

Labour Law and Welfare
Systems in an Era of
Demographic, Technological,
and Environmental Changes

ADAPT LABOUR STUDIES BOOK-SERIES

International School of Higher Education in Labour and Industrial Relations

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By

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PREFACE

What we are witnessing today is a significant transformation of work and the economy. The expression ‘great transformation’ is not coincidental, as it makes explicit reference to Karl Polanyi’s book, which examined the rise of the modern market economy. Like the transformation illustrated by Polanyi, current social changes are difficult to define. Due to globalisation which, thanks to the Internet of Things (IoT) and Big Data, has made it possible to connect physical devices and govern fully-digitalised supply chains. Production processes and companies undergo change, and so does work. Concurrently, society is evolving as workers’ and consumers’ needs are increasingly different from the past. The environment is also affected by this revolution, especially because today’s production model is utterly different from that in place during Fordism. In light of the foregoing considerations, this volume discusses the great transformation of work, examining three main aspects: demography, the environment, and technology. This approach is based on the assumption that work and its changing landscape can only be understood if one looks at the big picture, i.e. if one adopts a more inclusive approach.

Demography

The emergence of new technologies is not the only factor that will pose challenges to today’s and tomorrow’s world of work. The demographic changes marking Italy’s population will also play a significant role in the years to come. In this regard, an increase has been reported in the average age of the population, in Italy as in other developed countries, which is caused by three concurrent factors (i.e. population ageing, lower number of births and higher life expectancy). The progress made in sciences and medicine, coupled with better living conditions, has caused a significant decrease in mortality rates.

This state of affairs will compel management to deal with older employees, while concurrently facing the continuous technological innovation which requires skills updating, especially digital ones. Technology should not be feared by workers who are not digital natives, far from it. New technologies – e.g. collaborative robotics and augmented reality – might help workers aged 50 and over to carry out tasks requiring physical exertion efficiently.

In addition, the spread of automatized processes – which will increasingly reduce physically demanding tasks – will help reduce workers' health and safety risks resulting from strenuous work.

Chronic diseases will be more challenging to deal with, as the World Health Organisation (WHO) has reported that they will be on the rise in the next decades. Consequently, the number of active workers with chronic conditions will increase. While still fit for work, these workers will have reduced working ability, which might not be compatible with today's fast working pace. Their inclusion and that of other workers with a disability will be a central theme in the years to come.

Demography is also related to the current generational gap. Nowadays, the labour market is marked by a growing dualism between young and senior workers that is gradually setting in. Owing to certain working schemes (e.g. internships) which are devoid of their educational content and are only used to reduce labour costs, new-generation workers have more qualifications than their older peers, yet they face more difficulties at the time of accessing employment.

The Environment

Environmental protection and eco-sustainability have gained high priority on the political and institutional agenda the world over. The effect of climate change, e.g. the increasing number and the seriousness of natural disasters (earthquakes, floods and landslides) has led those concerned to rethink production, distribution and consumption, promoting a transition to a more sustainable economy and implementing tools preventing and managing environmental risks.

In recent years, this process has produced a lively debate about the implications that the shift towards the circular economy might have on the labour market, now and in the future, in terms of jobs and skills. However, there is more. Discussions have encouraged some companies and worker representation bodies to review their strategies on work regulation and human resources management in order to make workplaces more environment-friendly, raising workers' awareness about environmental issues and sustainability-oriented organisational practices.

The circular economy will affect the labour market in relation to employment levels, professional profiles and skills. Making the economy more sustainable will have an effect on existing jobs, and will contribute to refreshing the skills of those already in employment, making them 'greener'.

Education, training and lifelong learning will also play a decisive role, helping the workforce to benefit from the opportunities provided by the circular economy. Of course, industrial relations actors will also have a say, as they can facilitate the process of bringing together labour demand and supply as regards green jobs while ensuring decent employment for both men and women.

In time, the place of production will no longer be relevant, as work will be carried out anywhere. Accordingly, priority will be given to ensuring the safety of both the traditional workplace and that of any place where work is performed. It is against this background that both the employer and the employee are taking steps to protect the environment. Contributions to going beyond the misleading assumption that factors affecting the environment mainly originate at work, thus impacting on workers first, then on nature and the community at large. One reason for this is that the place of work and the surrounding area will not be seen as separate entities, as new technologies will make it increasingly difficult to draw the line between the different spheres of life.

Technology

Technological innovation has always spurred change in production and work settings but has also been a cause of concern for the future of work. In the last ten years, an increasing number of technological tools have been created that were widely used by the public, contributing to cost reduction. By way of example, the price of a personal computer has dropped by 60% in the last 30 years, while that of industrial robots has faced a 25% decrease since 2015 and a further 25% reduction is expected by 2025.

IT tools and industrial robots, which have been employed in manufacturing since the late 1970s, have played a key role in saving workers repetitive and standardised tasks, which were peculiar to Taylorism and mass production. In parallel, business models have focused on customised production in an attempt to establish a closer relationship between producers and consumers. Consequently, technology and new organisational models have changed the role of workers, and intellectual, high-precision ones have increasingly replaced manual tasks. As a result, a significant number of workers who were employed in industrial sectors now operate in the service sector.

Another revolution is taking place today, which will bring about changes triggered by cyber-physical systems, which will help the traditional supply chain to adapt production to consumers' ever-changing needs, laying the foundations for so-called mass customisation. Simply put, on-demand

manufacturing will be possible at reduced costs, so companies operating in this way will carve out big slices of the market for themselves.

Technology will also be used to widen the product base offered to companies, paving the way for so-called ‘servitisation’ and service industrialisation. This will be possible thanks to service producers who will use processes typical of manufacturing, on the one hand, and items produced in manufacturing which provide additional services, on the other hand.

In this sense, the introduction of the Internet of Things and the Internet of Services in both industrial products and processes can stand the entire manufacturing cycle on its head. Suffice it to think about the sensors used to track items once they have been sold, which are also used to customise them; this is illustrative of the ongoing Fourth Industrial Revolution. The central role of consumers and the opportunity to offer new services calls into question the notion of a service, which is not only related to production management, organisation and distribution but becomes a vital component of manufacturing. The new interpretation given to this concept might lead to establishing new cooperation models between service providers and companies, whereby some tasks are outsourced while insourcing others that were previously considered of little relevance. These technology-led transformations will impact work in essential respects, especially if one considers organisation, skills demand, regulation, the labour market and the industrial relations system.

Book Structure

The book discusses the issues referred to above and consists of three sections. The first one considers demography from two different perspectives. On the one hand, it focuses on chronic diseases and their impact on work, emphasising the role and the regulation of welfare systems. On the other hand, attention is given to youth unemployment and to those forms of employment which might have an impact on young people’s employment, e.g. internships. Both these perspectives aim to provide the ‘big picture’ as regards demographic issues in the new great transformation, by considering all the factors involved.

The second section touches upon the relationship between the environment and industrial relations. The aim here is to assess the validity of the contraposition between ‘natural disasters’ and ‘environmental and technological ones’ also in consideration of the ensuing challenges for labour law and industrial relations scholars. Due to the unforeseeable nature of the first group of disasters, welfare systems can only provide emergency

assistance. As for the second category of catastrophes, they are deemed to be preventable, so it is up to legal authorities to establish the cause and effect relationship and to issue sanctions to those held responsible. In this respect, labour law, industrial relations and welfare systems can provide a major contribution in terms of risk prevention and proactive management, especially in relation to ensuring the continuity of the productive system and the protection of people's jobs and income.

The third and larger section of the book broaches the topic of the impact of technology in the context of the Fourth Industrial Revolution – also known as Industry 4.0. Specifically, an analysis is carried out of the challenges that this phenomenon will pose in terms of work regulation, especially when it comes to research, which is still governed by old rules. In the first part of this section, mention is made of Italy's Industry 4.0 plan, where links can be found between technology, work, industrial relations and territory. The book concludes with an investigation of the measures put in place in times of crisis.