Legal Issues in the Digital Economy:

The Impact of Disruptive Technologies in the Labour Market

ADAPT LABOUR STUDIES BOOK-SERIES

International School of Higher Education in Labour and Industrial Relations

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Cambridge
Scholars
Publishing

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This book first published 2019

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

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ISBN (10): 1-5275-3693-9
ISBN (13): 978-1-5275-3693-7

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INTRODUCTION

LEGAL ISSUES IN THE DIGITAL ECONOMY: THE IMPACT OF DISRUPTIVE TECHNOLOGIES IN THE LABOUR MARKET

VALERIA FILÌ AND FEDERICO COSTANTINI

1. Society and Technology: between "Disruptive Technologies" and "Regulatory Sandboxes"

One of the most relevant human features, which differentiates us from other living species, is artefact production. In human history – and even before that – we have witnessed an unceasing sequence of inventions or discoveries. The use of fire, the wheel, writing, gunpowder, steam, and electricity are nice examples in this connection. Each innovation introduces changes to the existing social system which, even when minor, can be significant. Of course, progress takes place in a given context and can be related to certain effects. Outcomes can be observed from several perspectives – short, medium and long-term ones – and from different angles – social, cultural and economic ones – but cannot always be foreseen. Some consequences can be hidden, underestimated or overrated; the history of thought provides numerous examples of these misjudgements.

Technology enables one to manipulate natural elements (Bacon, 1620) and also to influence other people. In the last century, an extraordinary increase has been reported in technological advancements having an enormous social impact – from atomic energy to biochemistry – as well as a proliferation of misleading predictions. Assessment is affected by bias – public opinion is particularly prone to it – particularly when the observer is not directly involved in the facts under scrutiny.

Especially with the most recent innovations, lay people lack a true understanding of technology, progressively widening the gap between expectations and reality, real prospects and false promises. If we use devices of which we cannot appreciate the mechanisms, then maybe we should not

be so confident when evaluating their social impact or when speculating on their development. We should admit that we are surrounded by "black boxes", and acknowledge that we depend on them, both individually and collectively.

According to a widely accepted economic theory developed eighty years ago, technology is inherently "destructive". Societal reliance on technology and the economic impact of consequential uncertainty have been theorized in one of the most influential books of the twentieth century, Capitalism, socialism, and democracy (Schumpeter, 1942), which reframed concepts developed by Nikolai Kondratieff and Karl Marx. The argument is that the whole economy is based on a succession of cycles of "destruction and creation", which are made possible by technological innovation. Hence, social changes – which are so deep that every cycle creates radically new balances in society – are driven neither by political governments nor by working masses, but by entrepreneurs. Social innovators are those who own the keys of technology, take responsibility for the risks arising from their use and – consequently – profit from them. Schumpeter's book marked the emergence of a new social actor – the hi-tech businessman – and of a novel economic approach based on "endogenous growth" – which soon spread worldwide and indirectly nurtured an individualistic and philosophical perspective (Rand, 1961). It can be said that, without it, Silicon Valley tycoons would have not been proliferated.

At the end of the millennium, the idea of "disruptive innovation" acquired a specific meaning in marketing studies. The expression was used to denote an innovation model involving technological advancement in products or services suitable to destroy pre-existent markets and create new ones, addressing the most demanding and profitable customers whose needs remained unfulfilled by incumbent competitors (Christensen & Bower, 1996). Unlike "sustained" technologies, which do not require the creation of new business models, "disruptive" ones entail neither an evolution nor a revolution, but a "game changer" (Yu & Hang, 2010). An example of this is the 2007 debut of Apple's iPhone, which was disruptive for laptops as primary network access points (Christensen et al., 2015).

Consequently, it should come as no surprise that in economic theory, technology is considered to be both a mean for cyclic "destruction" and a tool for market "disruption". Critics can oppose this argument claiming that, from a practical perspective, changes are a natural component of our society and thus, ultimately, a certain balance has always been restored and ever will. A counter-argument to this theory is represented by the recent diffusion of "regulatory sandboxes", especially in financial markets (Ringe & Ruof, 2018). In different countries, legislators are creating special legal frameworks

in order to test new technologies and financial tools, where requirements are reduced, protocols are softened, and fines are suspended (Zetzsche et al., 2017). Experimenting on the social impact of these innovations has a twofold purpose. On the one hand, people involved in sandboxes are, harshly said, voluntary guinea pigs; on the other hand, these regulations allow one to minimise possible drawbacks, thus reducing uncertainty.

In conclusion, the relationship between us, as humans, and our artefacts, is still undefined. Technology is driving social transformation, while society has also become "proactive," being more open to embracing innovation but also more vulnerable to its undesirable consequences.

2. Disruptive Technologies, the Labour Market and Decent Working Conditions

The Fourth Industrial Revolution, smart factories, robotics and Artificial Intelligence, the Internet of Things, mobile devices and their applications – in one word, the "disruptive innovation" referred to before – have been creating new employment opportunities, concurrently dismantling various traditional jobs, deeply altering societies and reshaping human relationships.

It has already been written about the breakup of the bonds between productivity and employment (Rifkin, 2014) led by the second machine age (Brynjolfsson et al., 2014). It caused a short-circuiting of capitalism in which now there are more goods than buyers (Valenduc et al., 2019). This perspective could be regarded as both pessimistic and realistic. At any rate, it should be taken into consideration seriously, because it allows scholars to interpret and monitor the new phenomena and suggests adopting the required actions and solutions that should be undertaken by governments and institutions.

In Western societies, the latest, fast-and-furious processes challenge the legal frameworks of EU Member States, especially the ones that are based on labor and social security law models shaped in the Second Industrial Revolution. Traditional legal categories and instruments begin to waver under the bullets of the disruptive changes, as – it is a matter of fact – "changes generate changes" (Landes, 1969).

On these grounds, legal scholars are facing these phenomena to understand where we are and where we are going, focusing on old and new legal categories to mastermind new labor market policies. Disruptive technologies are challenging both workers and enterprises, altering social protection systems, traditional employment relationships and the balance between rights and duties, which has been achieved painstakingly. The decrease in the needed workforce and the increase in new jobs linked to

non-standard and independent forms of work require serious reflections about the future of work, social security models and social rights in general (Meda, 2016). Both the simplest and most mundane skills and the most complex and intellectual ones could be replaced by the new machines (Frey et al., 2013).

The extreme flexibility and uncertainty in which a great number of digital workers live, are well represented by the expression «tap workers», commonly used to refer to the typical workers of the gig/on-demand economy based on digital platforms (known as "the platform economy") (Barberis et al., 2017). Furthermore, new forms of discrimination and inequalities must be faced, as an unavoidable side effect of the second machine age (Brynjolfsson et al., 2014; Valenduc et al., 2016).

All these changes put a strain on the old legal frameworks and compel one to rethink legal instruments, measures, and categories to interpret and govern the above-mentioned phenomena. However, their global dimension imposes a supra-national approach, because single national systems are unavoidably powerless when facing the effects of the Fourth Industrial Revolution and the global nature of the platform/collaborative economy.

Digitalization of work is blurring the boundaries between dependent work and self-employment, while new needs are surfacing for the workers of the "middle ground". Workers' rights, which were hard-won during the 20th century in Europe, are jeopardized by this unstoppable social and economic process, and coordinated actions by EU institutions and Member States are more important than ever.

EU efforts to define some guidelines for the future of workers and enterprises in the digital era are welcome, but not yet sufficient, as will be demonstrated in the following chapters.

The European Pillar of Social Rights [COM(2017) 251] – jointly proclaimed in November 2017 by the European Parliament, Council, and Commission and commonly regarded as the last chance for social Europe – certainly marks a pivotal step forward in achieving the 'AAA social rating' for the EU. It lays down principles and rights to support fair, well-functioning and inclusive labor markets and welfare systems.

European institutions have been taking concrete initiatives to put the European Pillar of Social Rights into practice, including among others the Directive «on work-life balance for parents and carers, repealing Council Directive 2010/18/EU» (procedure 2017/0085/COD), and the Recommendation «on access to social protection for workers and self-employed» (procedure 2018/0059/NLE).

In order to take account of the new forms of employment, on 16 April 2019 the European Parliament adopted a directive «on transparent and

predictable working conditions in the European Union» repealing Directive 91/533/EEC [P8_TA(2019)0379].

The purpose of this document is precisely that of improving working conditions by promoting more secure and predictable employment while ensuring labour market adaptability pursuant to Principles No. 5 (on «Secure and adaptable employment») and No. 7 (on «information about employment conditions and protections in case of dismissals») of the European Pillar of Social Rights.

It is interesting to focus on the "whereas-texts" n. 4 and 7 in which it is stated that «(4) Since the adoption of Council Directive 91/533/EEC, labor markets have undergone far-reaching changes due to demographic developments and digitalization leading to the creation of new forms of employment, which have enhanced innovation, job creation, and labor market growth. Some new forms of employment vary significantly from traditional employment relationships with regard to predictability, creating uncertainty with regard to the applicable rights and the social protection of the workers concerned. In this evolving world of work, there is, therefore, an increased need for workers to be fully informed about their essential working conditions, which should occur in a timely manner and in written form to which workers have easy access. In order adequately to frame the development of new forms of employment, workers in the Union should also be provided with a number of new minimum rights aiming to promote security and predictability in employment relationships while achieving upward convergence across the Member States and preserving labor market adaptability. […] (7) The Commission has undertaken a two-phase consultation with the social partners, in accordance with Article 154 of the Treaty on the Functioning of the European Union, on the improvement of the scope and effectiveness of Directive 91/533/EEC and the broadening of its objectives in order to establish new rights for workers. This did not result in an agreement among the social partners to enter into negotiations on those matters. However, as confirmed by the outcome of the open public consultations that sought the views of various stakeholders and citizens, it is important to take action at Union level in this area by modernizing and adapting the current legal framework to new developments».

These statements mean that the European Parliament is fully conscious of the inherent limits of the aforementioned directive, but also confident about future initiatives.

As regards the limits, it must be added that the directive does not deal with social protection (i.e. it does not enforce Principle No. 12), and its scope is confined to dependent work, not taking into account self-employment. In this respect, opting for a traditional approach has led

institutions to miss the opportunity to establish a minimum set of common rules for all workers, regardless of their employment relationship, thus excluding many platform workers who are mainly self-employed. Moreover, Member States may decide not to apply the obligations laid down in the directive to several categories of workers, restricting its scope even further (Article No. 1).

This initiative must be regarded as a significant one. The workers' right to be informed of the essential aspects of the employment relationship is fully granted. Information must be very detailed and provided within specific timing (Chapter II). Besides, the big news concerns the setting of minimum requirements relating to working conditions (Chapter III), i.e., the maximum duration of any probationary period, parallel employment, minimum predictability of work, complementary measures for on-demand contracts, a transition to another form of employment, and mandatory training. In this sense, the directive provides that «Member States may allow the social partners to maintain, negotiate, conclude and enforce collective agreements, in conformity with the national law or practice, which, while respecting the overall protection of workers, establish arrangements concerning the working conditions of workers which differ from those above mentioned» (Article No. 14). In other words, Member States can derogate the aforementioned provisions only through trade unions and collective agreements, which are regarded as guarantors of workers' rights.

Yet little consideration has been given to the galaxy of self-employed workers, so the impact of this directive on platform workers will be less decisive than it was supposed to be.

Finally, another remark can be made in relation to vocational education and training. The directive «on transparent and predictable working conditions in the European Union» does little in this respect. Article 13 prescribes that «Member States shall ensure that where an employer is required by Union or national law or by collective agreements to provide training to a worker to carry out the work for which he or she is employed, such training shall be provided to the worker free of cost, shall count as working time and, where possible, shall take place during working hours». The point is that workers' right to receive vocational education and training is not established in advance, not even for the most vulnerable categories.

During the last decades, in a worker's survival kit – made up of social rights and protection against the lack of employment – the role of vocational education and training has become not only relevant but really crucial. Firstly, initiatives against the digital divide should be taken to give the elderly the chance to find another job and the young that of accessing the labor market with the skills required to compete and survive (Negreiro,

2015). Secondly, life-long learning policies are essential to promote long-term employability, especially in the digital labor market (see Council Recommendation 22 May 2018 on key competencies for lifelong learning, 2018/C 189/01). Both public and private education systems, especially those cooperating with trade unions, should play an essential role in the implementation of active labor market policies. Supporting the role of vocational education and training in industrial relations, trade unions could bridge the increasing gap within the working class (Vandaele, 2018). The above-mentioned directive does not take a further step in that direction, but it certainly bolsters the achieved results, also helping collective bargaining in this area.

In conclusion, the challenges posed by new technologies need to be addressed seriously and in depth from a theoretical and practical point of view. EU institutions and Member States, trade unions, scholars, citizens and enterprises, hold an important role, especially considering that this is an ongoing issue.

3. Chapters Overview

The book offers a multidisciplinary and critical analysis of both theoretical and practical legal issues concerning the emerging disruptive technologies and their impact on the European labor market and workers' life. The papers cover different disciplines – legal informatics, labor law, social security law, civil law, and tort law – in order to offer scholars and legal specialists a full picture of the changes, challenges, and opportunities, from a European Union Law perspective.

The utility of the book is strictly connected to its originality: it could be useful for those who need to understand the new phenomena from a multidisciplinary point of view, combining a theoretical with a practical approach.

In the first chapter, «The Digital Use of Human Beings: from Cybernetics to Collaborative Economy», Costantini draws an overview of ethical issues regarding labour conditions in digital environments. She addresses concerns arising from information control, considering three perspectives: cooperation among human beings (new forms of work organization, e.g. the implementation of "Agile" software); the interaction between humans and machines ("decentralized" business models and the "collaborative economy"); the exchange among machines (workers who are replaced by Artificial Intelligence).

In the second chapter, «Working for an Internet Platform: New Challenges for Courts», Recchia points out that the digital era has been

changing employment relationships dramatically, causing a considerable degree of legal uncertainty as to which rules apply in the platform economy. A certain degree of inadequacy is manifesting in the same founding categories of labor law, i.e., the bipartite - and in some legal contexts, tripartite - employment/self-employment taxonomy. For the courts, it is a matter famously described by the metaphor of being faced with "a square peg and asked to choose between two round holes". The author analyzes available case law in a comparative perspective, considering similarities and obstacles related to the more general need to respond to gig economy workers' protection. Ultimately, the Uber, Foodora, and Deliveroo cases will help one to question whether the concept of legal subordination and its main elements can govern new forms of employment in the context of the gig economy.

In the third chapter, «Working with an Internet Platform: Facing Old and New Risks», Caffio highlights that the ever-increasing development of platform work is producing new issues and new challenges for existing European and national legal frameworks. Starting from a reconnaissance of the risks related to Occupational Safety and Health (OSH) issues, control powers, the processing of personal data, the occupational illnesses and injuries faced by platform workers, the author analyses the suitability of current legislation to give effective responses in terms of prevention and remedies. The aim is to point out the shortcomings in European and national regulatory contexts as regards the protection of these ways of working, in order to encourage lawmakers' action.

In the fourth chapter, «Platform Work as a Chance for a More Inclusive Labour Market,» Carchio shows how technological advances will both create new jobs and heavy losses. Therefore, although there are important and noticeable benefits for a range of workers, there are also many risks and costs that affect the livelihoods of digital workers. For this reason, it is crucial to address emerging forms of on-demand work, promoting labor market inclusiveness and high-quality jobs, in their multiple dimensions of earnings quality, labor market security and quality of working environments, especially for the weakest groups of workers. The author focuses on how platform jobs could be quality jobs for some categories of workers that are particularly vulnerable in the labour market – e.g. working mothers and caregivers, people with disabilities and aged workers – ensuring them wide participation in innovation activities. Considering that low employment rates are often linked to social exclusion, insufficient levels of well-being, poor working conditions and scarce career prospects, it is interesting to explore how new jobs could affect labor market inequalities, reducing the persistent difficulties when accessing the job market.

In the fifth chapter, «Platform Workers' Needs and Social Security Challenges», Filì focuses on the fact that new forms of employment need novel social security protection. On the one hand, a significant share of digital workers operating as independent contractors or self-employed workers make up a variegated group; on the other hand, there is a growing number of working people who, due to their employment relationship or self-employment status, are left without sufficient access to social protection. The author underlines that there are EU institutions and Member States initiatives to support self-employed and non-standard workers who are not sufficiently protected by traditional social protection systems – especially in relation to motherhood, healthcare, unemployment, pensions, poverty, and social exclusion – therefore meeting the increasing demand for protection. It is stressed that ensuring decent work for non-standard and self-employed workers depends on the decent level of social security coverage granted to them.

In the sixth chapter, «Some Reflections on the Utilization of Artificial Intelligence in Liberal Professions», Parini highlights that, given the various challenges related to technological innovation and the increasing utilization of Artificial Intelligence (AI), lawyers will be confronted with several problems when evaluating the ability of the legal system to offer new remedies. This quickly and constantly evolving scenario impacts on different branches of the law. Machine learning has a deeply significant and disruptive impact on regulation. The ability of Artificial Intelligence to evolve and learn from past experience – and to adopt autonomous decisions, sometimes in an unpredictable way – raises issues which need to be solved to ensure legal certainty, even in terms of liability. Moreover, the widespread use of AI systems not only supporting professionals in repetitive tasks but even replacing them altogether, requires some consideration, especially in relation to the performance of tasks which have traditionally been reserved to "protected professions", with further problems related to contractual negotiation and liability.

In the seventh chapter, «Smart Contracts, Legal-tech Professions, and Civil Law Issues», Castellani shows how innovation and technology have entered the legal field, affecting the law of contract. AI represents a challenge for society as well as for the law. Smart contracts are used in this context and in those employing blockchain technology, on which the now-famous Bitcoin software is also based. This decentralized architecture, with intent to simplifying processes and reducing costs, certainly contributes to making smart contracts a particularly attractive instrument also in legal tech. The rapid diffusion of this technology has raised questions on the EU level related to the need for uniform legislation, which guarantees a consistent

approach to the various problems resulting from the application of these instruments. One example of this is how the decentralization provided by these new instruments can produce the risk of overcoming the limits of lawfulness and worthwhileness, concurrently raising doubts and problems of governability and monitoring.

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