Foresight Brief

The *Foresight Brief* is a new publication from the European Trade Union Institute (ETUI) focused on strategic thinking about the future challenges for the world of work. It is produced by the ETUI's Foresight Unit, whose work concentrates on two priority areas: climate change adaptation and new technologies. The *Foresight Brief* is also available in French under the title *Notes de prospective*.

Shaping the world of work in the digital economy

Christophe Degryse
Researcher at the European Trade Union Institute
and Head of the Foresight Unit

For better or worse, in the space of just a few months the digitalisation of the economy has become an unavoidable theme in political and social debates. This new industrial revolution is predicted to disrupt the processes of production, the world of work and society at large. How can we prepare for this and how can we anticipate its effects? In June 2016, the ETUI's three-day conference in Brussels brought together the best experts on social issues related to the digitalisation of the economy, a theme that is still difficult to grasp in terms of its specific implications. In dedicating its first issue to this conference and its conclusions, this *Foresight Brief* offers more than a mere summary of the debates. It instead aims to draw out vital points concerning the strategic challenges that we believe the world of work faces in this new 'digital revolution'.

#01 – January 2017

Editors of the Foresight Brief series:
Christophe Degryse
Philippe Pochet
Aída Ponce Del Castillo

Editor of this issue:
Christophe Degryse,
cdegryse@etui.org

More information on
www.etui.org > Foresight Unit

ISSN 2507-1548

foresight unit

etui.

Introduction

It is still difficult to get a clear idea of what the so-called 'digitalisation of the economy' entails: the extent of the phenomenon, what exactly it covers, and its likely social impacts. There is a serious lack of relevant data and there are many unanswered questions still to be tackled by the research agenda. To obtain a clearer view, we suggest a dramatic simplification of the concept of the 'digitalisation of the economy' by breaking it down into its two component parts: robotisation in all its forms (material and virtual) on the one hand, and a new business model, the platform economy, on the other.

Robotisation encompasses all the computerisation and automation phenomena that enable robots to carry out non-routine manual and cognitive tasks. Robots may be either real (smart factories, driverless cars, 3D printers, etc.) or virtual (software, algorithms, production process management and control systems, artificial intelligence, etc.).

The platform economy, meanwhile, has been made possible because of ubiquitous connectivity, data and mobile devices that allow people to network via digital platforms (Facebook, LinkedIn, etc.), to have access to new services (e.g. Uber, Airbnb), including commercial services (Amazon, leboncoin.fr, etc.), and in particular to develop new business models based on online outsourcing (Upwork, Amazon Mechanical Turk, Freelancer, etc.). This platform economy has brought a new player into the labour markets: the 'crowd', available 24/7 all or almost all over the globe and prepared to work at often very low rates.

This platform economy has brought a new player into the labour markets: the 'crowd', available 24/7.

Moreover, this conceptual simplification of the 'digitalisation of the economy' allows a parallel to be drawn with the first industrial revolutions, which were also characterised by two phenomena: firstly, mechanisation and the development of factories; and secondly, the creation of a mass workforce, whose labour was divided into small tasks in the same manner that now occurs on those digital platforms offering online outsourcing (which could be considered a new form of digital Taylorism). The difference is that, in this context, robotisation does not lead to the creation of mass employment. Furthermore, the new technologies have made it possible to isolate each individual from what is really only a virtual 'crowd'. Alongside real factories (Bosch, Renault, etc.), which announce fewer and fewer human jobs and more and more intelligent robots, there are now virtual factories (e.g. FouleFactory, AMT), where the labour force is massive but is dispersed throughout the world. This way of seeing the digitalisation of the economy reveals that the issue facing social and trade union movements is twofold: there are the 'robots' and there is the 'crowd'.

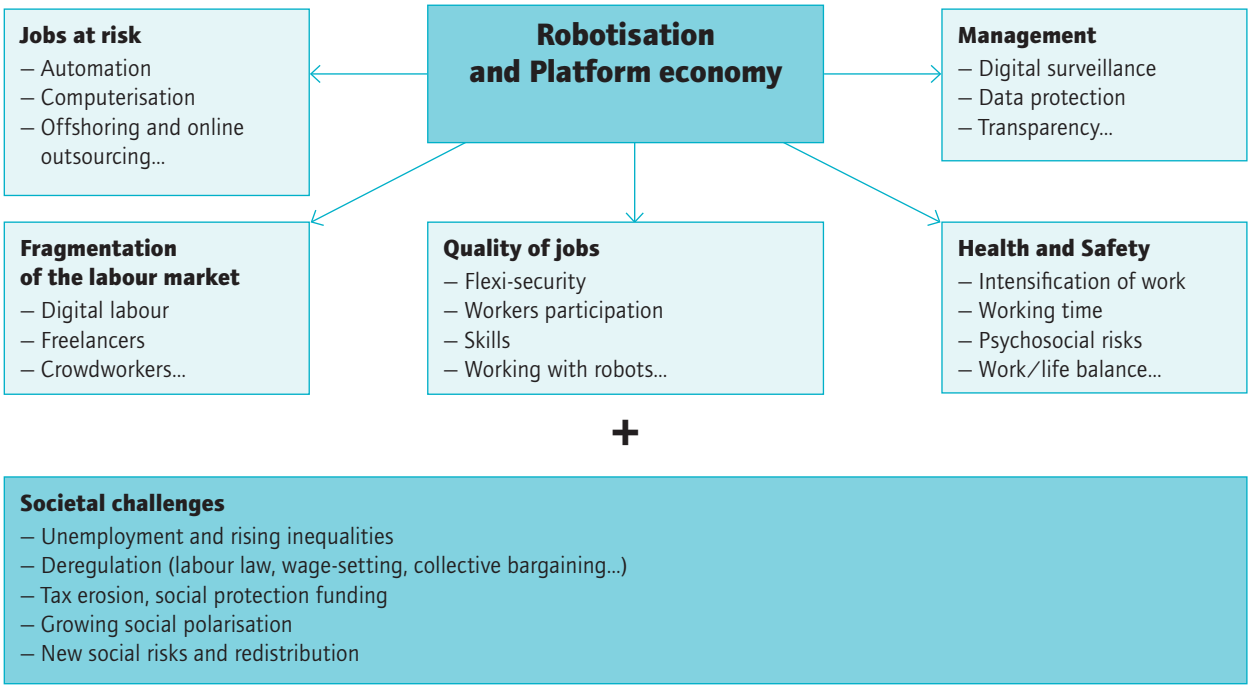
Robotisation

The social challenges posed by robotisation – in both private companies and public services and companies – are significant, yet their 'disruptive' nature depends largely on the level of industrialisation of countries and regions. Are the

challenges facing the countries of the former EU15 — which have partly deindustrialised through offshoring to China or eastern Europe — different from those facing central and eastern European countries where there has recently been a strong development of the manufacturing industry (although the CEE countries cannot be treated as a coherent whole)? Similarly, the impact of the 'robot revolution' on the labour market in China will be, or already is, different from that of other Southeast Asian countries such as Indonesia, which, after gambling later than China on economic growth by way of industry and cheap labour, risks what the economist Dani Rodrik calls 'premature deindustrialisation', i.e. deindustrialisation due to robotisation, but before these countries have achieved levels of development and income comparable to those of China, South Korea or Western countries[1].

The social challenges posed by robotisation are significant, yet their 'disruptive' nature depends largely on the level of industrialisation of countries and regions.

Digitalisation of the economy: mapping the main social risks



Source: © Christophe Degryse, ETUI 2017

Furthermore, consideration must be given not only to industrial robotisation but also to the virtual robotisation that now pervades in offices. Automation and dematerialisation of increasing numbers of tasks in trade, distribution, banking, insurance and other sectors (automatic document reading, content management, procedure and process automation, etc.) bring about profound changes in the organisation of work and undoubtedly a gradual erosion of traditional employment in these sectors.

1. Which could, moreover, cause a major social problem in these heavily populated countries (see: *Financial Times*, China's robot revolution, 6 June 2016).

In the countries that will be most affected by these different forms of robotisation, the major questions concern:

– the digitalisation of tasks, jobs and workplaces, and what it implies for the future prospects of jobs in industry and services, including public services;
– changes in value chains in industry and the potential relocation of sites and jobs (although this is not yet visible in the statistics);
– collective bargaining, information/consultation and anticipation of changes;
– socially responsible restructuring.

'Traditional' issues regarding the quality of employment in EU countries also arise with respect to:

– flexibility and security;
– workplace health and safety (including the intensification of work connected to the expansion in the use of information technology);
– skills, qualifications and training;
– working time;
– reconciliation of private and working life;
– managerial control and the protection of workers' personal data.

The European trade union movement has tools and institutions to cope with these challenges, which can be addressed in the framework of inter-professional and sectoral social dialogue and works committees.

One of the major areas of concern relates to the evolving position of workers in 'smart' factories and offices.

What new elements have emerged? Fresh attention must clearly be given to developments in the organisation of work enabled by new technologies: how far can robotisation go, how should it be conceived in its interactions with workers, and what new management methods will it call for? In addition to the risk of job losses, one of the major areas of concern relates to the evolving position of workers in 'smart' factories and offices, i.e. where production processes are automated, optimised and controlled by sophisticated information flow management software. There are two opposing views of this development, according to the first of which employees are to become mere executers of the will of machines (to paraphrase Simon Head: 'are smart factories making dumber workers?'). At what point does this become a real risk, and how can such developments be avoided? According to the second view, by contrast, some industries that have taken robotisation as far as it can go have ultimately 'dismissed' robots because, unlike workers, they are not capable of reflecting on production processes or on their own development. According to this view, notably supported by Robert Went[2], a company which is fully robotised would be one whose organisation would no longer develop. Its procedures would be stilted, which would be unhelpful in a constantly developing world. This therefore raises the question of how to move towards inclusive and intelligent robotisation, i.e. by having workers take part in the processes. Experiences in public services have also shown that the robotisation and digitalisation of processes may prove costly when

2. WRR (2015) De robot de baas, Den Haag, Wetenschappelijke Raad voor het Regeringsbeleid. http://www.wrr.nl/publicaties/publicatie/article/de-robot-de-baas-de-toekomst-van-werk-in-het-tweede-machinetijdperk-31/

not carried out in consultation with workers or without bearing in mind the real needs of the users of these services.

There is an opportunity here for the trade union movement to reflect on how they can negotiate a reasoned and 'inclusive' robotisation/digitalisation that will benefit companies and management but will also benefit and serve workers and, where applicable, users. What criteria will underpin socially successful robotisation? While the literature stresses the foreseeable job losses, it also points out that the new technologies will allow new jobs to develop, though it is still difficult to predict what kind, in what sectors and what type of qualifications they will require. The trade union movement could undertake a forward-looking reflection, particularly at sectoral level. Which jobs are most at risk in each sector, and what jobs might emerge in those sectors?

Another important area of concern is excessive control of citizens and workers. The new technologies now offer a whole range of monitoring tools: RFID microchips, surveillance cameras, geolocalisation tools (GPS), surveillance software, smartphones, etc. Unfettered control of employees could lead to a breakdown in trust between them and management. This phenomenon can already be seen both in the United States and in Europe, but to what extent can an employer control his or her employees? Trade union organisations should consider this an important subject for discussion and negotiation with employers to ensure that surveillance of employees' work is proportionate.

Another important area of concern is excessive control of citizens and workers.

The crowd

The second phenomenon is the new business model known as digital platforms, the very rapid development of which has been enabled by the new technologies. Unlike with robotisation, the social challenges in this area appear to be totally disruptive. In this platform model, professional regulated jobs are obliged to compete with 'jobs' performed by 'laymen'[3]. This can be seen mainly in two major categories of services: local services such as passenger transport, catering, cleaning, the hotel trade, etc., and online outsourcing by SMEs and transnational companies of tasks that can be carried out remotely by computer.

With respect to the supply of local services, new players have appeared on regulated (to a greater or lesser extent) markets that call into question or indeed ensure the disappearance of the old models and the jobs accompanying them. One example would be the (arguably unfair) competition between taxi drivers who are subject to social and tax legislation, insurance requirements and the administrative formalities of their country, and Uber, which appears to be free of any constraint and whose success could lead to the deregulation of the sector. This competition is also facing hotel operators (from Airbnb), caterers (from Menu Next Door) and cleaning services (from sites such as Youpijob), as well as gardeners, removers, etc.

3. Valenduc G. and Vendramin P. (2016) Work in the digital economy: sorting the old from the new, Working Paper 2016.03, Brussels, ETUI.

The main areas of concern with regard to these service platforms are the trend towards insidious deregulation and the failure to respect labour law (the employment relationship, employment contracts, collective agreements, wages, etc.). There is also a risk of regulated jobs being 'siphoned off' by these new forms of work, giving rise to a kind of parallel and often insecure labour market that does not comply with the social, tax and regulatory provisions that govern regulated workers. The trade union movement could find itself in something of a dilemma or trap: should priority be given to defending traditional jobs in these sectors, or to organising the new precarious workers of Uber and others such as Deliveroo?

Another potentially even more disruptive development made possible in the digital economy is the outsourcing of certain tasks, or 'online outsourcing'. In production processes, the new technologies use digital platforms to facilitate the 'crowdsourcing' of certain tasks and parts of the organisation of work. This is a type of 'de-professionalisation' of tasks by entrusting them to crowdworkers. For employers, this form of outsourcing has the threefold advantage of being very quick, very cheap and completely unregulated. Not all tasks lend themselves to outsourcing of this kind, however, and therefore a more accurate appraisal of the extent to which this poses a risk for 'classical' work is needed. There is no employment relationship between the platform (and the enterprise that uses it) and the service provider, and thus no applicable social legislation, no social security contributions and no legal obligations. There is no contract of employment and no real employer in the classical sense of the term, and the platform's general terms and conditions can be accepted in a click, often with very unequal provisions that potential providers have to take or leave.

Certain studies tend to divide such platform work into two major categories: microwork, i.e. very badly paid work by the task and requiring few qualifications (the standard example being the Amazon Mechanical Turk platform); and online freelancing, whereby qualified self-employed workers (translators, accountants, etc.) can find new clients and set their own conditions and charges (the standard example being the Upwork platform).

Work allocated by the task on these platforms is a commodity sold at market price.

For trade union organisations, microworking undoubtedly poses the most difficult challenge. Work allocated by the task on these platforms is a commodity sold at market price. The workers concerned are sometimes appraised rather opaquely, even arbitrarily, by contractors, and given no leave to appeal. In the event of a prolonged poor appraisal, they risk being 'disconnected' by the platform, without further procedure. It goes without saying that the 'reputation' they will have built up on a platform will not be transferable to a rival platform. Trade union organisations are almost totally absent from these virtual factories, as is labour law. One of the challenges is therefore to find ways to organise workers above and beyond their status and country. This is an enormous challenge since it involves retirees, precarious workers, students, the unemployed, migrants, the disabled, paid employees, etc., from Europe and the rest of the world. For some of them, crowdworking represents an

opportunity, while for others it represents extreme insecurity, or even just exploitation pure and simple.

Studies clearly show that most crowdworkers would like to work more. The supply of online digital work therefore considerably exceeds the demand for it (even if the latter is increasing very rapidly). For the World Bank, this means that online outsourcing promises a glittering future for enterprises that seize the available 'opportunities': 'Online outsourcing (OO) has become a promising alternative to traditional employment in today's digital era. It has transformed where, when, and how work is performed.'[4] The World Bank also reports that there were 145 online work platforms in 2013 but only a few big global players. These platforms attracted close to 50 million crowdworkers (figures from 2013 which have now undoubtedly been greatly exceeded).

It must be pointed out that the geography of these platforms is very uneven[5]. The demand for tasks comes essentially from companies in the English-speaking world (United States, United Kingdom, Canada, Australia, etc.), while the crowdworkers themselves are more spread out, being mostly found in the USA, India, the Philippines and other Asian, African and European countries. This geographical bias also means that crowdworking on these few world platforms is principally carried out in English, making access to this form of work unequal.

In this world of online outsourcing, with its broad diversity of social statuses and situations, do traditional social and trade union movements have the necessary instruments, strategies and means of action at their disposal? In light of the emergence of this dispersed crowd and these hidden employers, should they be reinventing their approach? Difficulties arise because there are almost as many business models as platforms. While these models have some common features, other elements serve to distinguish one from the other: local presence/ global presence; types of remuneration (bidding or fixed-price systems); types of tasks; accompanying training or not; types of clients (SMEs or transnational enterprises); the crowdworker's profile (qualified, unqualified, permanent, casual, etc.). While the objective of most platforms is to make profits, others such as Samasource focus on the socioeconomic inclusion of workers and the fight against poverty (see Samasource.org). All these differences make the approaches and means of organisation involved particularly complex.

The supply of online digital work therefore considerably exceeds the demand for it.

Some initiatives exist (Turkopticon, FairCrowdwork Watch) which focus mainly on the idea of ranking. This involves publicising an assessment of contractors made by the workers themselves (when one of them does not pay the charges demanded, for example). The idea is both to share workers' experiences and information among themselves and to exert (relative) pressure on contractors. Along the same lines, social labelling systems, charters of quality or commitment, etc., could be devised and promoted. Other spontaneous courses of action have emerged, particularly internet cafes and social networks. A closed Facebook group has been set up in the Philippines, Online Filipino freelancers, the goal of which is 'to provide a dynamic and

4. Siou Chew Kuek *et al.* (2015) The global opportunity in online outsourcing, World Bank, June 2015.

5. See for example the work of Mark Graham (in particular, Graham M. (2014) Internet geographies: data shadows and digital divisions of labour).

fun community for Online Filipino workers who can freely speak their minds, share insights, help each other out and grow as freelancers'. In September 2016, this community had around 16 000 members. Many Facebook groups exist, such as Mturk, which allows members to exchange their experiences on Amazon Mechanical Turk, as well as their warnings ('avoid such and such a contractor, who rejects tasks for arbitrary reasons'). The number of members of these groups is sometimes limited, but their activity often seems to reflect a real need for exchanges among workers.

These cannot be called 'trade union' strategies or courses of action. These groups include, for example, 'turkers' who resell, at a profit, Indian or American Mturk accounts with a good 'reputation'. Nevertheless, the exchange of critical information that circulates among these groups could be seen as the first step towards the development of collective action. The key question for social and trade union movements is without doubt to find the means to ensure that the principles of collective action find their way into these 'virtual factories'. This means creating the capacity to negotiate with platforms and/or contractors and enforcing their respect for social norms to avoid downward spirals of competition.

The key question for social and trade union movements is without doubt to find the means to ensure that the principles of collective action find their way into these 'virtual factories'.

The questions raised are numerous, while the answers are far from clear. Would it be relevant to begin to reflect on the idea of network trade unionism, which could transcend national boundaries in order to adapt to cross-border platform capitalism? What role could NGOs play, including development cooperation organisations? The first stage could be to draw up a map of existing global platforms, the type of work they offer, their client profile, the type of qualifications required, the means of remuneration and the reliability of payments, etc.

As stated above, the labour movement would be caught in a trap if it had to choose between organising the crowd of precarious workers and defending traditional jobs in which an increasing number of the tasks involved are outsourced online, threatening their very existence. For example, taxi drivers' jobs need to be defended against competition from Uber, but at the same time, Uber drivers should be organised against the insecurity they are subjected to. The trade union movement is increasingly likely to be confronted by this dilemma as platform capitalism develops. This surely presents an opportunity for reflection on the complementarities between these strategies of protecting existing jobs and organising new digital economy jobs.

Societal challenges

The digitalisation of the economy could give rise to new trends or accentuate trends that already exist in our societies; principally social polarisation and the increase in inequality between an elite which manages to profit from globalisation and digitalisation and a shrinking and increasingly unstable middle class. The latter are the losers of globalisation, but they could also be

the losers of digitalisation. To caricature it slightly, this polarisation will be between those who have the robots and those who work for the robots.

Are new social risks emerging, and if so, what public aid systems could be put in place in response? For example, would it be advisable to take inspiration from the European Globalisation Adjustment Fund and create a similar fund for adjustment to digitalisation to help the victims of massive job destruction? Could such a fund be financed by robot taxes or digital rents?

The polarisation of society is accompanied by a continuous erosion of the tax base, which in turn brings about recurring problems in financing public expenditures and social security systems. How can national tax systems be reappraised to tailor them more closely to the digital world? In the EU, how can the emergence of digital tax competition (in addition to social tax competition) be avoided? What European proposals could social movements put forward to strengthen the financing of these systems?

Social organisations also have a role to play in maintaining and strengthening economic and social cohesion. This could be realised in particular through the intervention of governments and national and European public authorities on investment policy, profit sharing (robot rents, basic income, reduction of working time), the combating of tax havens, respect for existing legislation and the adaption of legislation to the new realities.

Social organisations also have a role to play in maintaining and strengthening economic and social cohesion.

In conclusion, the digitalisation of the economy could also lead to the (re)emergence of questions concerning the value of work. A job is not only an activity that provides for the worker's needs – it is also a means of social inclusion and recognition. This social function of work is vitally important for the well-being of individuals and the cohesion of society as a whole. With its two components of robotisation and 'crowdworkisation' bringing about a new form of digital Taylorism and a global dispersal of work as a commodity, the digitalisation of the economy could erode this social function. This constitutes a major challenge for our societies and for the social movements of the 21st century.

ETUI publications

Shaping the new world of work
Rory Watson and Owen Stafford
ETUI 2016, 40 pages

This report summarises the presentations and debates of the three-day ETUC/ETUI conference on 'Shaping the new world of work: The impacts of digitalisation and robotisation', held on 27-29 June 2016 in Brussels.
www.etui.org > Publications > Conference reports

Work in the digital economy: sorting the old from the new
Gérard Valenduc and Patricia Vendramin
ETUI 2016, 56 pages, also available in French

This paper sets out to analyse the digital economy and changes in work by sifting elements of continuity from others that are radically new. Aspects examined are: genuinely new features encountered in the digital economy model; major instances of technological change observable in the working environment; new forms of work in the digital economy; distance and employment relationships; and the challenges entailed in regulating a labour world whose customary structures have been destabilised. The study concludes with some considerations on the meaning of work in environments characterised by an increasing interplay of the virtual and the real.
www.etui.org > Publications > Working Papers

Digitalisation of the economy and its impact on labour markets
Christophe Degryse
ETUI 2016, 80 pages, also available in French

This working paper gives an overview of the new possibilities opened up by the fourth industrial revolution and tackles some specific questions in relation to its effects on the labour market, including on the status of employees, on working conditions and on training. It examines the role that trade unions can play in the digital economy and the main initiatives already proposed at European trade union-level in this context.
www.etui.org > Publications > Working Papers

Digitalisation: challenges for company codetermination
Manuela Maschke
ETUI 2016, 5 pages

This policy brief looks at how effective worker participation can make digitalisation a programme for success for companies and employees alike. The author provides a great number of good examples of negotiated solutions on the company level.
www.etui.org > Publications > Policy Briefs

The platform economy and the disruption of the employment relationship
Jan Drahokoupil
ETUI 2016, 6 pages

This policy brief considers the impact of online platforms on labour markets and on the employment relationship in particular. It discusses the importance of outsourcing platforms, arguing that the 'collaborative economy' term used by the European Commission (EC) is a misleading concept, as the trend is in fact just an extension of the market mechanism.
The authors also propose concrete policies that would address the risks related to platform-mediated work.
www.etui.org > Publications > Policy Briefs

Foresight Brief

The ETUI is financially supported by the European Union. The European Union is not responsible for any use made of the information contained in this publication.