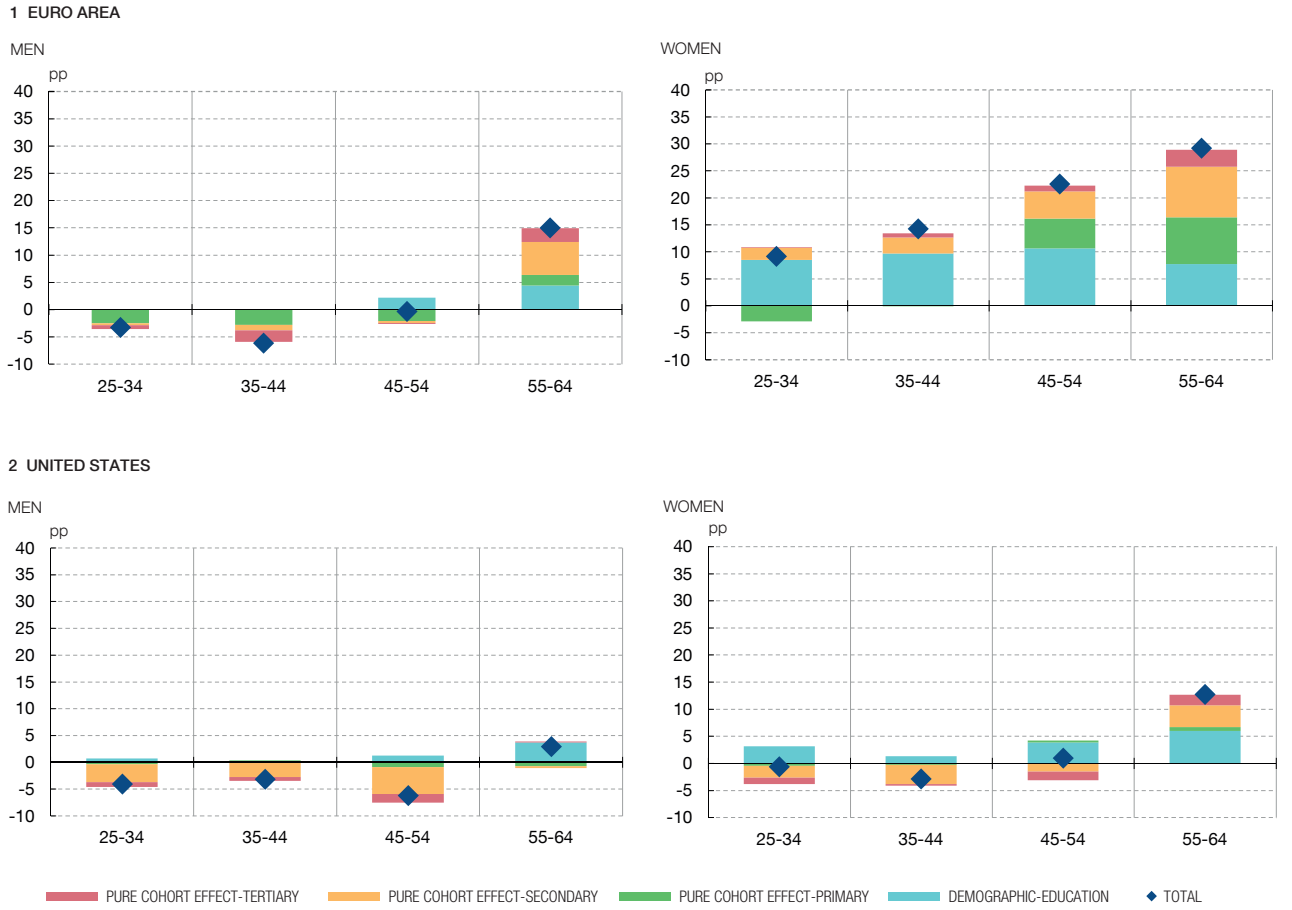
Firstly, it is seen that in the case of the euro area, the change in the distribution by population age has started to contribute negatively in recent years, whereas in the United States this trend had already started in early 2000, although the impact has been relatively limited in both cases.[8] The changes in population structure by educational level are more significant. Specifically, the increase in educational attainment has contributed positively to boost sustained and long-lasting female labour participation in the euro area and, to a lesser extent, in the United States.[9] Finally, as regards the pure cohort effect, Chart 5 shows that the sign of the contribution of this factor varies greatly depending on whether it relates to men (negative) or women (positive) and on the economic area considered, which plays a key role in the dynamics of the female participation rate in the euro area, as explained below.

8 The results for the United States are compatible with the studies mentioned, which analyse a broader population group including persons 65 and older who have a much lower participation rate than the working-age population used here (whether 15 or 25 to 64 years old).

9 The ECB (2017) notes that changes in educational composition are one of the key factors determining the increase in female participation in recent years and its convergence with the male population.

CUMULATIVE CHANGE IN PARTICIPATION RATE BY AGE GROUP: CONTRIBUTION OF EXPLANATORY FACTORS
1992-2015

CHART 6



SOURCE: Banco de España calculations based on OECD data.

Chart 6 provides a more detailed breakdown for each of the four age groups considered between 25 and 64 years in order to differentiate the contribution to changes in the participation rate of changes in the educational composition as compared with changes in the intrinsic probability of participation of each cohort (in the latter case, regardless of the contribution of educational level).

The breakdown by gender in Chart 6 shows how the female labour force participation rate in the euro area has risen across the board in all age groups, whereas in the United States this increase is only apparent among women aged over 55 and is much less pronounced. Rising female participation in all age groups in the euro area has accompanied the population's shift towards higher educational levels, which are associated with higher participation rates. Moreover, among the older female population, a positive pure cohort effect is observed at all levels of educational attainment, particularly in the segments with primary and secondary education. This is likely to be a result of the ageing of cohorts that entered the labour market in the 1980s and 90s, when there was a marked rise in female participation at these educational levels, then the prevalent levels among the population, as already noted. By contrast, among the younger cohorts –i.e. those currently aged under 45 years– the increases in the participation rate are smaller and largely due to increments in levels of educational attainment rather than the propensity to participate, which has remained relatively stable since the late 1990s.

In addition to the changes in the female participation rate, there has been a marked increase in the participation rate among older population groups (between 55 and 64 years), regardless of gender or geographical area. Nevertheless, the increase is much more intense in the European case, reflecting the more central role of the pure cohort effect than changes in educational composition, which is the main factor in the United States. This factor may have intensified in recent years as a result of legislative changes seeking to delay the legal and effective retirement age and as a result of the loss of wealth during the crisis by groups closest to retirement.

Finally, it is worth highlighting the groups in which the contribution of the pure cohort effect was negative in the reference period. Opposing trends are apparent here in each of the geographical areas, given that in the United States the biggest drop in the intrinsic probability of participation is seen among individuals with secondary education in the case of both men and women, whereas in the euro area it is among those with primary education.

In short, the differences between the labour market participation dynamics in the euro area and the United States reflect the stronger across-the-board increase in female participation, and a bigger rise in participation among cohorts closer to retirement age. Moreover, in the euro area, the population's shift towards higher educational levels –which generally have higher participation rates– has offset the negative impact of population ageing.[10]

Differences in participation rate trends across euro area countries

Changes in the participation rate in the euro area have exhibited similar trends, although there are some noteworthy differences between Member States.

Among women, the increase in the participation rate in all countries is due to an intrinsic increase in the probability of participation (pure cohort effect), which, as can be seen in Chart 7, is particularly strong in Spain, Greece, the Netherlands, Belgium and Portugal. The pure cohort effect is relatively small in Italy's case, despite the still low levels of female participation observed relative to other euro area economies. Moreover, whereas Spain and Portugal show across-the-board increases in female participation, in France and the Netherlands the changes are more pronounced with age. Meanwhile, across a group of countries including Germany, Belgium and Italy, the increases in female participation are concentrated in the older segments, whereas in Greece there was a stronger rise among the 25 to 34 age group.

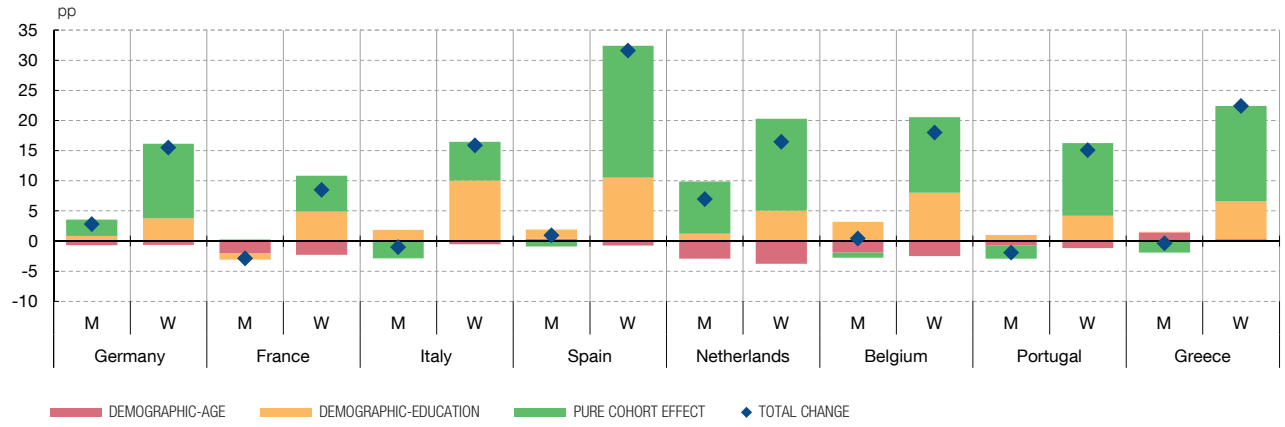
In terms of educational levels in general, the probability of labour market participation has increased particularly among women with primary and secondary education, thus narrowing the gap by which they lag behind women with higher levels of educational attainment. This was particularly the case in Spain and Portugal, whereas in Germany, France and Greece the level of participation rose relatively uniformly across all educational levels.

Men's participation rates changed relatively little, except in the Netherlands. However, this aggregate performance conceals significant differences between age groups, as while participation dropped among younger individuals (between 25 and 34 years), particularly in Italy, Portugal and Belgium, increments were observed among older groups (see Chart 8). The increase in the participation rate among older men was particularly marked in the Netherlands, followed by Germany, France, Italy and Belgium. In any event, cohort effects

10 The IMF (2017) also documented the effect of ageing on the aggregate participation rate in "Box 1.1 Labor Force Participation Rates in Advanced Economies".

CUMULATIVE CHANGE IN PARTICIPATION RATE BY GENDER: CONTRIBUTION OF EXPLANATORY FACTORS (a)

CHART 7

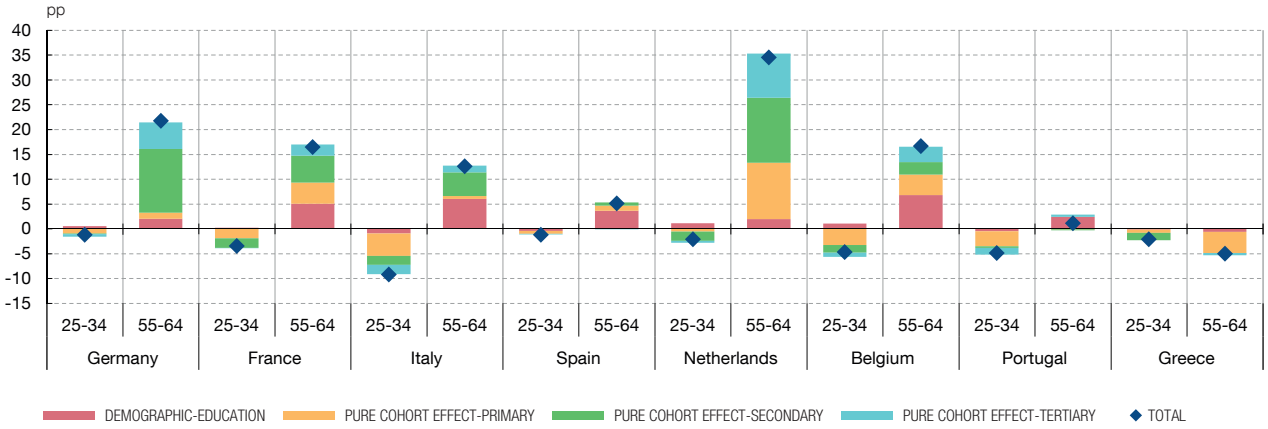


SOURCE: Banco de España calculations based on Eurostat data.

a On the horizontal axis: M = men, W = women.

CUMULATIVE CHANGE IN MALE PARTICIPATION RATE BY AGE GROUP: CONTRIBUTION OF EXPLANATORY FACTORS
1992-2015

CHART 8



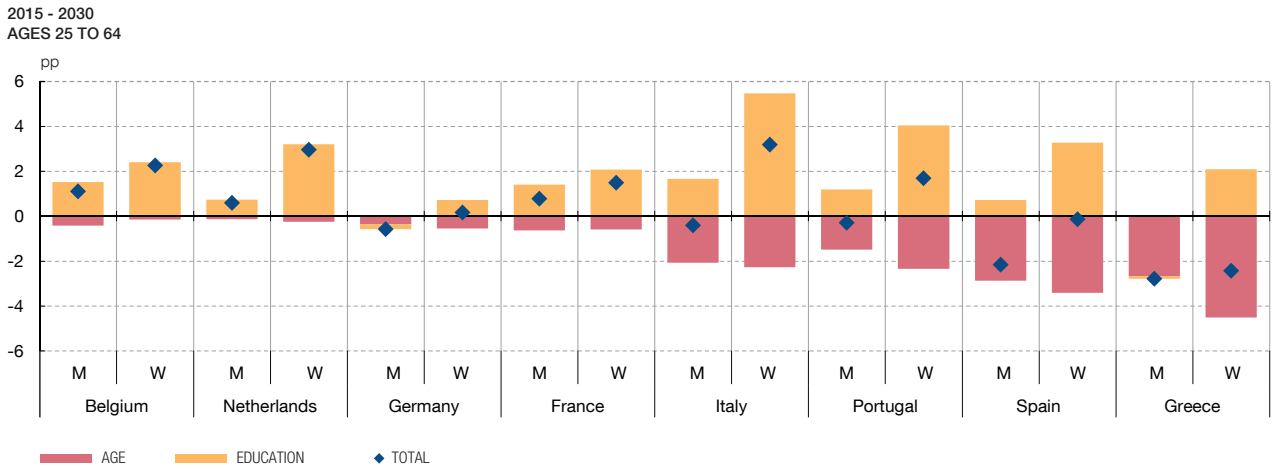
SOURCE: Banco de España calculations based on Eurostat data.

explain most of this increase, although higher levels of educational attainment also make a positive contribution. By contrast, in Greece's case, participation dropped in all segments of the male population.

Finally, it is worth mentioning developments in the two factors associated with changes in the population's composition: age and level of educational attainment (see Chart 7). Firstly, changes in the educational structure of the working-age population have had a significant positive impact on aggregate participation in some countries, such as Belgium, Greece, Spain and particularly Italy. In other words, irrespective of changes in the likelihood of participating in the labour market, the growing share of the population with higher levels of educational attainment –a process that has progressed more strongly in the case of women– has had a positive effect on participation rates. By contrast, changes in the age distribution of the working-age population have had a negative impact in most European countries, with the exception, so far, of the southern European Member States, such as

CHART 9

PROJECTION OF PARTICIPATION RATE BY GENDER:
CONTRIBUTION OF THE CHANGE IN THE DEMOGRAPHIC FACTOR (a) (b)



SOURCE: Banco de España calculations based on Eurostat data.

a For the age factor we used Eurostat demographic projections (2015); for the education factor we assumed that the composition of the population by educational level remained constant for each gender with the ageing of the cohort, remaining constant for the youngest age group (25-34); the participation rate by gender-age education remained unchanged.
b On the horizontal axis: M = men, W = women.

Italy, Spain and Greece. On average, this process was slightly more pronounced in Belgium and the Netherlands, whereas it barely had any effect in Germany.

How is the euro area participation rate likely to develop in the future?

As mentioned at the start of this article, the increase in the labour market participation rate has been one of the most stable factors driving the euro area's growth in recent decades. For this reason, it is worth analysing the factors underlying its continued rise –as set out in previous sections– as well as evaluating the sustainability of this trend, considering in particular that levels of participation seem to have converged with those of the United States, which was the initial point of reference. This section therefore seeks to infer the course of the participation rate in the euro area over the next few years based on certain assumptions (see Chart 9).[11]

In an initial step, future developments due solely to the demographic-age factor were simulated. Eurostat's projections by age group and gender were used for this purpose, with the assumption that the participation rate remains constant in each of these segments. This exercise[12] highlighted some significant differences between euro area countries. Thus, the southern countries in the sample look likely to start to experience slight downward pressure on the participation rate due to their larger share of older working age population segments. This trend looks set to continue over the next 10-15 years, particularly in Greece and Spain. This effect will be more limited, however, in central European countries which, as mentioned above, had already begun to experience the effects of ageing some years earlier, although the effect may be more persistent in Germany's case.

In a second step, the future impact of the changes observed in the educational composition of the successive cohorts was also considered, thus completely simulating the

11 The European Commission makes participation rate projections in its annual report on ageing, and also includes an estimate of the effects of pension system reforms.
12 See Banco de España (2016) for a similar exercise in the case of Spain.

demographic factor. Here, the improvement in levels of educational attainment could offset the negative impact of the progressive ageing of the working-age population, although to a lesser extent than observed in the past.[13] This positive effect is likely to be particularly intense in the case of women in all the Member States considered, potentially offsetting the negative impact of pure changes in the age composition in most countries, with the exceptions of Greece and Spain, where the process of ageing will be more pronounced, as mentioned above.

In short, according to these simulations, ageing will continue to exert downward pressure on the euro area's participation rate in the immediate future, while the positive impact of the improvement to the educational level of the new cohorts will tail off and, at best, help offset the effect of ageing. The scope for promoting labour market participation therefore lies in the pure cohort factor. In this regard, the comparison with those countries with higher average rates (i.e. Germany and the Netherlands) indicates that there is still scope for an increase in participation by women and the older working-age population in many euro area countries. This is particularly the case of Belgium, Greece and Italy and, to a lesser extent, of France, Spain and Portugal.

Future analysis should aim to elucidate why participation rates remain low among certain population groups, so that specific policy recommendations can be made to improve them. Among others, the explanatory factors most often cited in the literature include sociocultural factors, the tax system, the types of jobs available, how widespread part-time employment or family and maternity/paternity support policies are, in the case of the female population,[14] and health status, pension replacement rates and life expectancy, in the case of the gap between legal and effective retirement rates among older workers.[15] Finally, in the current demographic context in the euro area economies, the role of migratory flows and their composition in the performance of participation rates also need to be taken into account.

11.1.2018.

13 The exercise assumes that the educational composition of new cohorts does not change from that of the current cohort of 25- to 34-year-olds. Obviously, this means that additional increments in the educational level of new younger cohorts would boost the positive effect on the participation rate.

14 See the empirical analysis in O. Thévenon (2013).

15 The OECD (2017) reports the positive impact of good health conditions and longer life expectancy on extending working lives.