

SOCIAL POLICY IN THE DIGITAL ECONOMY

Conference of European Churches
Berlin 24 April 2018



PRESENTATION OUTLINE

1) What is the Digital Economy?

2) 'Ideal type' scenarios

- The 'this time is different' scenario
- The 'this time is no different' scenario
- The conservative scenario

3) Policy analysis

- Shorter working hours & work sharing
- Employee ownership
- Guaranteed jobs programmes
- Basic income



WHAT IS THE DIGITAL ECONOMY? 1/2

- The term ‘digital economy’ refers to future automation and utilisation of digital platforms
 - The phenomenon widely discussed under several other terms, such as *the Fourth Industrial Revolution* and *the Second Machine Age*
- Digital technologies and artificial intelligence (AI) embody the characteristics of *general-purpose technologies* (GPT)
 - Pervasive, able to be improved upon over time, and able to spawn complementary innovations (e.g. [Brynjolfsson et al. 2017](#))
 - Cf. Steam engine, electricity, computer



WHAT IS THE DIGITAL ECONOMY? 2/2

- Discussion regarding the negative effects of technology on labour continued throughout the last two centuries
 - Employment development historically positive in light of technological gains
- The view is polarised when it comes to the digital economy's long-term effects on employment
 - Technology experts vs economists
- 'Ideal type' scenarios help to identify elements common among cases of divergent future labour market predictions
 - Any of the formulated scenarios may not be found as such in expert discussion



THE 'THIS TIME IS DIFFERENT' SCENARIO

- Exceptional technological possibilities (Frey & Osborne 2013/2017)
 - 47% of the current jobs in the US are at high risk of being automated within the next two decades; the methodology replicated in several other countries
- Exponential and stable development of technology (e.g. Ford 2015)
 - Not enough time to adjust through means of education
 - Digital production less labor-intensive than industrial production
 - Co-operation with machines only temporary before the machines replace workers
 - Task automation even more comprehensive as new technologies mature



THE 'THIS TIME IS DIFFERENT' SCENARIO

- Expansion of paid work through on-demand platforms (i.e. dismantling work processes to even a microtask level)
 - The weakening of workers' rights
 - The at-poverty-risk is significantly higher among self-employed in comparison with salary earners
 - Thus far marginal phenomena
- In brief: this time is difference due to the technological possibilities, exponential phase of the development and more efficient organisation of work



IMPLICATIONS

- The ‘this time is different’ scenario forecasts permanent technological (mass) unemployment, harsher competition over remaining jobs, downward elasticity of salaries, macroeconomic instability, heightened inequality, increasing indebtedness, declining social cohesion, and additional social issues resulting from the aforementioned trends
- Unconventional policy initiatives such as
 - basic income (e.g. Santens 2017)
 - work-sharing (e.g. Bregman 2016, pp. 44–47)
 - progressive capital income taxation or ‘robot taxes’ (e.g. Berg et al 2016)
 - reconceptualisation of work (e.g. Greve 2017, pp. 127)
 - guaranteed jobs programmes (e.g. Meyer 2014)
 - employee ownership expansion (e.g. Freeman 2015)



THE 'THIS TIME IS NO DIFFERENT' SCENARIO

- Historical evidence (e.g. Miller & Atkinson 2013)
- An economist view: Productivity growth stabilises demand on human labour in the long term
 - In addition to *destruction effect*, technology has a *capitalisation effect*, i.e. it creates new jobs (Pissarides 2000, pp. 75–91)
 - The expansion of innovation-based sectors and lowering of consumer prices (i.e. *positive spillovers*)
 - Expansion of production translates into expansion of labour demand, and lower prices make it possible for people to reallocate consumption to other sectors



THE 'THIS TIME IS NO DIFFERENT' SCENARIO

- Instead of replacing entire jobs, it is more likely that individual tasks will disappear
 - Work tasks can change drastically within an occupational classification
 - The *tasks-based* automation risk of jobs to be significantly lower than reported by Frey and Osborne (Arnzt et al. 2016)
 - Instead of exploiting standardised occupational classifications, estimates based on work tasks reported by individuals for OECD's *Survey of Adult Skills* (PIAAC)
 - The average automation risk estimate across the 21 OECD countries is only 9%
- The current statistics do not support the assertion of an on-going great transformation



IMPLICATIONS

- These components, at least in the long-term, believed to lead to positive outcomes = more stimulating jobs and rising wages
- Conventional measures, such as reforming education and stimulating labour supply, sufficient to improve labour's adaptation to the digital economy in the years to come



THE CONSERVATIVE SCENARIO

- Overconfident optimism and speculation of mass unemployment fail to provide a constructive basis for designing future policies
- Due to implementation and restructuring lags (Brynjolfsson et al. 2017), we are not yet able to observe the actual automation potential of digital technology and AI

→ Long-term forecasts unavoidably speculative, and therefore, a flexible approach necessary



THE CONSERVATIVE SCENARIO

- Given the technological breakthroughs of the 2010s as well as the quantitative estimates on technological potential, strong reason to believe that the implementation of digital technologies and AI may lead to more comprehensive and rapid displacement of work tasks
- More volatile labour markets, underemployment, and at least temporary technological unemployment probable outcomes
- Replacing a vast amount of present work tasks can affect the aggregate demand on human labour in a significant manner
 - The utilisation of on-demand platforms creates a fluctuating need for human labour



THE CONSERVATIVE SCENARIO

- Technological unemployment may only be temporary due to capitalisation effect, but risky to ignore the possibility of a more serious disruption that could produce permanent effects
 - Previous studies shown evidence of the technological potential to automate occupations which currently employ large numbers of people (e.g. transportation, logistics, production and administrative support)
 - The employment effect of automating occupations in these sectors could be drastic
 - If jobs with the highest risk of automation target the least educated workers, it is probable that these people will face serious obstacles re-educating themselves for future jobs



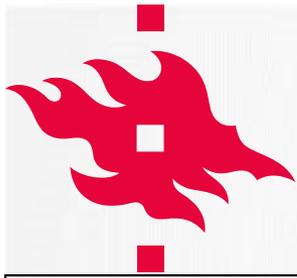
THE CONSERVATIVE SCENARIO

- Despite the positive long-term employment effects, historical evidence shows that technological change may have a negative impact on labour temporarily
 - The First Industrial Revolution produced substantial productivity growth, but wages stagnated from 1770 until 1830, *Engels' Pause*
 - In order to prevent more dire circumstances in the long-term, the top priorities of government officials should be addressing and preventing poverty, underemployment, hysteresis, inequality, and macroeconomic instability

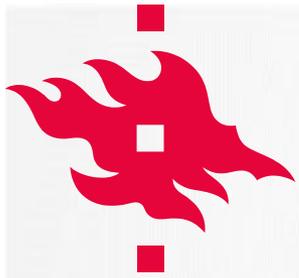


IMPLICATIONS

- The key approach of the conservative scenario to rely on flexible policies
 - Implementing policies that would tackle the social issues *most likely to develop*, such as in-work poverty, regardless which scenario is followed
 - Policies that would help labour to *combine different labour market statuses* in a more flexible manner than at present, such as studying, working on a part-time basis and going into self-employment simultaneously without losing eligibility to social security
 - E.g. Reducing bureaucracy traps in social security, i.e. reducing unnecessary delays, reporting and meeting obligations and falling through the gaps in the system
 - Also gradually reducing means testing



	The ‘this time is different’ scenario	The ‘this time is no different’ scenario	The conservative scenario
Employment prediction	Permanent technological unemployment	No employment effect; temporary technological unemployment	More precarious labor market; temporary or permanent technological unemployment
Suggested policies	Unconventional policies: basic income, guaranteed jobs programs, increasing employee ownership, work sharing	Conventional policies: education reforms, stimulating labor supply	Flexible policies: decreasing means- and income testing gradually; streamlining social security
Analytical background	Occupation-based automation risk (Frey & Osborne 2013/2017), exponential development (Brynjolfsson & McAfee 2014); capital-intensive production (Ford 2015), disruptive digital platforms (Stern 2016)	Tasks-based automation risk (Arntz et al. 2016), historical evidence (Miller & Atkinson 2013), capitalization effect (Pissarides 2000), augmentation (Autor 2015), present statistics (Atkinson & Wu 2017)	Implementation lags (Brynjolfsson et al. 2017), technological opportunities (Brynjolfsson & McAfee 2014), resilience of low-educated workers (Arntz et al. 2016), historical evidence (Allen 2017)



POLICY ANALYSIS



SHORTER WORKING HOURS – 'SOLUTION TO (NEARLY) EVERYTHING'?

- Historically THE implication of productivity growth
 - Continued in Western world until the 1980s
- Rutger Bregman ([2016](#)): 'The solution to (nearly) everything'
- Keynes ([1931](#)): 3 hours a day
- Russell ([1932](#)): 4 hours a day
- Good reasons to argue that shorter working hours increase well-being and ecological sustainability *regardless of the implications of the digital economy*



SHORTER WORKING HOURS – 'SOLUTION TO (NEARLY) EVERYTHING'?

- Negative correlation between working hours and life satisfaction (Alesina et al. 2006) = less work, happier people
- [Numerous studies](#) suggest long working hours are harmful
- Shorter working hours connected to work sharing one solution to unemployment
- Shorter working hours seem to have a positive connection to ecological sustainability (Knight et al. 2012)
 - More leisure and work sharing (more consumption possibilities for low-income households) do not automatically translate into ecologically sustainable choices (Ashford & Kallis 2013)
 - Requires additional policies such as taxes on consumption and free education and culture services



SHORTER WORKING HOURS – 'SOLUTION TO (NEARLY) EVERYTHING'?

- Who pays?
- Employers not willing for shorter working hours and work sharing if it means more costs
- Economists concerned about diminishing production capacity that could translate into weaker employment in the long term
- Private sector work sharing might require socialising at least some of the costs of work sharing
 - How to guarantee adequate income for the work sharer and the employed one?
 - Basic income might enable work sharing in a flexible manner



'WHO OWNS THE ROBOTS RULES THE WORLD'

- Richard B. Freeman (2015): "workers need to own part of the capital stock that substitutes for them to benefit from these new 'robot' technologies"
 - shares of the firm, hold stock options, or wages in part from the profits
 - Might increase commitment to companies, and thus productivity, as well
- Not a new innovation in capitalist societies
 - Employee stock ownership plan (ESOP) in the US; *löntagarfonder* (obligatory, trade union controlled employee funds) in Sweden 1982–1991



'WHO OWNS THE ROBOTS RULES THE WORLD'

- Might be partial solution
 - Somewhat evident that taxation and social security still inevitable measures
- Stricter capital income taxation, or 'robot taxes' perhaps the most evident solution to unequal functional income distribution (e.g. Berg et al. 2016)
 - Nevertheless, employee ownership might offer a dynamic additional solution
 - Employers may not support the idea of obligatory employee funds
 - Thus far, controversial among people as well: 50% of Finns support the idea obligatory funds; 61% voluntary funds (Pulkka 2017)



GUARANTEED JOBS PROGRAMMES

- Post-Keynesian economists (Mitchell 1998) in favour of public sector as employer of last resort
 - Instead of workfare, or 'forced work', public sector guarantees a job *based on individual's existing skills and provides additional skill development*
 - Minimum wages of GJs would guarantee sufficient purchase power and aggregate demand
- Henning Meyer ([2016](#)): GJ better than basic income (BI)
 - 1) GJ doesn't reduce the value of work to mere income 2) GJ is an efficient use of public resources 3) solves better the inequality issue 4) BI doesn't work in the EU 5) BI abolishes the welfare state



GUARANTEED JOBS PROGRAMMES

- In comparison with current workfare measures, GJ would increase autonomy of the unemployed and guarantee adequate income
- Would it stigmatise the unemployed? Who wants to employ a guaranteed job worker?
- Mainstream economists do not back up GJs



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME?

”A *basic income* is a periodic cash payment unconditionally delivered to all on an individual basis, without means-test or work requirement.” (BIEN)

- Renaissance of basic income discussion
- Cannot be discussed in the general level; level, replaceable benefits and taxation make all the difference
- Almost every argument in favour and against can be found in the discussion
- No matter which scenario is followed, tackling the increase of at-poverty-risk should be considered top priorities among government officials



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME?

Assumed direct effects	Lifting the current level of social security
	Better economic incentives
Assumed indirect effects	Bargaining power of precarious workers
	Less bureaucracy and more flexibility



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME?

- Lifting the current level of social security
 - Full basic income faces challenges either at micro- (high income taxation) or macroeconomic (budget constraints) level
- Better economic incentives
 - Difficult if not impossible to improve economic incentives coherently without diluting the current level of social security or without budget constraints
- Bargaining power of precarious workers
 - Ease the negotiation over better conditions of employment, but the most vulnerable in the labour market tend to face **structural restrictions** such as short in demand or exclusive skill requirements (Birnbaum & de Wispelaere 2016)



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME?

- Birnbaum and de Wispelaere continues...
- Replacing a worker with another can be a cheaper option for an employer than giving a raise or guaranteeing better working conditions
- In the digital economy facilitating a collective exit option may become an incentive for the employer to replace workers by machines
- Unconditionality per se does not automatically strengthen the bargaining power of workers if the level of basic income and other supportive systems are not adequate for decent living



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME?

- Less bureaucracy and more flexibility
 - Bureaucracy traps: delays, reporting and meeting requirements, recovery of overpayments, and risks of falling through gaps in the social safety net if eligibility for a benefit disappears
 - Partial BI schemes leave naturally some benefits intact, but many of the pitfalls stated above could be tackled
 - Nooteboom (1987): 1) a compensation for diseconomies of small scale 2) facilitate potential wage earners to become entrepreneurs 3) replace complicated current schemes 4) diminish unfair competition presented by informal or formal entrepreneurship by recipients of social security
 - Real possibilities for lifelong learning
 - On the other hand: bureaucracy can be reduced and flexibility increased within the means-tested schemes as well



A FREE LUNCH WITH ROBOTS – IS THERE A CASE FOR A BASIC INCOME

Direct effects	Lifting the current level of social security	-
	Better economic incentives	-
Indirect effects	Bargaining power of precarious workers	?
	Less bureaucracy and more flexibility	+



BUT THEN AGAIN...

- BI would make it easier to share work in a flexible manner
- BI would be effective measure to tackle poverty of self-employed persons
- BI would reconceptualise work: pay for unpaid work
- At the end of the day, the question will be:

What kind of society we want to build should the promises of substantial productivity growth to be materialised?



SUMMARY: POLICY ANALYSIS

Shorter working hours	Employee ownership	Guaranteed jobs programmes	Basic income
<ul style="list-style-type: none"> • Positive effects on life satisfaction • Negative effects of long working hours • Work sharing to tackle unemployment • Ecological sustainability • Who pays? 	<ul style="list-style-type: none"> • Perhaps more dynamic than 'robot taxes' or strict capital income taxation • Partial solution at best • Taxation and social security still needed • Political feasibility? 	<ul style="list-style-type: none"> • Real jobs instead of workfare • Guaranteed income • Possibilities for skills development • Critique from mainstream economists 	<ul style="list-style-type: none"> • Not necessarily the most cost-effective manner to tackle poverty • Effective measure to tackle poverty of self-employed persons • Would reconceptualise work