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Chapter 1.3
Projecting labour
productivity

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TECHNOLOGY, GLOBALISATION AND THE FUTURE OF WORK IN EUROPE

ESSAYS ON EMPLOYMENT IN A DIGITISED ECONOMY

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IPPR
4th Floor
14 Buckingham Street
London WC2N 6DF
T: +44 (0)20 7470 6100
E: info@ippr.org
www.ippr.org
Registered charity no. 800065

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**Projecting labour
productivity**

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ABOUT THE EDITOR

Tony Dolphin is senior economist and associate director for economic policy at IPPR.

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1.3

PROJECTING LABOUR PRODUCTIVITY

ANDRIES DE JONG AND MARK TER VEER
PBL Netherlands Environmental Assessment Agency

The size and shape of the labour force is determined by a combination of demographic trends within the working-age population and trends in labour force participation. The EU labour force expanded steadily over the second half of the last century and, beneath this rising trend, there were some impressive changes in participation. For example, since 1960, male labour force participation has been decreasing all over Europe, while the opposite has been true for female participation.

Looking ahead, in order to anticipate potential trajectories for the labour force, we have formulated four policy scenarios for labour force participation. Participation refers to the degree to which people are involved in the labour force, whether they have a job or are actively looking for work. In general, fluctuations in the participation rate are caused by changes in participation levels among three broad categories of non-working people: young people in education and initial training, older retired or disabled persons, and women who have left the labour market to care for their children. So our policy scenarios have been formulated principally in terms of changes in these three categories, under the influence of better or worse economic conditions and policymakers' preference (or not) for promoting social and regional cohesion.

Four scenarios for future labour force participation in Europe

As part of the ESPON project DEMIFER – Demographic and Migratory Flows affecting European Regions and City (2010) – four scenarios for the future shape of the labour force have been developed.

Scenario 1: Growing Social Europe

In this first scenario, we assume a combination of high economic growth and policies oriented towards social and regional cohesion. This leads to an increase in the economic activity rate of people

of all working ages, although the rate of change varies between the sexes and age-groups. The educational level of the population increases, and more and more young people combine education with employment, helped by an increase in part-time jobs. The flourishing economy stimulates employers to create opportunities for women to combine work and raising children, particularly in a growing service sector. Women with young children are enabled to enter the labour force through measures such as extended childcare facilities and flexible jobs, particularly in the government service sector. As a result, other countries converge on the high activity rates for women and young people already witnessed in the Scandinavian countries.

In this scenario, measures are also taken to postpone retirement, such as encouraging more flexible working arrangements. This leads to a considerable increase in the participation of both men and women aged 50 and over. This scenario is further characterised by policies stimulating regional cohesion.¹ In the long run, this leads to similar patterns in labour force participation rates across European countries.

Scenario 2: Expanding Market Europe

In this scenario, the economy flourishes and economic circumstances are even better than in the Growing Social Europe scenario. A market philosophy dominates the political climate. Increasing economic activity and lower labour taxation lead to a strong increase in the demand for labour, and the educational level of citizens increases. However, post-compulsory education is seen as a private investment and is not well financed from the public purse. So, in order to finance their education, young people have to combine school with (part-time) employment. Under this scenario, part-time jobs are abundantly available, specifically created for students, in order to capitalise on the high supply of labour.

For other groups, such as elderly people and women with young children, entry into the labour market becomes easier. Employers attract women by creating flexible jobs that the combination of motherhood with outside employment, and a growing private service sector also offers additional opportunities for women to find suitable work. In this scenario, unlike in scenario 1, the market philosophy leads to a divergence in regional economic performance, reflecting the absence of policy measures to counter the trend for economic growth and labour participation to be much higher in the stronger economic regions than in weaker regions.

1 For example, skills and infrastructure policies to support inward investment in regions suffering most from the loss of 'traditional' jobs.

Scenario 3: Limited Social Europe

In the Limited Social Europe scenario, we assume that policymakers strive to attain social and regional cohesion, as in the first scenario, but economic prospects are gloomy. Households have trouble coping with rising costs as the financial effects of climate change become visible and energy prices increase. The demand for labour falls, causing a severe drop in labour force participation, as conditions discourage people from continuing to seek work. Opportunities for young people to combine work and school attendance fall as a result of fierce competition in a tight labour market. Young people tend to stay longer in full-time education programmes, in order to enhance career opportunities. For women with young children, the prospects of finding paid employment are not good, partly due to a scarcity of part-time jobs. Financial problems lead to dramatic cutbacks in the service sector. A preference for early retirement prevails, as governments give priority to the absorption of young people into the labour market, reducing opportunities for older workers to remain or return.

Although economic stagnation is widespread, it is more severe in poorer than richer regions. Especially in economically weak regions, the demand for labour is low, unemployment is high and labour force participation declines. However, due to policies that aim for regional cohesion, the negative effects, especially for weaker regions, may be softened by jobs created by government, specifically for the long-term unemployed. As a result, disparities between regions largely remain unchanged from their current levels.

Scenario 4: Challenged Market Europe

In this final scenario, economic growth plummets and severe environmental problems arise. This leads to a restructuring of the economy; weaker firms do not manage to survive, while larger and stronger firms dominate the economic landscape. The lack of jobs induces young people to prolong their educational careers, leading to a decline in their labour force participation. Policies are not directed at creating opportunities for women to combine work with care for children. Increasing unemployment and worsening conditions in the labour market discourage both men and women from actively seeking work. Although policies do not promote early retirement, employers are happy for older employees to stop working, because their productivity levels are perceived to be lower than those of younger people, and so the participation rate of this older age-group falls.

In this scenario, the poorly performing regions are expected to suffer the most from low economic growth. In these areas, participation drops considerably, while relatively little change occurs in the economically stronger regions. Thus, there is a continued increase in regional divergence.

The size and shape of Europe's future labour force

For each of the four policy scenarios, we estimate the future size of the labour force in line with projections of scenario-specific working age-group populations and labour force participation rates. In recent decades, the labour force has grown continuously, but only in the Expanding Market Europe scenario (scenario 2) is the labour force expected to be larger in 2050 than it was in 2005 – and even this growth is modest, by only 5 per cent. In this scenario, higher participation rates are combined with a more or less stable working-age population. By contrast, in the Growing Social Europe scenario (1), rising labour force participation rates are offset by contraction in the size of the labour force.

The two other policy scenarios sketch a future characterised by a shrinking labour force. In the Challenged Market Europe scenario (4), this downturn is limited to a 10 per cent fall from 2005 levels. As the pattern of participation rates largely resembles the current pattern, the decrease in labour force numbers is caused primarily by a shrinking population. In the Limited Social Europe scenario (3), the contraction of the labour force is very large: a combination of declining participation rates and negative population growth is expected to cause a decline of 20 per cent in workforce numbers by 2050.

In recent decades, the gender composition of the labour force has gradually changed, as the share of women has increased. In the Expanding Market Europe scenario, this gradual feminisation of the labour force is assumed to continue into the future, while in the Growing Social Europe scenario, the gender composition is taken to be unchanged from present. However, both the Limited Social Europe and Challenged Market Europe scenarios predict a decline in the share of women in the labour force, because the poor economic performance of these two scenarios impacts more heavily on the labour-intensive service sectors, which employ more women than other industrial sectors.

Overall future trends within the European labour force are more or less mirrored at a national level, although growth paths show some differences between nations. In the Expanding Market Europe scenario, about half of the countries experience a growing labour force up to 2050, while the other half have to cope with a shrinking labour force, mainly as a result of a fall in birth rates that already makes a shrinking population inevitable. In the other three scenarios, most countries will be confronted with more or less severe decreases in labour force numbers. This is particularly dramatic in the Limited Social Europe scenario, according to which almost all countries will face a declining labour force, and for nearly half this decline will amount to almost 40 per cent. And this negative trend is even more severe for women than for men.

In general, labour force prospects are considerably better in western and northern Europe, while eastern European nations in particular face setbacks. Germany, however, is an exception to this rule: even under the favourable conditions of the Expanding Market Europe scenario, it is expected to see a 20 per cent decline in the size of its labour force between 2005 and 2050. Under the poor conditions of the Limited Social Europe scenario, this decline could be as large as 35 per cent. This outcome is largely due to a shrinking population, caused by ongoing low fertility rates – the average number of children per woman in Germany is just 1.4, well short of the 2.1 needed to replace the current population. By contrast, in the UK, the prospects for a growing labour force are positive under all scenarios, with projected growth figures ranging between 5 per cent and 50 per cent for the 2005–2050 period.

Projected declines in the labour force could be mitigated by increased migration from outside Europe. Already, policymakers have implemented measures to utilise immigration from outside Europe as a means of filling foreseen gaps in the labour force. In several countries in southern Europe in particular, the demand for labour migrants may become urgent, as these countries are more likely to experience a shrinking labour force yet their economies are characterised by a high proportion of labour-intensive jobs.

The impact of labour productivity on growth and future prosperity

If growth in the size of the labour force slackens or even becomes negative, productivity growth will become an even more important driver of economic growth. It may be assumed that, at unchanging labour productivity levels, GDP per active person will remain constant. According to each of the four scenarios, this would lead to a big drop in prosperity in the EU countries by 2050, ranging from a decrease in GDP per capita of about 10 per cent in the Expanding Market Europe scenario to about 20 per cent in the Limited Social Europe scenario. This decrease can be attributed to the ageing of the population, leading to a larger share of inactive people, in combination with a substantially shrinking labour force under the two low-growth scenarios. It is clear, therefore, that raising labour productivity levels is a necessary step to counter the risk of falling prosperity.

In order to illustrate the effect of increasing labour productivity, let us assume for each of our four scenarios that GDP per active person is 20 per cent higher in 2050 than it was in 2005. It must be stressed that these calculations are rather speculative, as they do not involve explicit assumptions on changes in the sectoral composition of the economy (and regional disparities), improvements in technology, substitution of labour by capital, or changes in the gender and age

composition of the labour force. In three of the four scenarios, GDP per capita will rise somewhat between 2005 and 2050, with growth figures of around 5 per cent. However, in the Limited Social Europe scenario, this increase in productivity is still not enough to prevent a fall in prosperity, and GDP per capita will be 5 per cent less.

As these figures illustrate, there is an urgent need to ensure growth in labour productivity across Europe. Across all four policy scenarios, prosperity is expected to fall markedly in the future if labour productivity does not improve. Therefore, policies aimed at increasing the size of the labour force should be supplemented by those that aim to raise labour productivity. In line with the Lisbon Strategy and Europe 2020, this should include investment in human capital, with a focus on new skills.