

Economic impacts of technology in the workplace in 2016 – and beyond

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Technology will have profound effects on the economy and the labour market

- We just don't know ...
- The pace of change
- The extent of change
- The precise nature of change
- What its implications will be for individuals and society

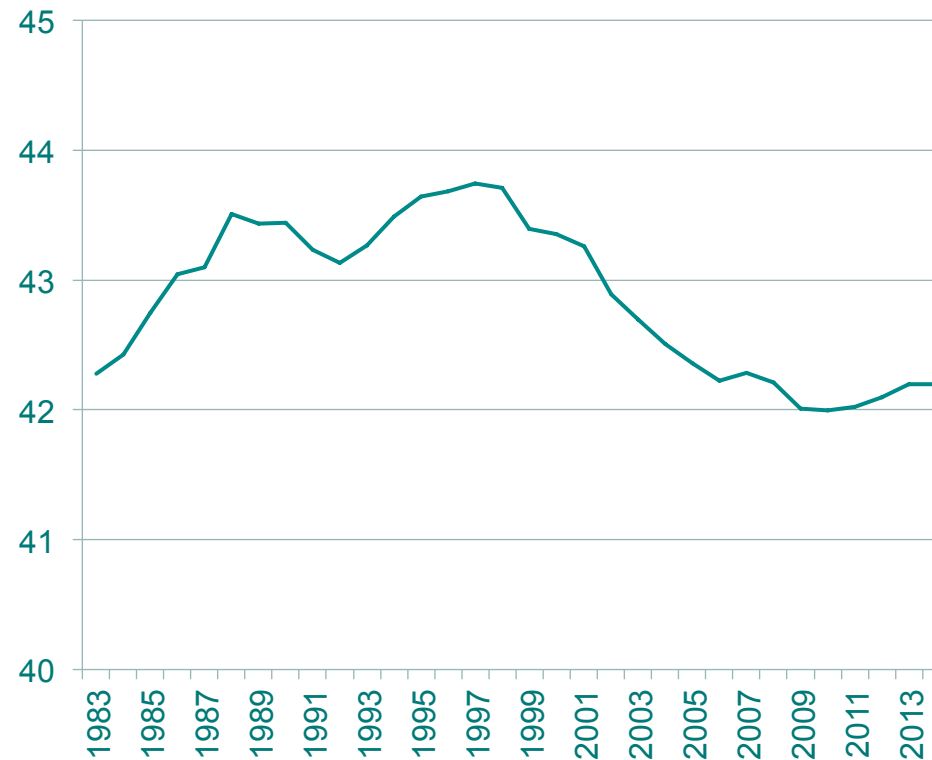


Futurology gone wrong?

“For many ages to come the old Adam will be so strong in us that everybody will need to do some work if he is to be contented ... Three-hour shifts or a fifteen-hour week may put off the problem for a great while. For three hours a day is quite enough to satisfy the old Adam in most of us!”

[Keynes, “Economic possibilities for our grandchildren”, 1930]

Average hours worked each week by full-time dependent employees

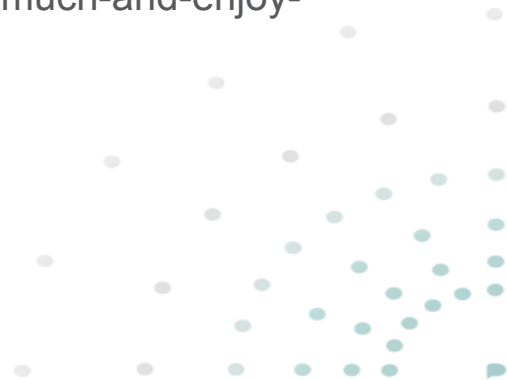


Source: OECD

Maybe not ...

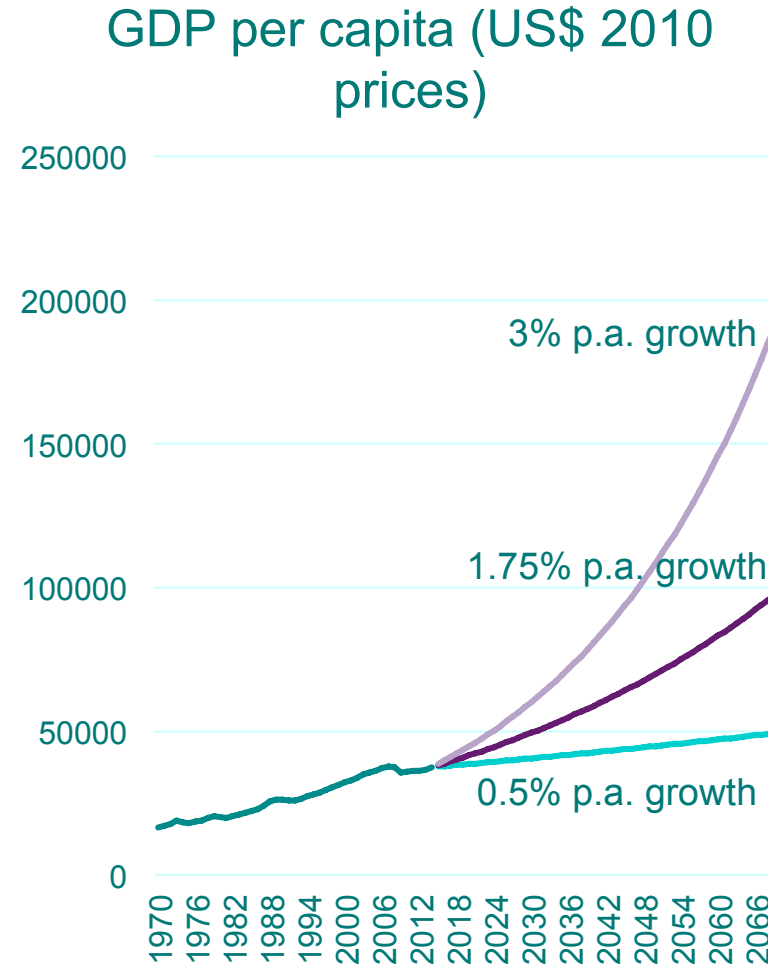
- Keynes broadly correct on likely four-fold increase in productivity in a century
- We would only need to work for 15 hours to have a 1930 living standard made up of 1930 goods (produce of agriculture, mining, manufacturing)
- We work extra to:
 - Pay for government services
 - Pay for new services we can't provide for ourselves
 - Pay for market-mediated leisure (e.g. buying in catering for a dinner party rather than cooking it ourselves)

[Source: <http://www.economonitor.com/dolanecon/2013/06/17/how-much-is-enough-why-do-we-work-so-much-and-enjoy-so-little-leisure/>]



There are wildly varying views about the long-term ... which matter

- We're on the cusp of a new industrial revolution
 - Brynjolfsson and McAfee
 - Ford
 - McCloskey
- Western economies have lost their mojo
 - Gordon
 - Phelps



We're hearing a lot about robots at the moment

...

- Haldane (2015): Up to 15 million jobs vulnerable to automation
- Brynjolfsson (2015): The factory of the future will be run by one man and a dog - "The man's job will be to feed the dog and the dog's job will be to make sure the man doesn't touch any of the controls."
- Willetts (2015): Problem is too few robots, not too many

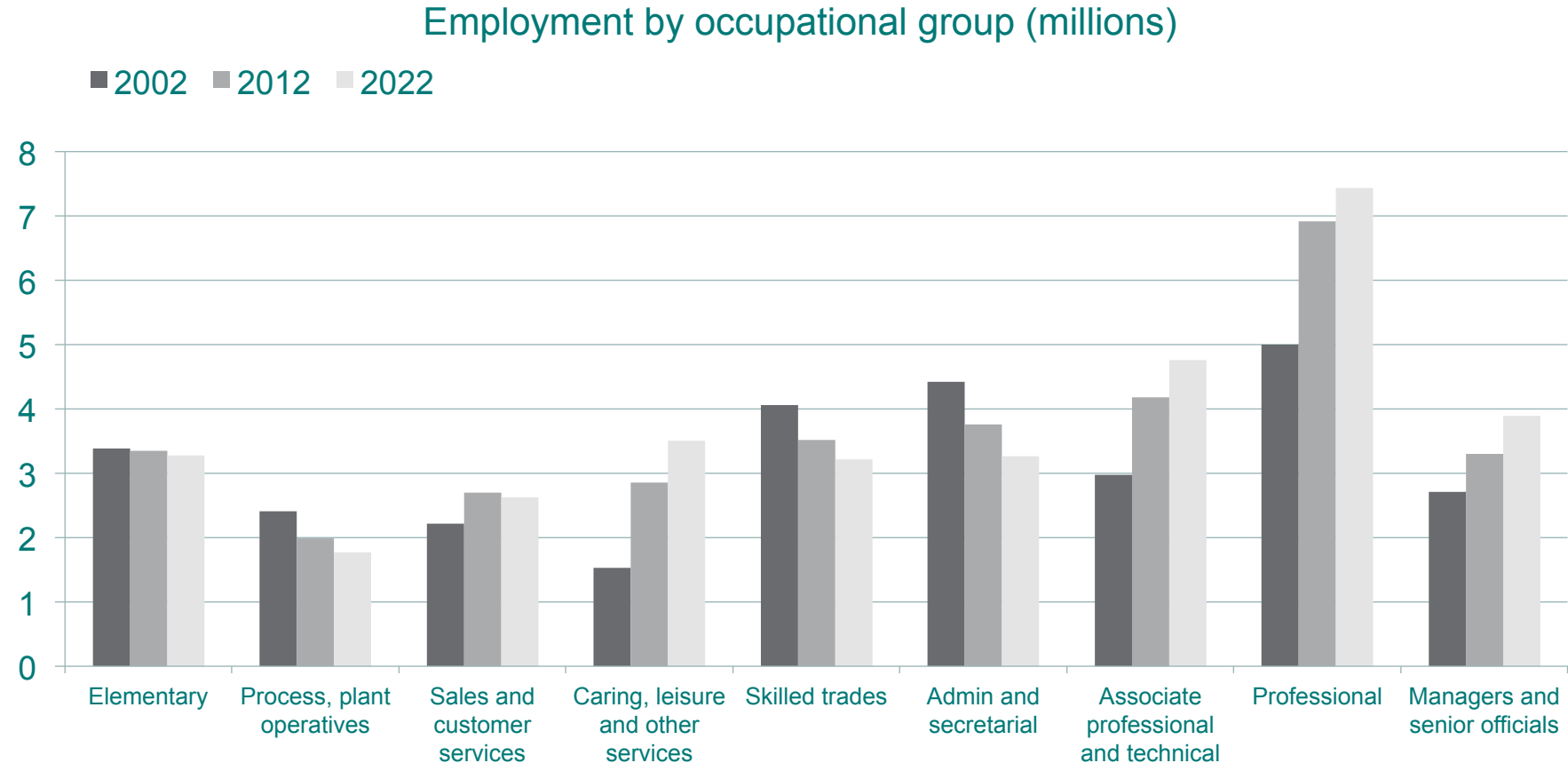
| Occupation | Probability of job loss due to automation |
|------------------------------------|-------------------------------------------|
| Pensions and insurance clerk | 97% |
| Tax expert | 95% |
| HR admin worker | 95% |
| HR manager or director | 32% |
| HR or industrial relations officer | 24% |
| Actuary, economist, statistician | 15% |
| Vocational and industrial trainer | 1% |

The issues are a lot broader than robotics ...

- Which human tasks can AI/machine learning replace and which can't?
 - Humans and machines working together
- Broader range of technologies
- Speed and scale of diffusion:
 - Investment and infrastructure requirements
 - Relative costs
- Winners and losers:
 - Cognitive skills
 - Non-cognitive skills
 - Owners versus workers



Are we already seeing the “hourglass” labour market?



Source: UKCES “Working Futures 2012-22”

What does this mean in the short term?

- Haldane (2015): If labour share remains at current level due to impact of technological change (hollowing out), rather than recovering with a tightening labour market, this leads to:
 - Lower inflation (1.5% p.a. CPI by 2018 rather than 2%+)
 - Lower real wage growth (about 1.5% p.a. over period 2016-2018 rather than 2.5% p.a.)
- Innovation pessimism would also suggest low wage growth – because productivity growth remains low
- With likelihood of continued migration flows – barring policy changes – pay pressures likely to be particularly weak in low-skill routine occupations
- NLW in short term provides countervailing upwards pressure
- Continued pressure for policy measures to shore up bottom of labour market?

Thank you

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