



*Employment and Social Developments
in Europe 2018*

Digital transformation and its impact on labour markets and social protection

Loukas STEMITSIOTIS

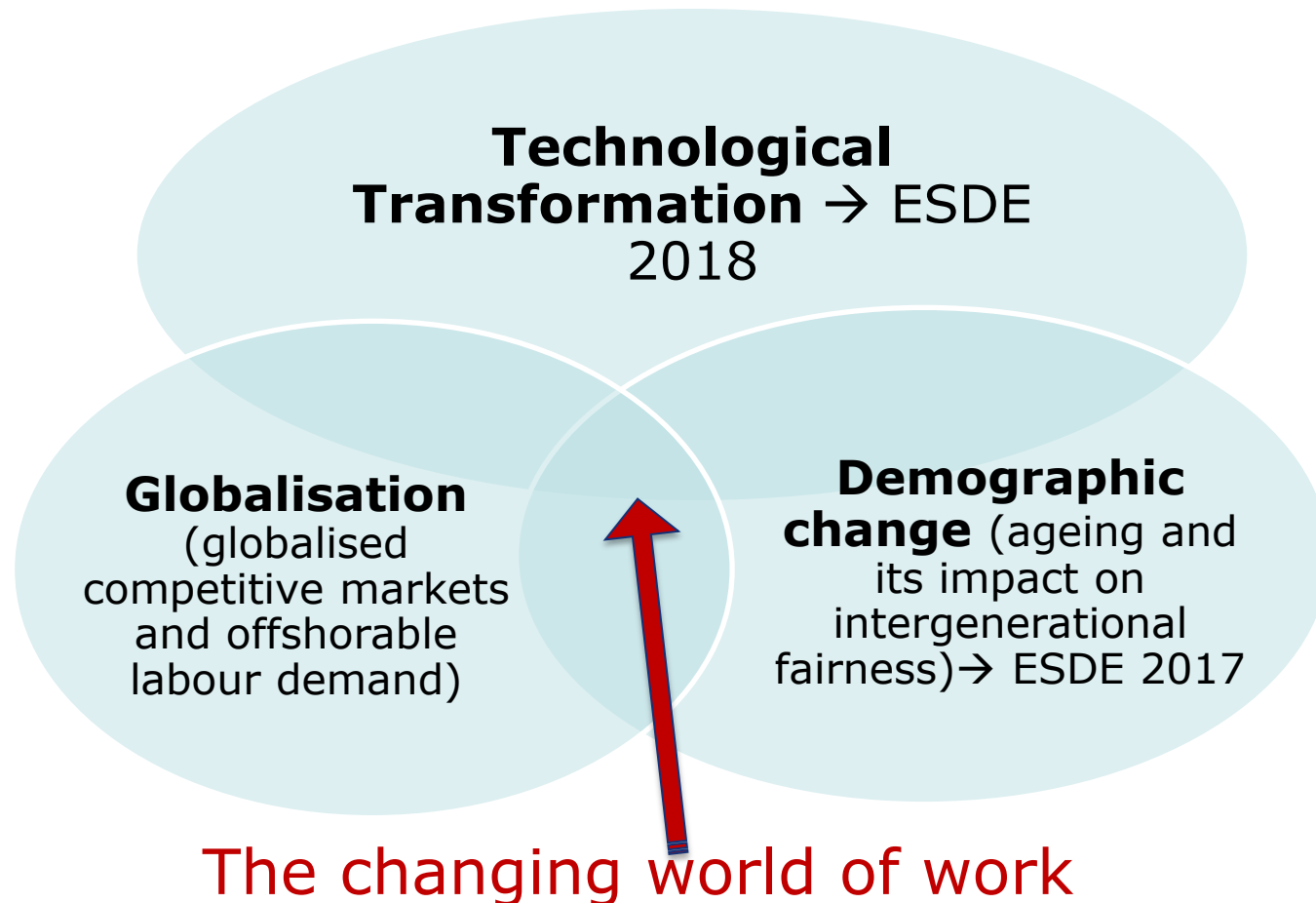
**Head of Unit - Thematic Analysis, DG Employment, Social Affairs
and Inclusion, European Commission**

INAPP Conference, Rome, 15 February 2019

The storyline

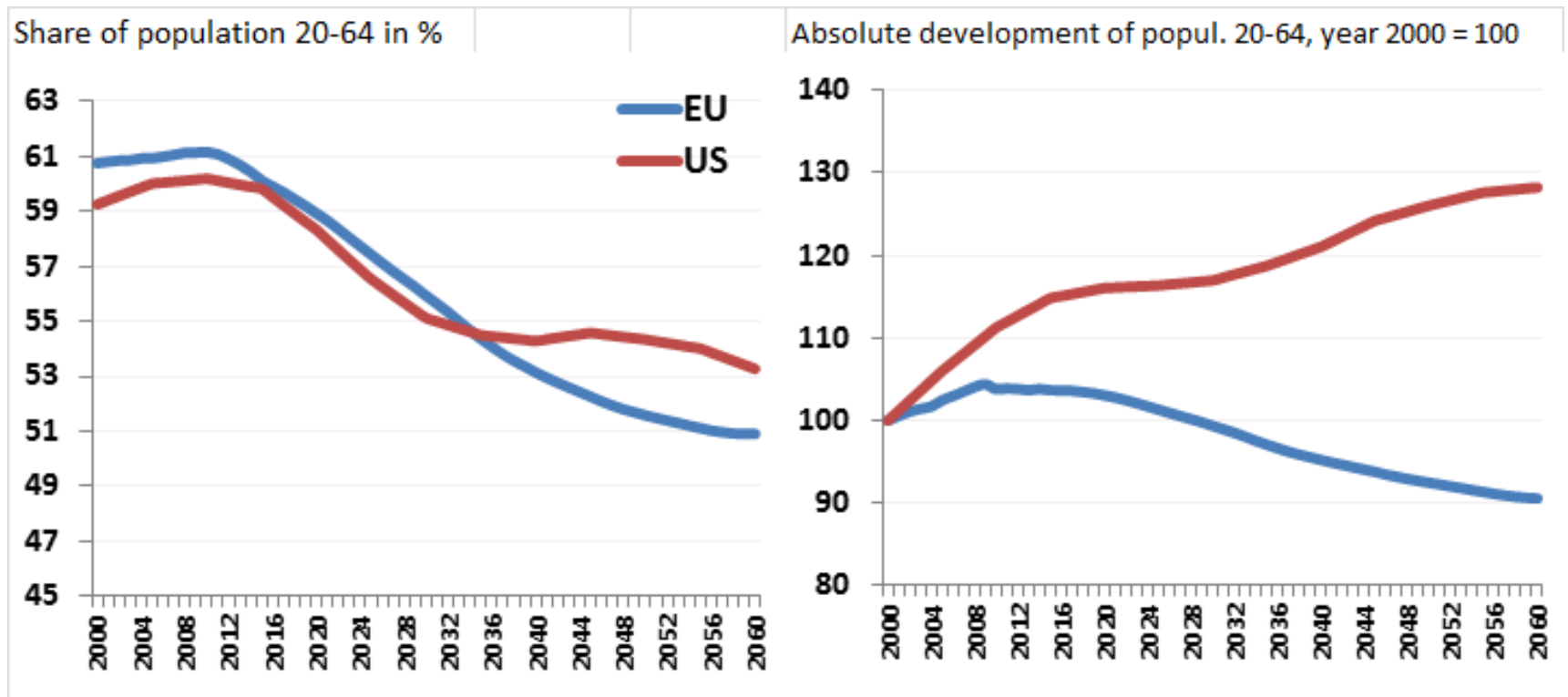
- *Major challenges lie ahead: **Ageing** will require higher productivity growth. Rapid **robotisation and digitalisation**, while fuelling productivity, may come at the expense of job losses.*
- *Investing in skills and education can **turn digitalisation into a net job creator**.*
- ***The world of work** is also changing. **Digitalised platform work is increasing rapidly**.*
- ***Digitalised platform work** may go along with **more atypical forms of work**, and **higher social risks**. New social challenges emerge.*
- *The **adequacy** as well as the **financing of social protection** become increasingly challenging.*

The influence of megatrends grows stronger

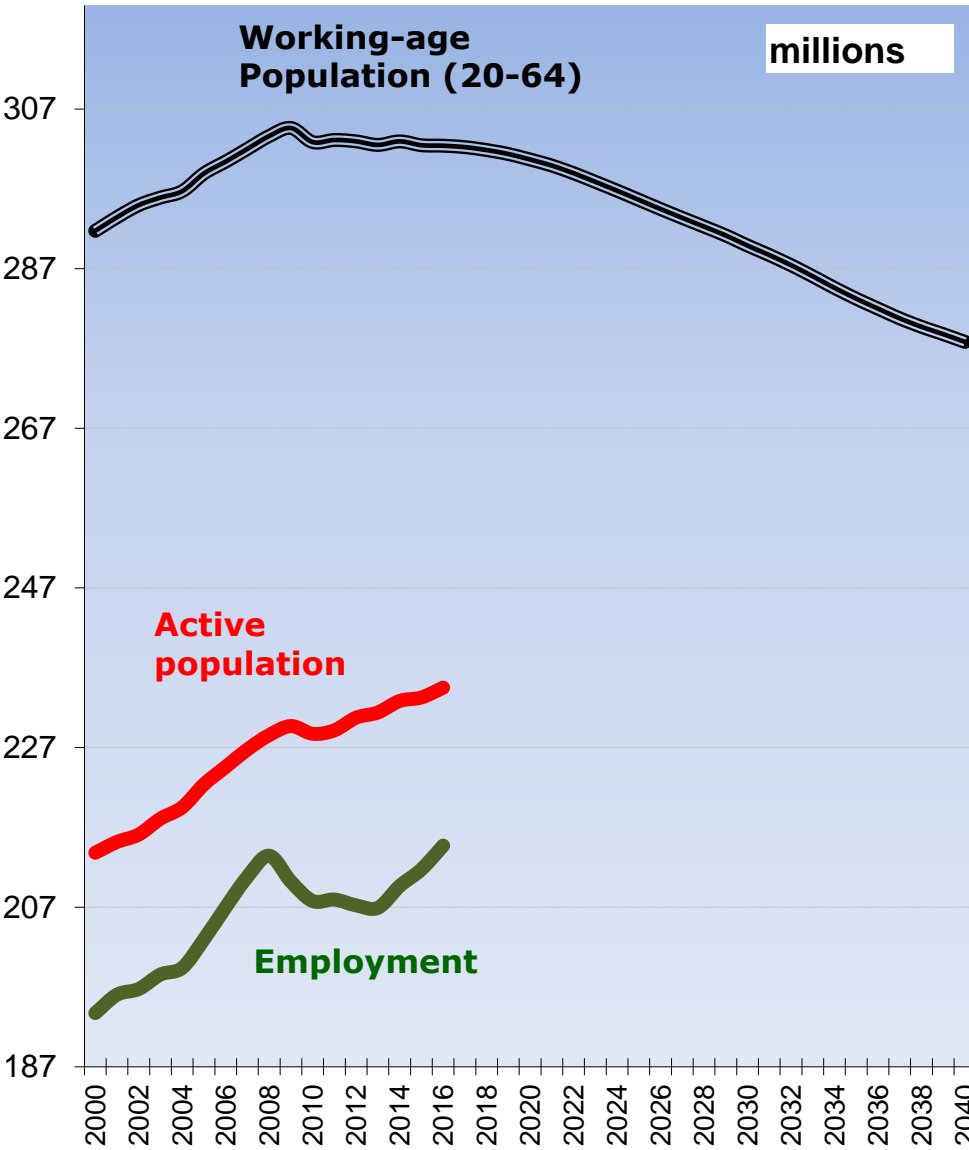


Ageing is not occurring only in Europe ... but the ageing pattern will be particular in Europe.

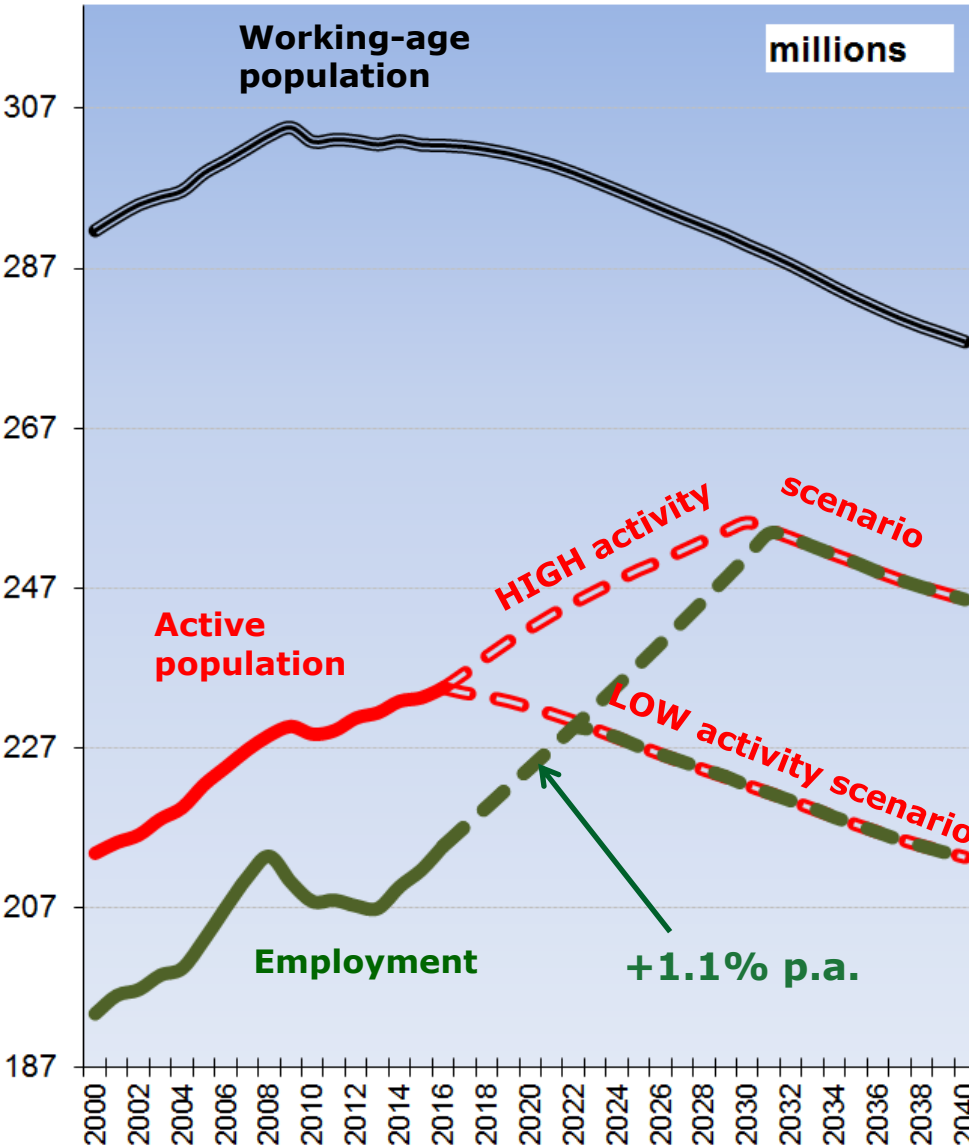
Working-age population here: age group 20-64



Sources: UN World Population Prospects 2015 for the US, Eurostat 2015 population projection for the EU



Own calculations based on Eurostat 2015 population projections, Eurostat LFS

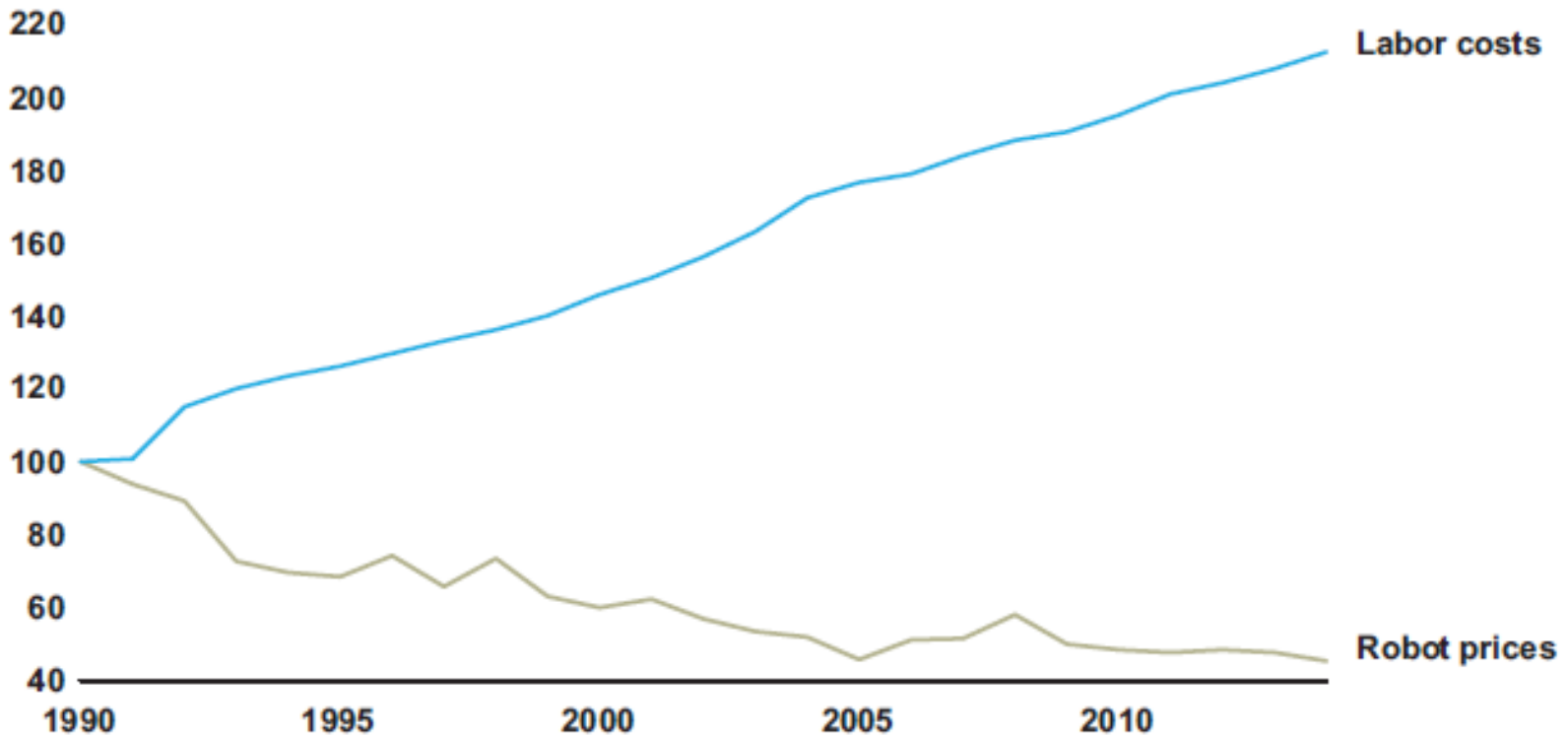


Own calculations based on Eurostat 2015 population projections, Eurostat LFS

Robots are becoming cheaper relative to labour

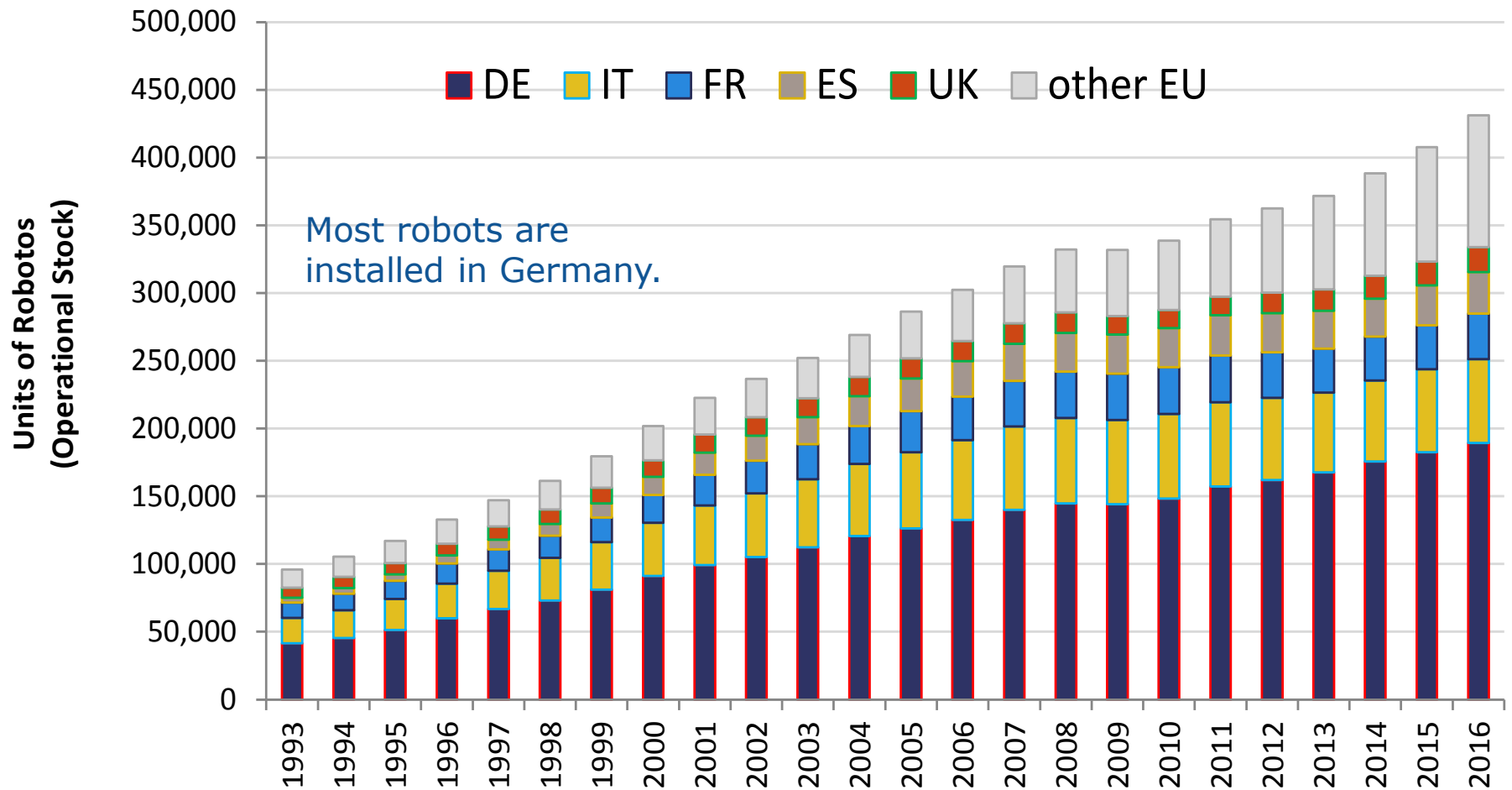
Cost of automation

Index of average robot prices and labor compensation in manufacturing in United States, 1990 = 100%



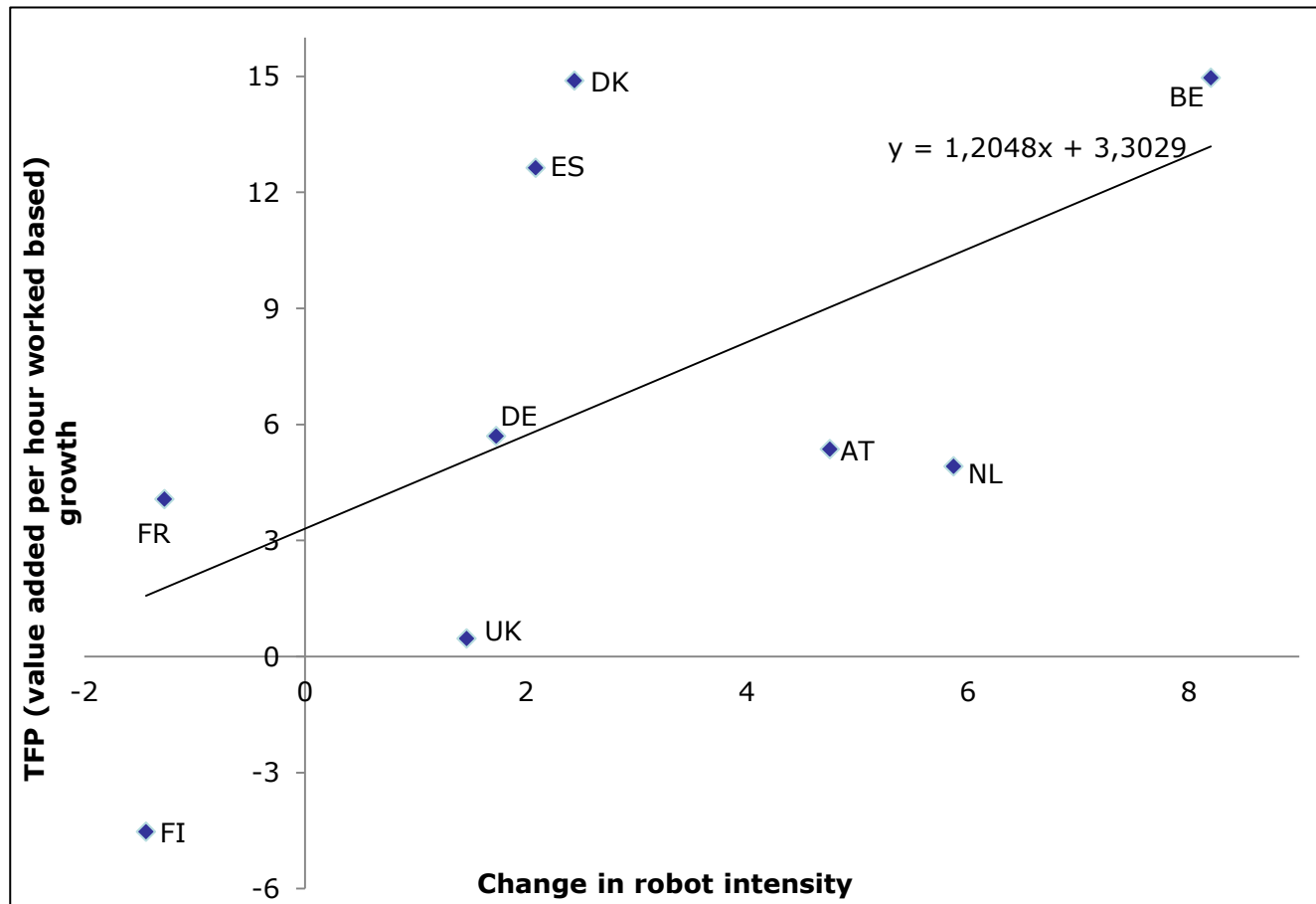
The number of robots is increasing rapidly

Level of the operational stock of robots in the EU28



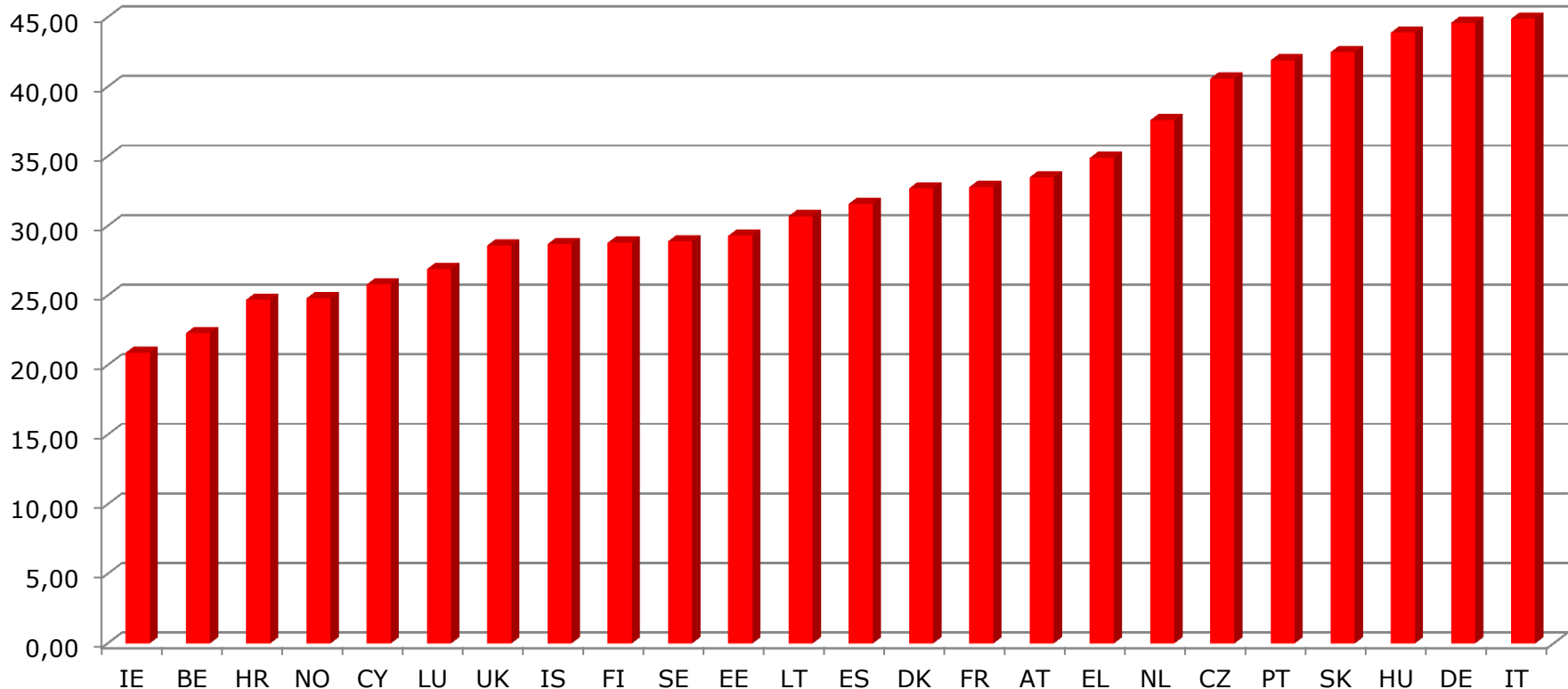
Robots fuel productivity

Robot intensity and total factor productivity in manufacturing between 2010 and 2015



Jobs with high automatable task content may be lost

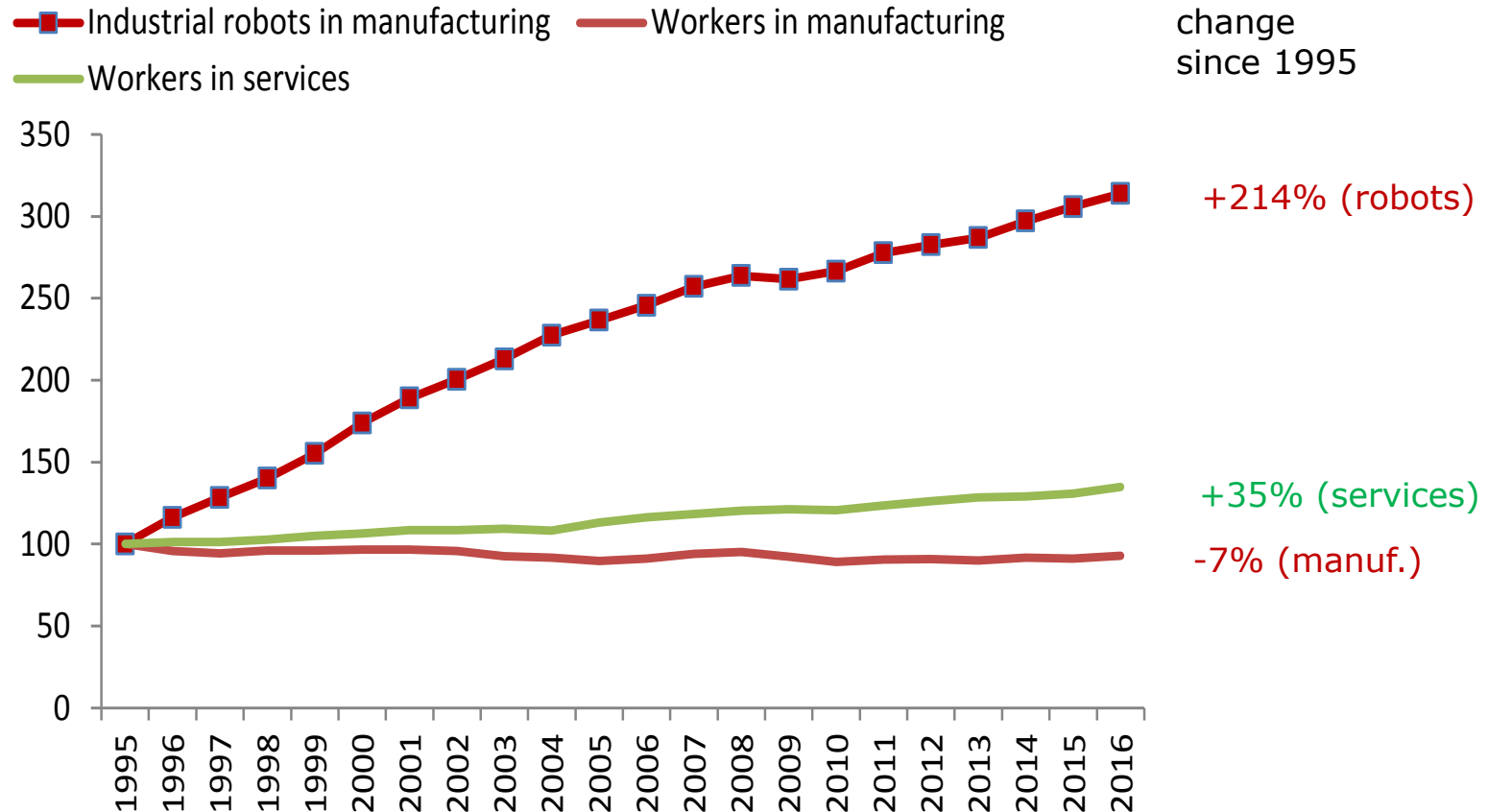
If today's cutting-edge science and technology were applied in production processes, a substantial part of jobs could be automated.



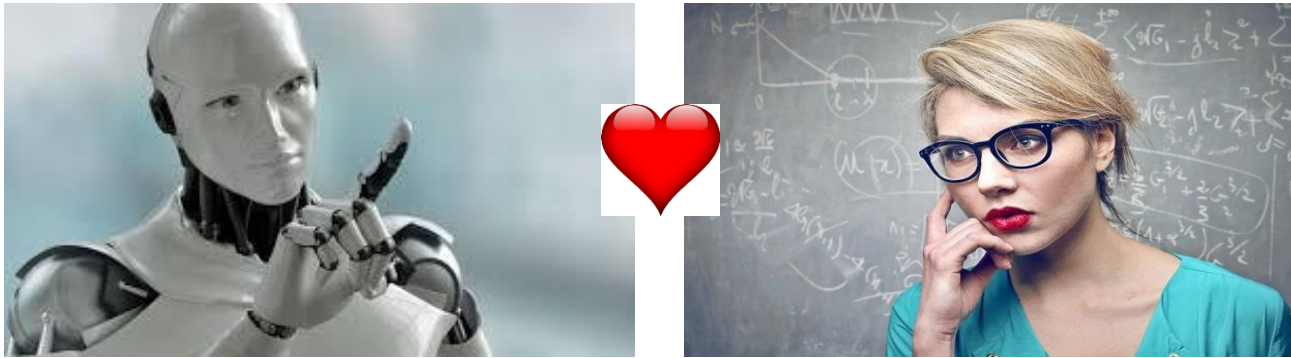
■ Share of fully automatable jobs

New jobs are created: increasing robot density and net job creation go hand-in-hand ...

Operational stock of robots in manufacturing and employment in Germany



... because smarter physical capital seeks smarter human capital

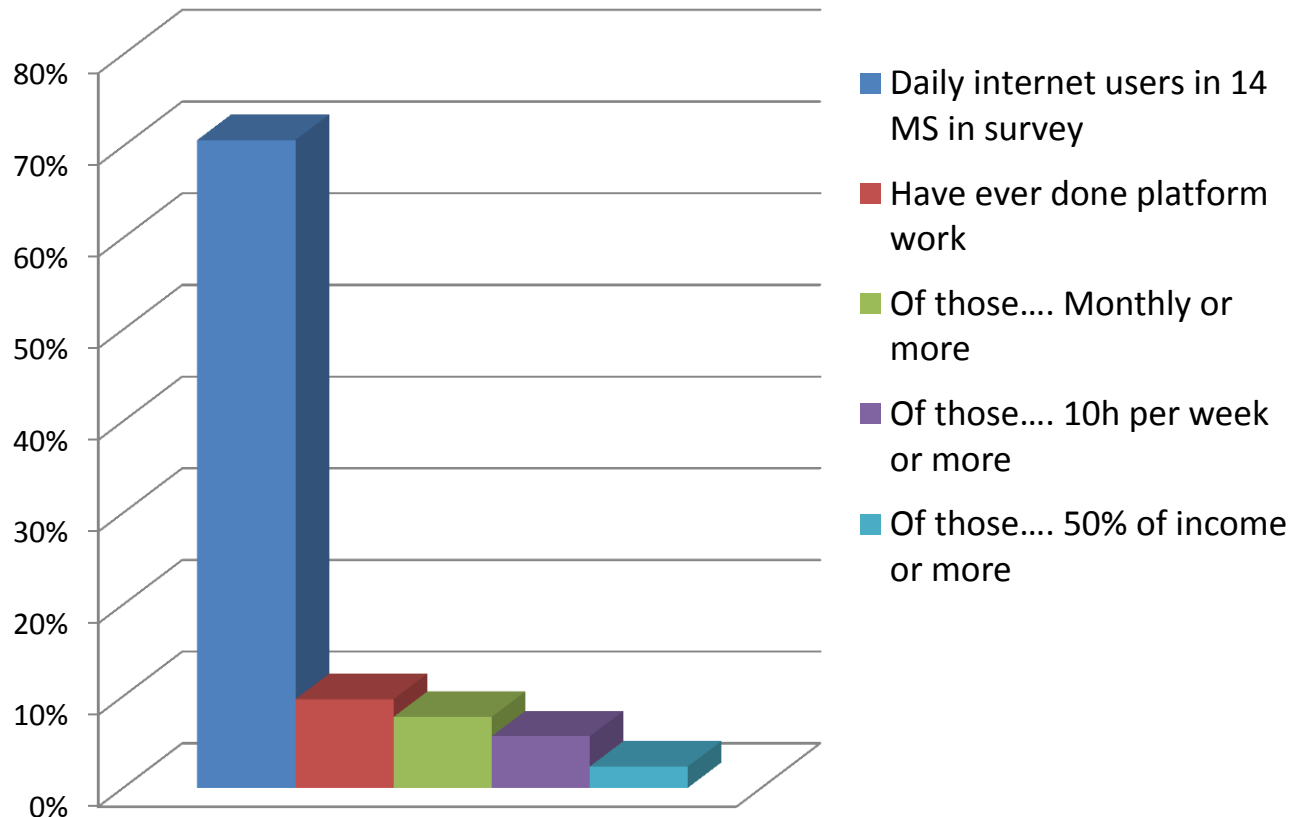


Capital and high-skill labour are complementary:

- Employers buy robots because capital is more efficient than labour, so labour gets displaced, initially;
 - THEN, employers hire new labour, skilled enough to operate and fulfil the new capital's higher productivity potential
- OR,
- Employers buy robots to equip higher-skilled workers with better capital and thus achieve higher productivity

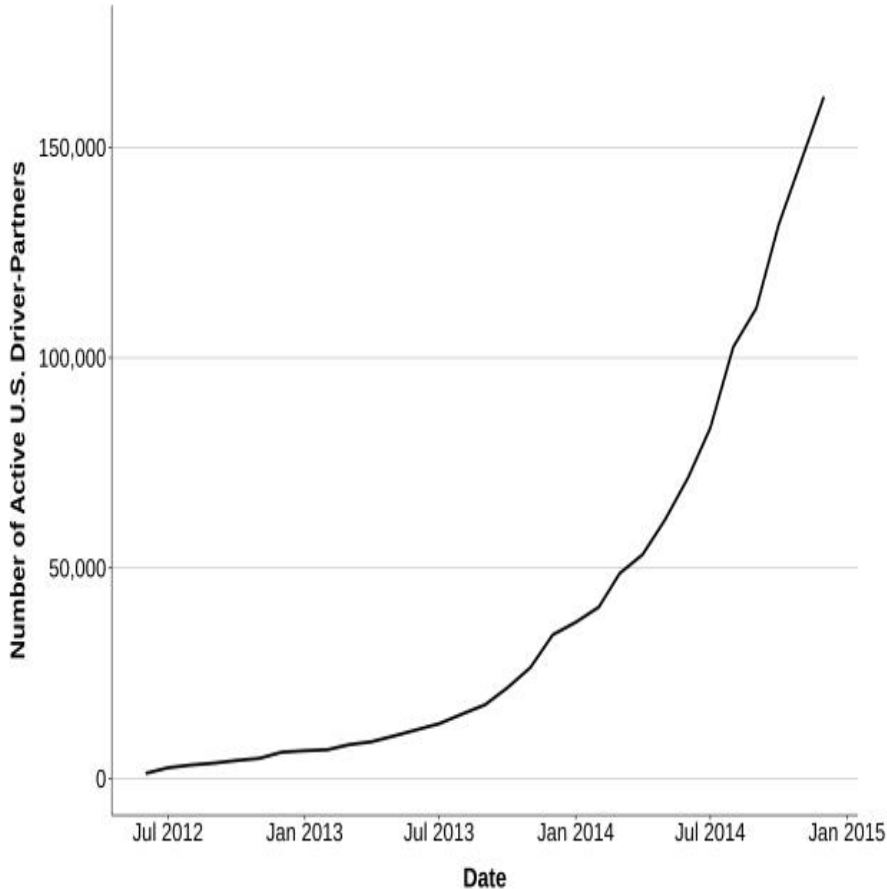
Today, platform work makes only a small share of the EU labour force...

- Only 1 in 10 adults have experience of platform work
- Only 1 in 43 (2.3%) make a living from platform work, earning more than 50% of their income from it

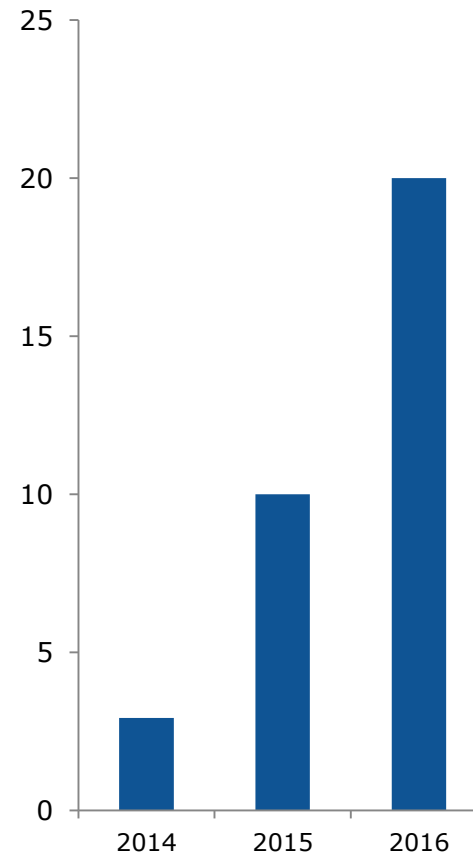


... but a rapid increase is under way (example: Uber statistics).

Number of active Uber drivers in the US by month

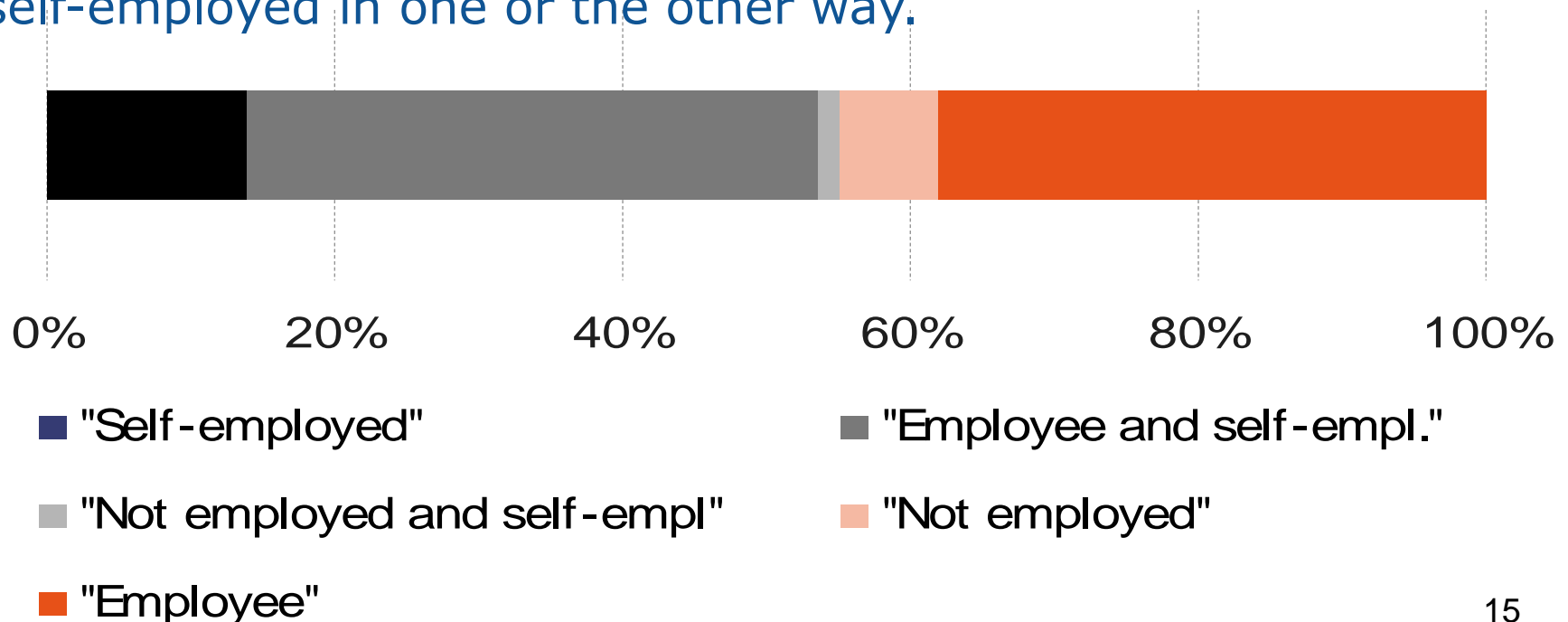


Uber gross revenue, bn \$



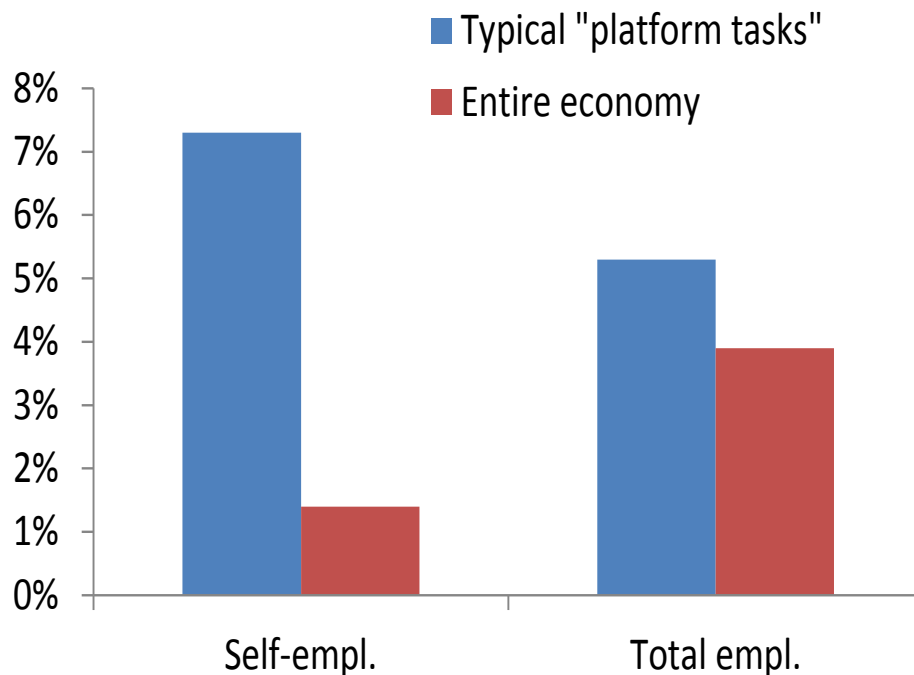
Many platform workers consider themselves as self-employed...

More than half of main-job platform workers indicate they are self-employed in one or the other way.



The increasing significance of platform work may lead to further rise in self-employment

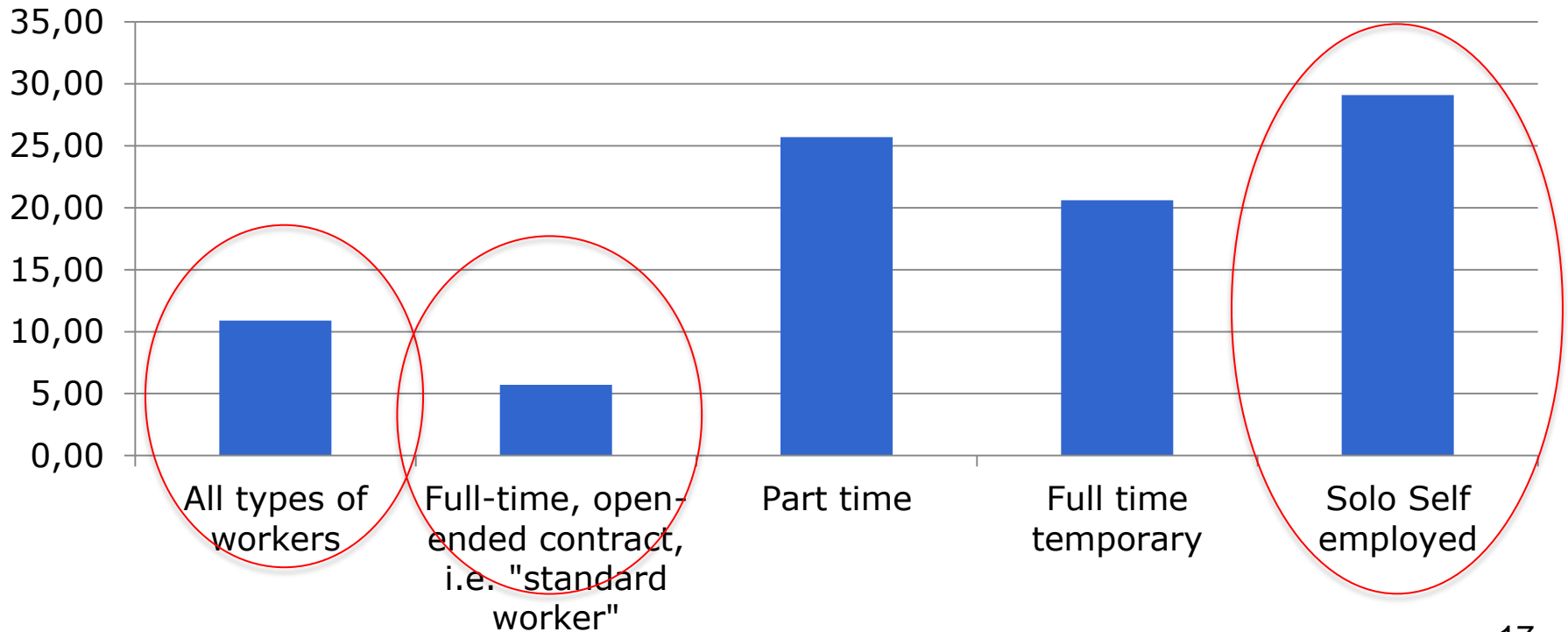
Increase between 2011 and 2016 (%) according to LFS in the 14 EU countries covered by the COLLEEM survey



"Platform tasks" as classified in COLLEEM are: Clerical tasks, professional activities, creative tasks, software development, transport tasks, on-location tasks.

Atypical employment is associated with higher social risks...

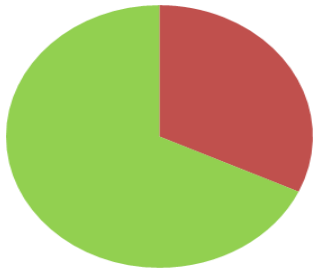
Workers at risk of poverty by type of employment



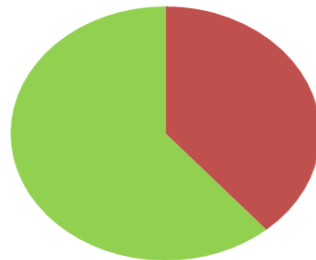
Atypical employment is also associated with lower access to social protection..

Risk of no statutory access to unemployment benefits, by employment type, in red

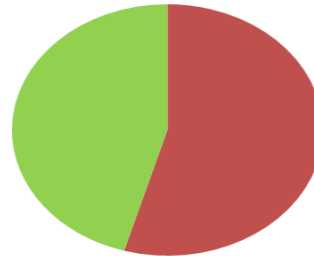
Temporary,
full-time



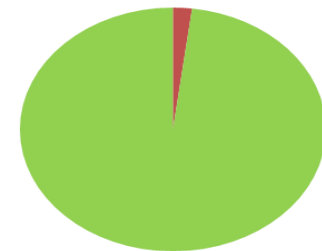
Temporary,
part-time



Self-employed



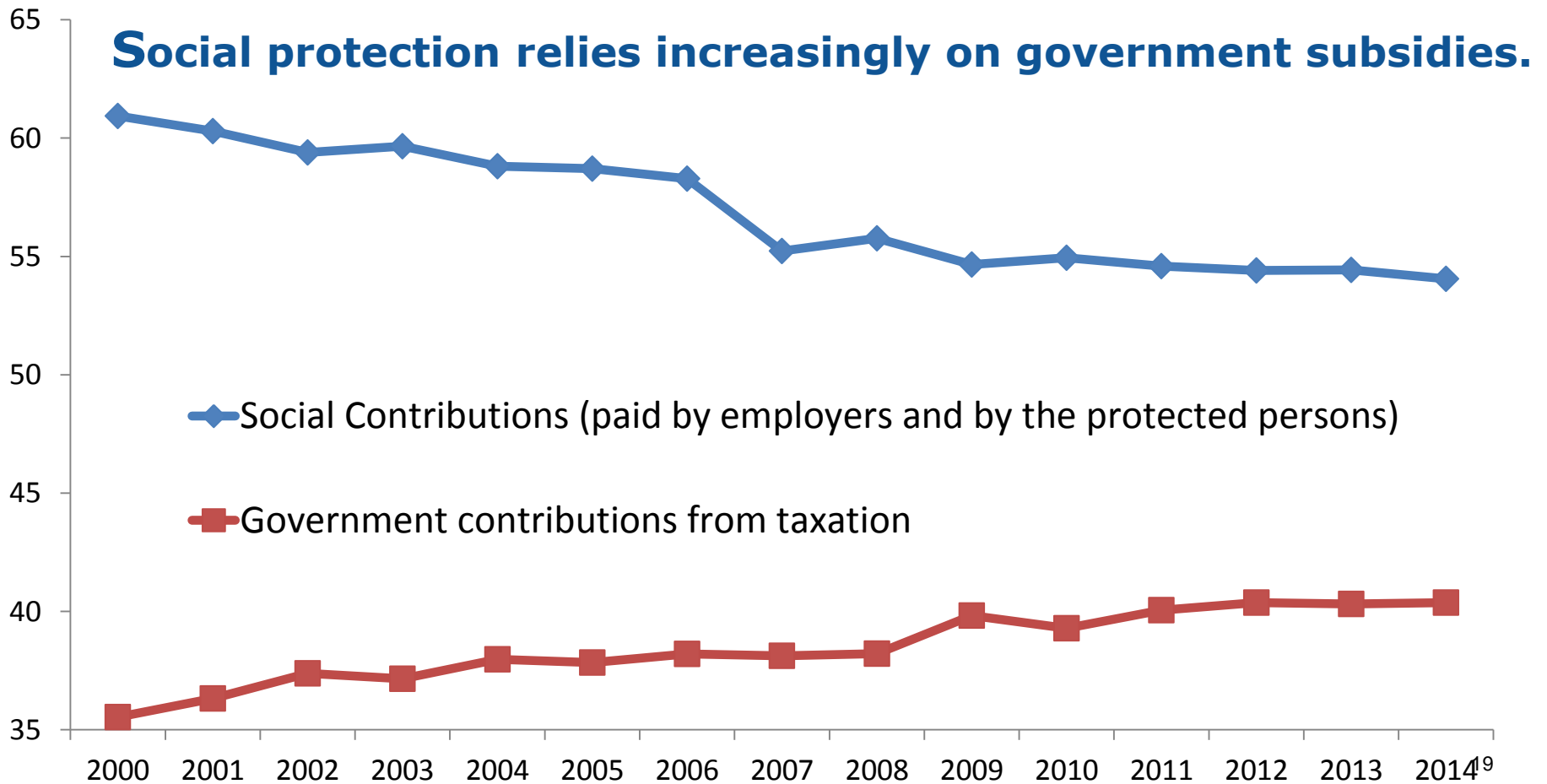
Permanent,
full-time



Source: computations by Matsaganis et al, 2015

EU-28

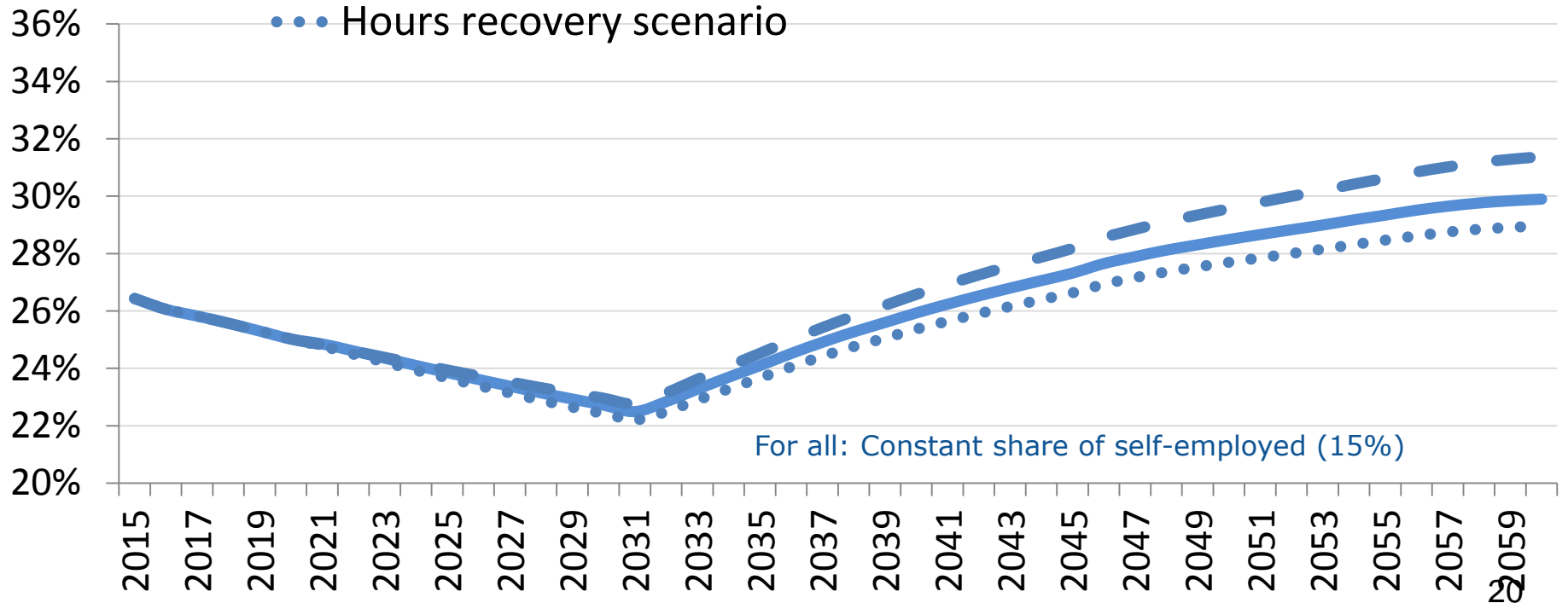
The financing of social protection is becoming more challenging



Funding social security in an environment of fast change

Hypothetical contribution rate as % of wages (Unemployment and pension insurance), EU-28

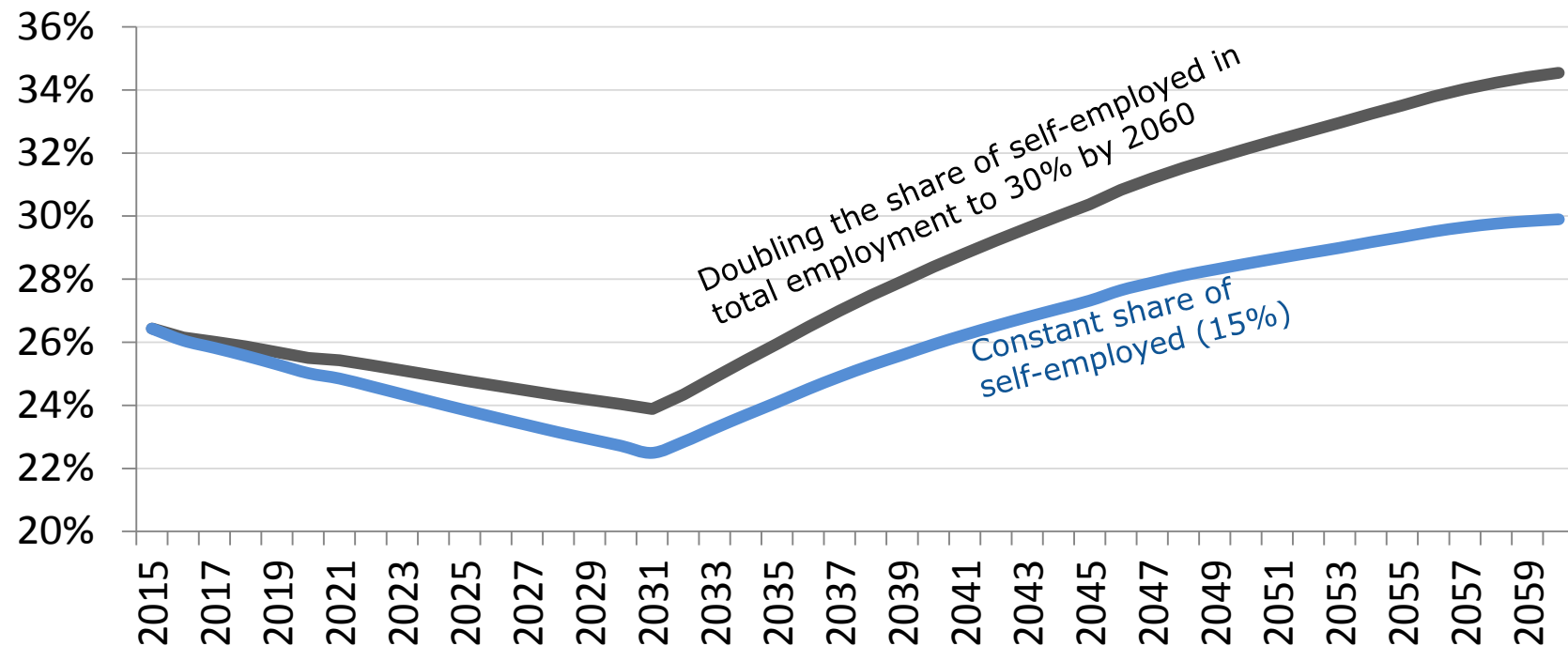
- Standard scenario
- - - Faster hours reduction scenario
- · · Hours recovery scenario



.. assuming "High Activity" labour market scenario (ESDE 2017)

In the medium-term, a higher share of self-employed will make social insurance costlier.

Hypothetical social security contribution rate (unemployment benefits and pensions, EU-28)

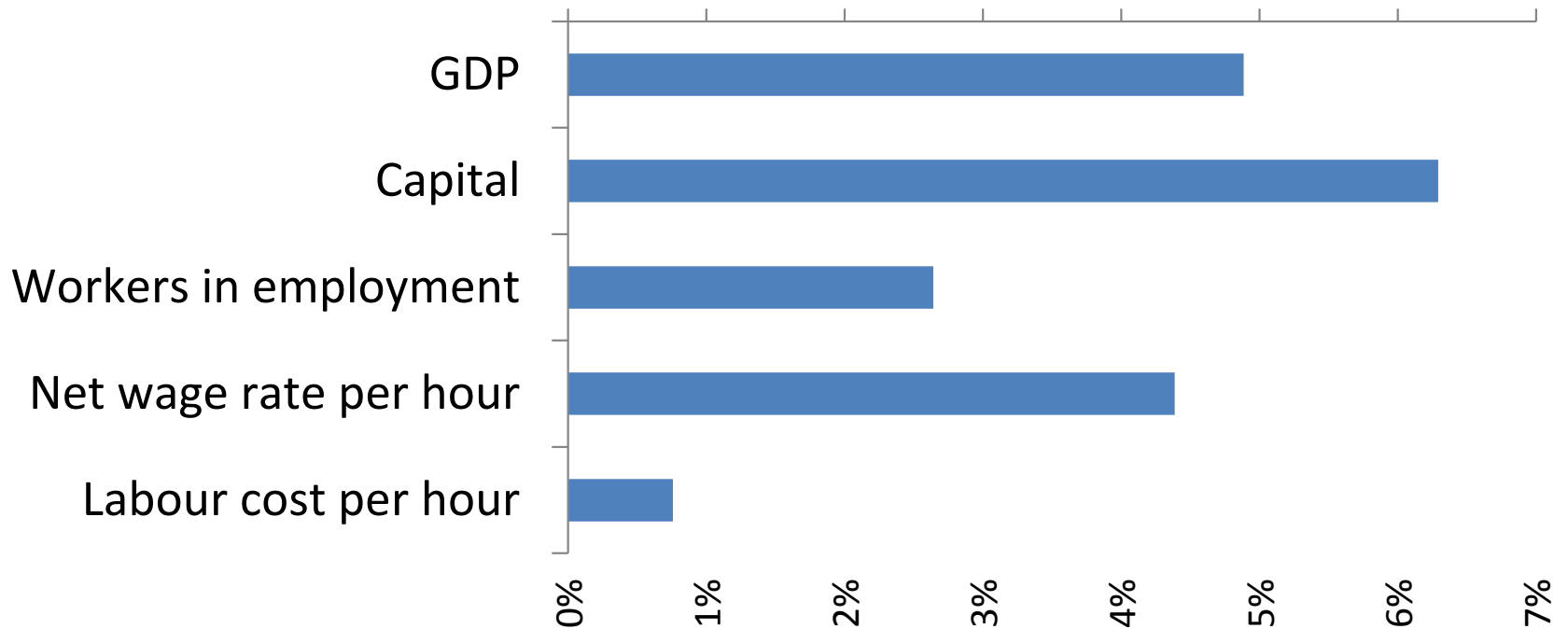


.. assuming "High Activity" labour market scenario (ESDE 2017)



Higher skills and education attract investment and foster productivity

Structural shift, away from low qualified workers (-5% of workforce) towards medium (+3%) and highly qualified workers (+2%), Germany



Conclusions

*Major challenges lie ahead: **Ageing** will require higher productivity growth. Rapid **robotisation** and **digitalisation**, while fuelling productivity, may come at the expense of job losses.*

Investing in skills and education can turn digitalisation into a net job creator.

The world of work is also changing. Digitalised platform work is increasing rapidly.

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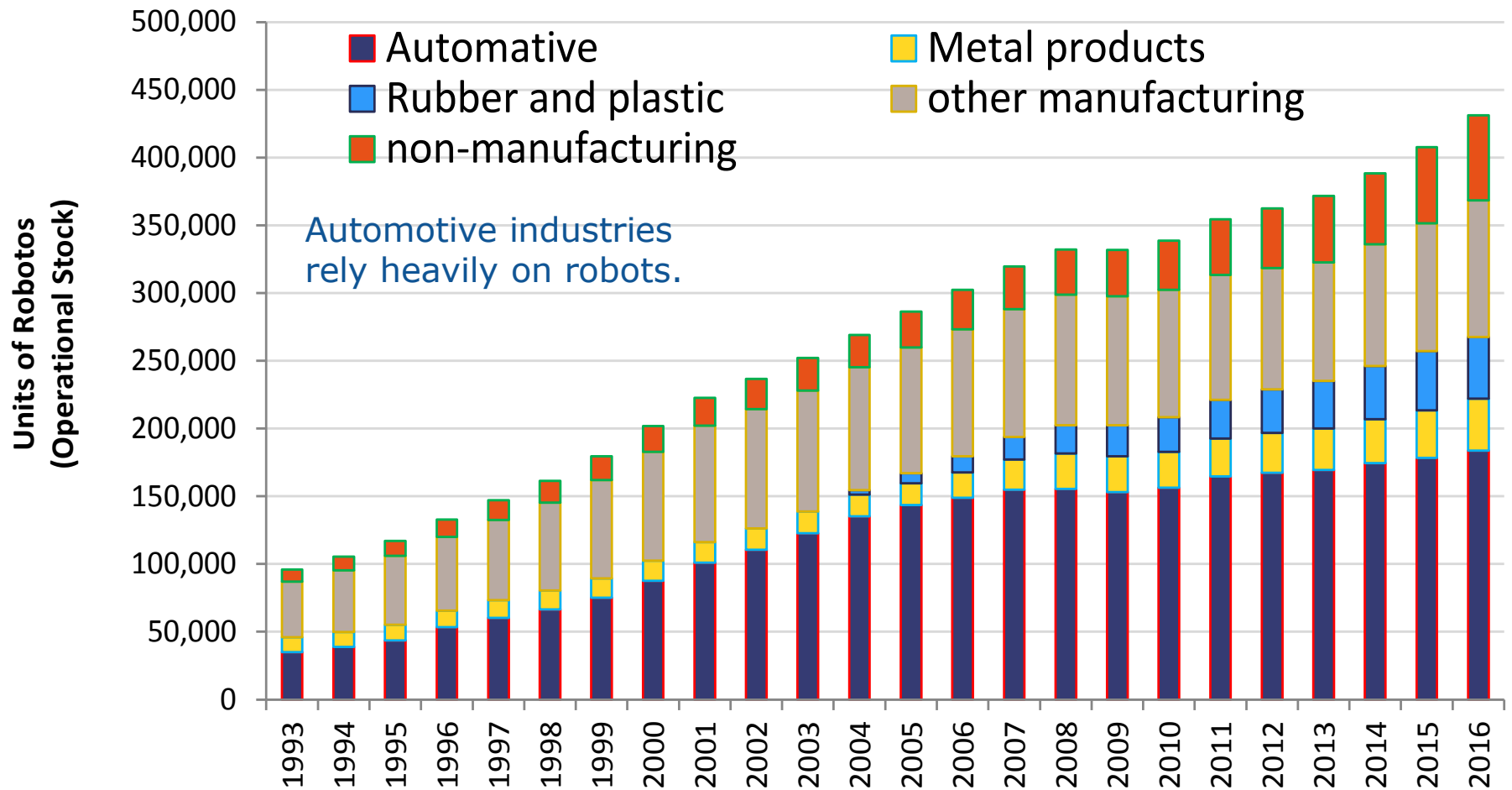
Thank you for your attention!

ESDE 2018 link:

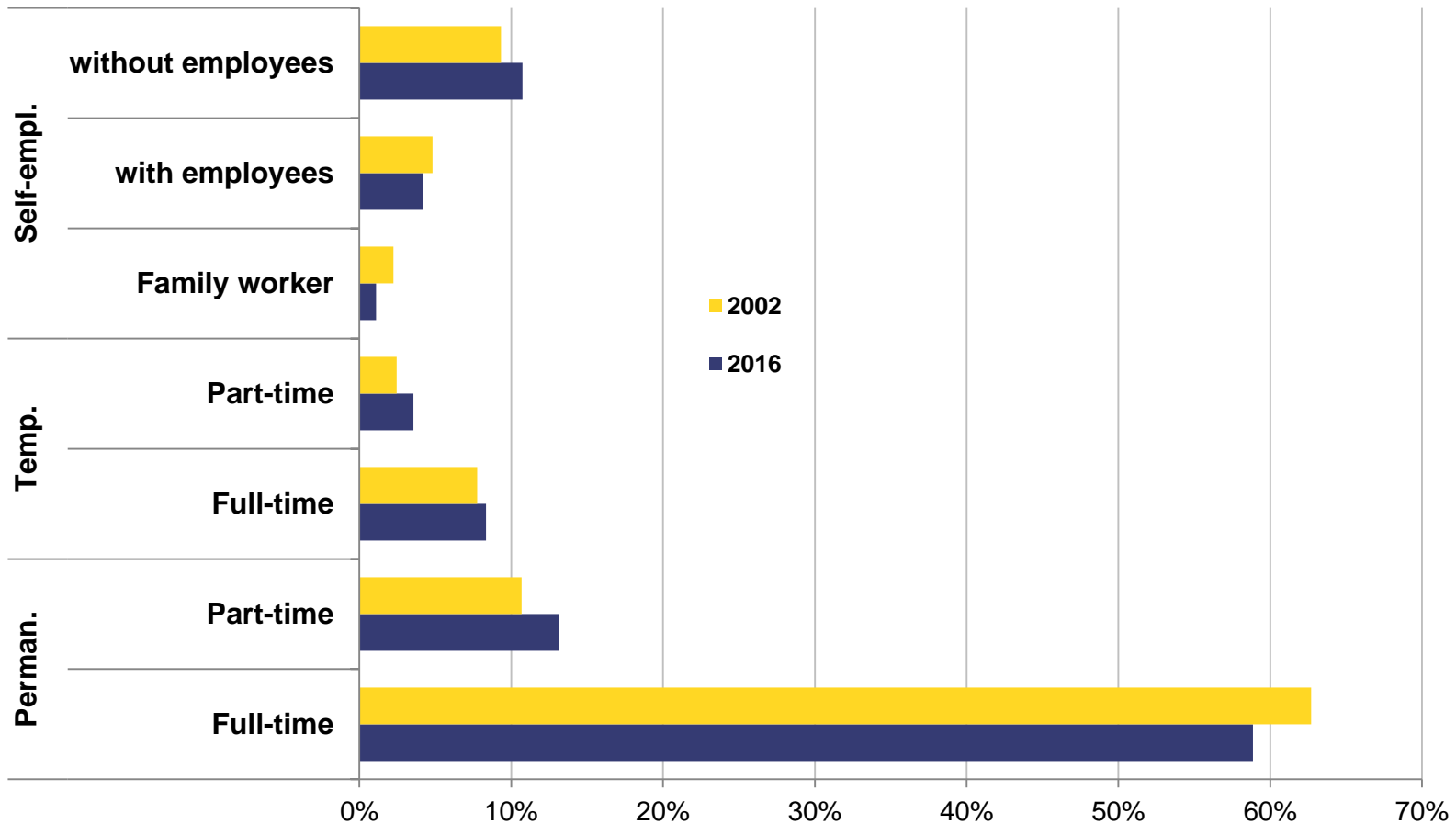
<https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8110&furtherPubs=yes>

High speed of robotisation; by industry

Level of the operational stock of robots in the EU28



Platform work is increasing, as is atypical work in general



Benefits of platform work (and similar new forms of work)

Increased flexibility for both businesses and workers (time and location)

Better work-life balance

More inclusive labour markets: new opportunities including for LM-challenged groups (women caring for children/elderly at home, the disabled, those discriminated against in standard jobs, etc.)

Downsides of new forms of work

Potentially **worse working conditions and job quality** for workers unable to take advantage of changes.

New forms of work have the **potential to amplify income (and other) inequalities**.

Many **workers may not be covered by social security schemes**. This implies:

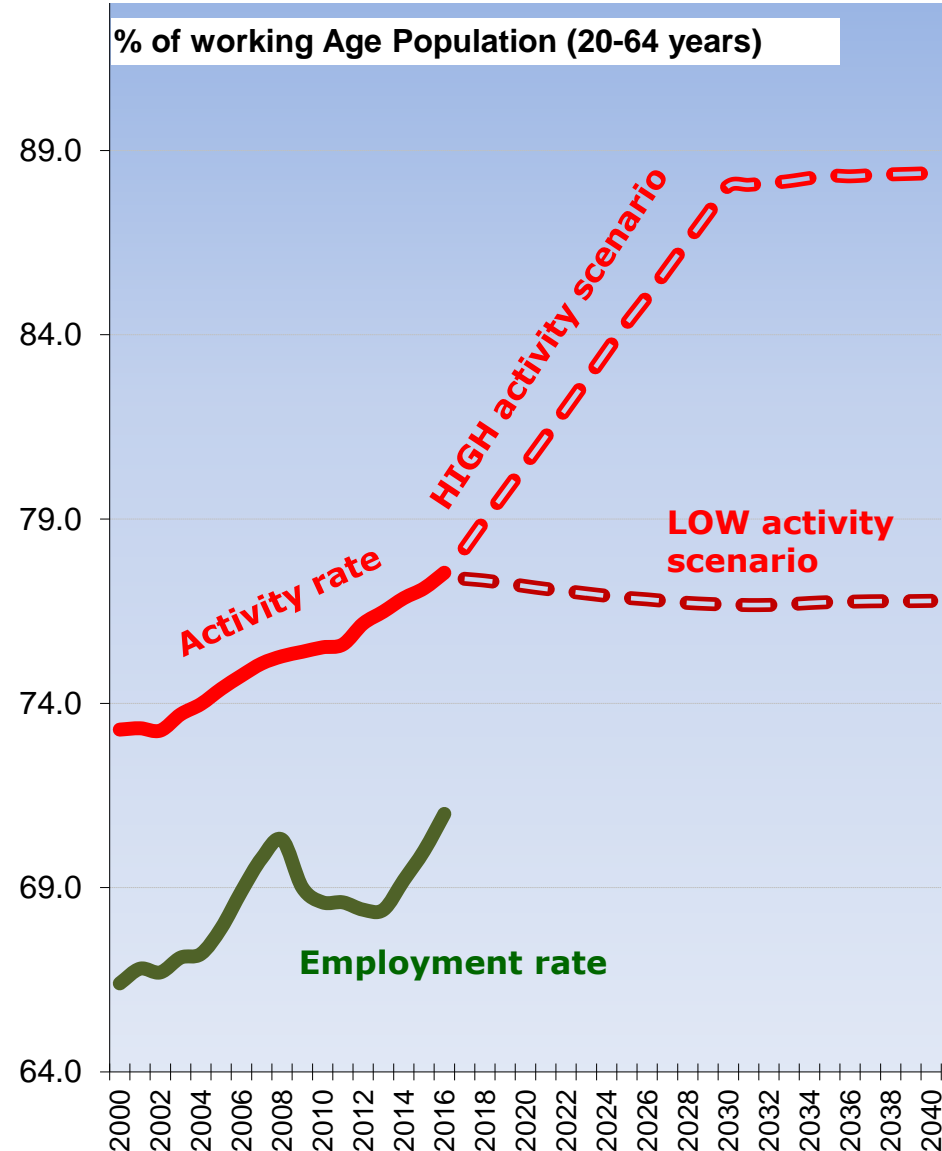
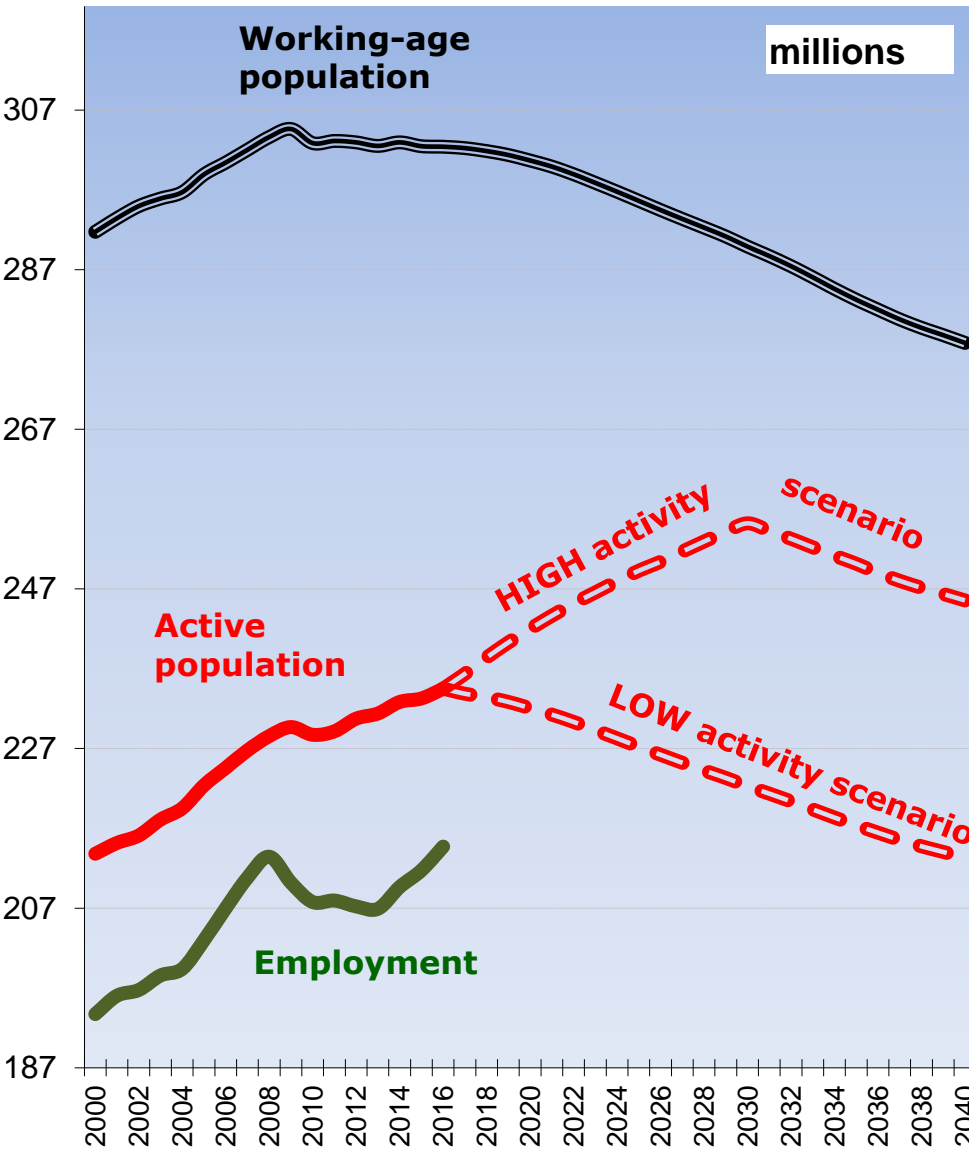
- **Lower social protection coverage** of the workforce;
- **Growing pressure on the financing of social welfare** systems, as the contribution base shrinks, compounded by demographic ageing.

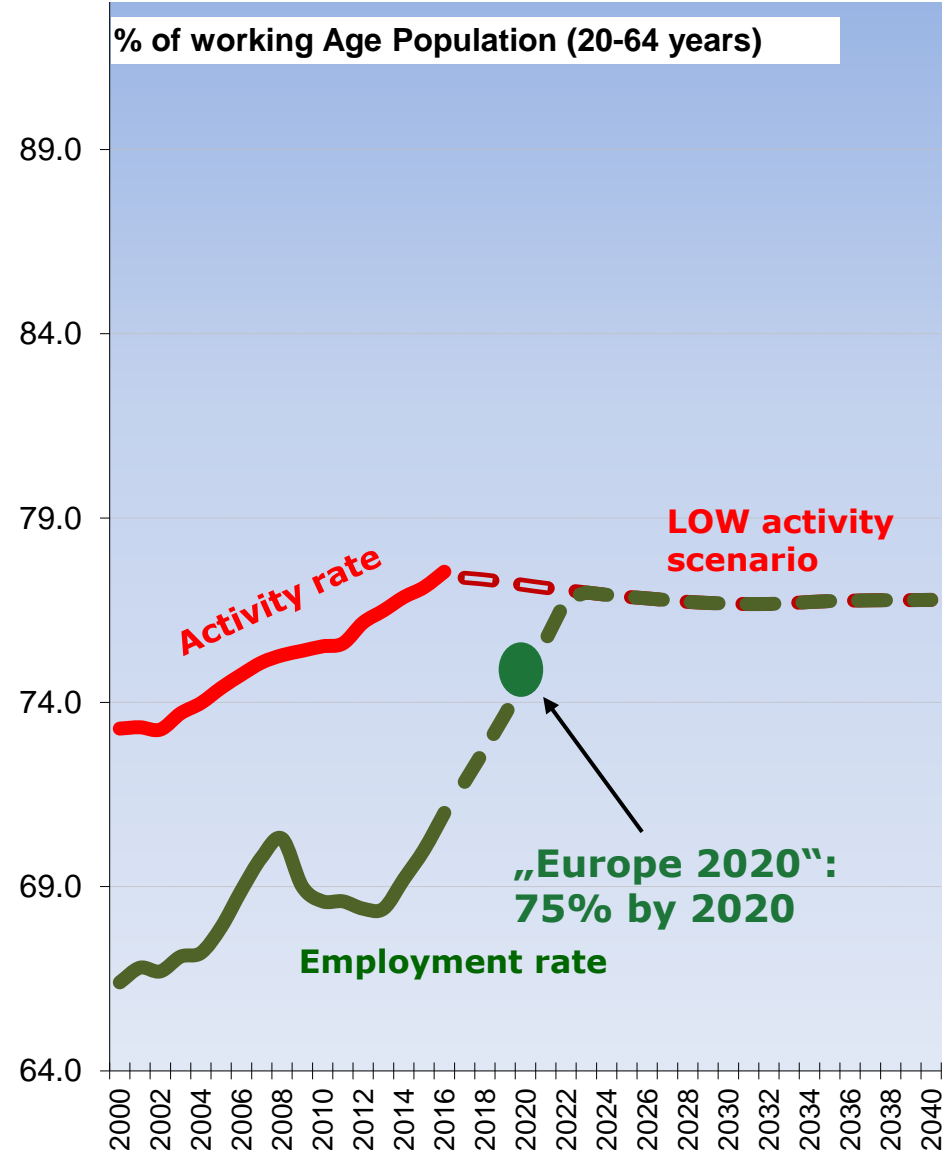
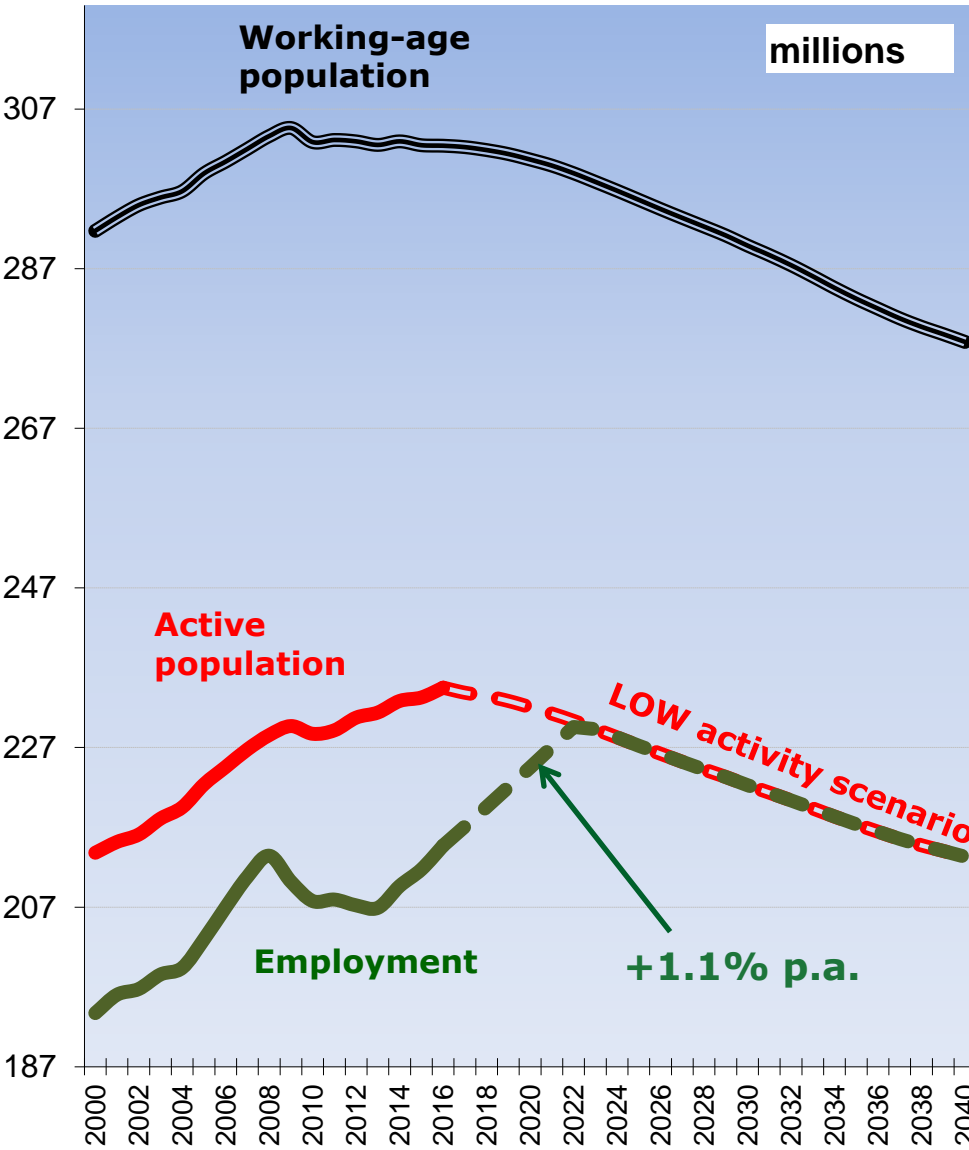
*Facilitate more frequent labor market transitions and **offshorability of labor demand***

Platform work: A cross-country comparison

	Daily internet users	Has ever done platform work	Of those....		
			Monthly or more	10h per week or more	50% of income or more
UK	88%	12%	9.9%	6.7%	4.3%
ES	67%	12%	9.4%	6.6%	2.0%
DE	78%	10%	8.1%	6.6%	2.5%
NL	86%	10%	8.7%	5.4%	2.9%
PT	60%	11%	7.1%	6.0%	1.6%
IT	66%	9%	7.1%	5.4%	1.8%
LT	60%	9%	5.9%	5.6%	1.6%
RO	42%	8%	6.4%	4.5%	0.8%
FR	70%	7%	5.9%	4.2%	1.8%
HR	63%	8%	5.2%	5.2%	1.0%
SE	85%	7%	5.3%	3.5%	1.6%
HU	71%	7%	5.0%	4.1%	1.3%
SK	68%	7%	5.1%	2.7%	0.9%
FI	85%	6%	4.1%	2.9%	0.6%
Total		10%	7.7%	5.6%	2.3%

Source: COLLEEM survey (JRC)





Own calculations based on Eurostat 2015 population projections, Eurostat LFS